Metro Outer Joint Development Assessment Panel Agenda

Meeting Date and Time: Thursday, 1 June 2023; 9:30am
Meeting Number: MOJDAP/252
Meeting Venue: Electronic Means

To connect to the meeting via your computer - https://us06web.zoom.us/j/86309728069

To connect to the meeting via teleconference dial the following phone number - +61 8 6119 3900
Insert Meeting ID followed by the hash (#) key when prompted - 863 0972 8069

This DAP meeting will be conducted by electronic means (Zoom) open to the public rather than requiring attendance in person.

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Attendance

DAP Members

Mr Eugene Koltasz (Presiding Member)
Ms Karen Hyde (Deputy Presiding Member)
Mr Jason Hick (Third Specialist Member)

Item 8.1 & 8.2
Cr Lauren Strange (Local Government Member, Shire of Serpentine Jarrahdale)
Cr Michelle Rich (Local Government Member, Shire of Serpentine Jarrahdale)

Item 8.3
Cr Lorna Buchan (Local Government Member, City of Rockingham)
Cr Mark Jones (Local Government Member, City of Rockingham)

Officers in attendance

Item 8.1 & 8.2
Mr Andrew Trosic (Shire of Serpentine Jarrahdale)
Ms Helen Maruta (Shire of Serpentine Jarrahdale)
Mr Ryan Fleming (Shire of Serpentine Jarrahdale)

Item 8.3
Mr Mike Ross (City of Rockingham)
Ms Nyah Cheater (City of Rockingham)

Minute Secretary

Ms Ashlee Kelly (DAP Secretariat)

Applicants and Submitters

Item 8.1
Mr David Maiorana (Rowe Group)
Mr Nathan Stewart (Rowe Group)
Mr Paul Nguyen (Shawmac)
Ms Lara Iozzi (Spagnolo Developments)

Item 8.2
Mr Tom Hockley (Allerding & Associates)
Mr Bill Marshall (Edenlife)

Item 8.3
Mr Leigh Caddy (Element Advisory Pty Ltd)
Mr Daniel Panickar (Ecological Australia)

Members of the Public / Media

Nil.

1. Opening of Meeting, Welcome and Acknowledgement

The Presiding Member declares the meeting open and acknowledges the traditional owners and pay respects to Elders past and present of the land on which the meeting is being held.

This meeting is being conducted by electronic means (Zoom) open to the public. Members are reminded to announce their name and title prior to speaking.

2. Apologies

Nil.

3. Members on Leave of Absence

Nil.

4. Noting of Minutes

Signed minutes of previous meetings are available on the DAP website.

5. Declarations of Due Consideration

Any member who is not familiar with the substance of any report or other information provided for consideration at the DAP meeting must declare that fact before the meeting considers the matter.

6. Disclosure of Interests

Nil.

7. Deputations and Presentations

7.1 Mr Paul Nguyen (Shawmac) presenting in support of the recommendation for the application at Item 8.1. The presentation will address traffic information regarding the development and the proposed conditions.

7.2 Ms Lara Iozzi (Spagnolo Developments) presenting in support of the recommendation for the application at Item 8.1. The presentation will address a request to delete some proposed conditions.

7.3 Mr Nathan Stewart (Rowe Group) presenting in support of the recommendation for the application at Item 8.1. The presentation will address support of the proposed development and the recommendation, subject to the removal of conditions.

7.4 Mr Bill Marshall (Edenlife) presenting in support of the recommendation for the application at Item 8.2. The presentation will address an overview of the proposal.

7.5 Mr Tom Hockley (Allerding & Associates) presenting in support of the recommendation for the application at Item 8.2. The presentation will address support for the proposal and response to Condition d.i.

7.6 Mr Leigh Caddy (element) presenting in support of the recommendation for the application at Item 8.3. The presentation will address support of the recommendation and conditions and address the DFES referral.

7.7 Mr Daniel Panickar (Ecological Australia) presenting in support of the recommendation for the application at Item 8.3. The presentation will address bushfire matters raised by DFES.

The Shire of Serpentine Jarrahdale and City of Rockingham may be provided with the opportunity to respond to questions of the panel, as invited by the Presiding Member.

8. Form 1 – Responsible Authority Reports – DAP Applications

8.1 Lot 9511 Briggs Road, Byford

Development Description:	Child Minding Centre
Applicant:	Rowe Group
Owner:	Pino Gangemi
Responsible Authority:	Shire of Serpentine Jarrahdale
DAP File No:	DAP//23/02452

8.2 Lots 59, 60,61 Briggs Road and Lots 62 Thomas Road, Byford

Development Description:	Proposed Group Dwellings and Associated Communal Facilities (Lifestyle Village)
Applicant:	Allerding & Associates
Owner:	Oyster Reef Holdings Pty Ltd/V G Hicks
Responsible Authority:	Shire of Serpentine Jarrahdale
DAP File No:	DAP/23/02460

8.3 Lot 13 (No.15) Venture Place, East Rockingham

Development Description:	Proposed Fuel Depot (Diesel Fuel Storage Facility)
Applicant:	Element Advisory Pty Ltd
Owner:	Rockingham1 Pty Ltd
Responsible Authority:	City of Rockingham
DAP File No:	DAP/23/02442

9. Form 2 – Responsible Authority Reports – DAP Amendment or Cancellation of Approval

Nil.

10. State Administrative Tribunal Applications and Supreme Court Appeals

File No. & SAT DR No.	LG Name	Property Location	Application Description	Date Lodged
DAP/22/02346 DR47/2023	City of Joondalup	8 Elcar Lane, Joondalup	Two Storey Mixed Used Development	17/03/2022
DAP/18/01543 DR 75/2022	City of Joondalup	Lot 649 (98) O'Mara Boulevard, Iluka	Commercial development	02/05/2022
DAP/21/02036 DR236/2022	City of Swan	Lot 97 (31) & 817 (47) Lakes Road, Hazelmere	Proposed Construction of a Logistics Depot with Ancillary Office Area	23/12/2022
DAP/22/02394 DR69/2023	City of Mandurah	Lot 9124 Cobaki Brace, Lakelands	Proposed Bulky Goods Showroom	28/04/2023

11. General Business

In accordance with Section 7.3 of the DAP Standing Orders 2020 only the Presiding Member may publicly comment on the operations or determinations of a DAP and other DAP members should not be approached to make comment.

12. Meeting Closure

Government of **Western Australia**
Development Assessment Panels

Presentation Request Form

Regulation 40(3) and DAP Standing Orders 2020 cl. 3.5

Must be submitted at least 72 hours (3 ordinary days) before the meeting

Presentation Request Guidelines

Persons interested in presenting to a DAP must first consider whether their concern has been adequately addressed in the responsible authority report or other submissions. Your request will be determined by the Presiding Member based on individual merit and likely contribution to assist the DAP's consideration and determination of the application.

Presentations are not to exceed **5 minutes**. It is important to note that the presentation content will be **published on the DAP website** as part of the meeting agenda.

Please complete a separate form for each presenter and submit to daps@dplh.wa.gov.au

Presenter Details

Name	Paul Nguyen
Company (if applicable)	Shawmac Consulting Civil and Traffic Engineers
Please identify if you have any special requirements:	**YES** ☐ **NO** ☒ If yes, please state any accessibility or special requirements: Click or tap here to enter text.

Meeting Details

DAP Name	Metro Outer Joint Development Assessment Panel
Meeting Date	1 June 2023
DAP Application Number	DAP/23/02452
Property Location	9511 Briggs Rd, Byford
Agenda Item Number	Item 8.1

Presentation Details

I have read the contents of the report contained in the Agenda and note that my presentation content will be published as part of the Agenda:	**YES** ☒
Is the presentation in support of or against the report recommendation)? *(contained within the Agenda)*	**SUPPORT** ☐ **AGAINST** ☒
Is the presentation in support of or against the proposed development?	**SUPPORT** ☒ **AGAINST** ☐
Will the presentation require power-point facilities?	**YES** ☐ **NO** ☒ **If yes, please attach**

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Presentation Content*

These details may be circulated to the local government and applicant if deemed necessary by the Presiding Member. Handouts or power points will not be accepted on the day.

Brief sentence summary for inclusion on the Agenda	*The presentation will address:* Traffic information regarding the development and the proposed conditions

In accordance with Clause 3.5.2 of the *DAP Standing Orders*, your presentation request must also be accompanied with a written document detailing the content of your presentation.

Please attach detailed content of presentation or provide below:

Click or tap here to enter text.

Consulting Civil & Traffic Engineers

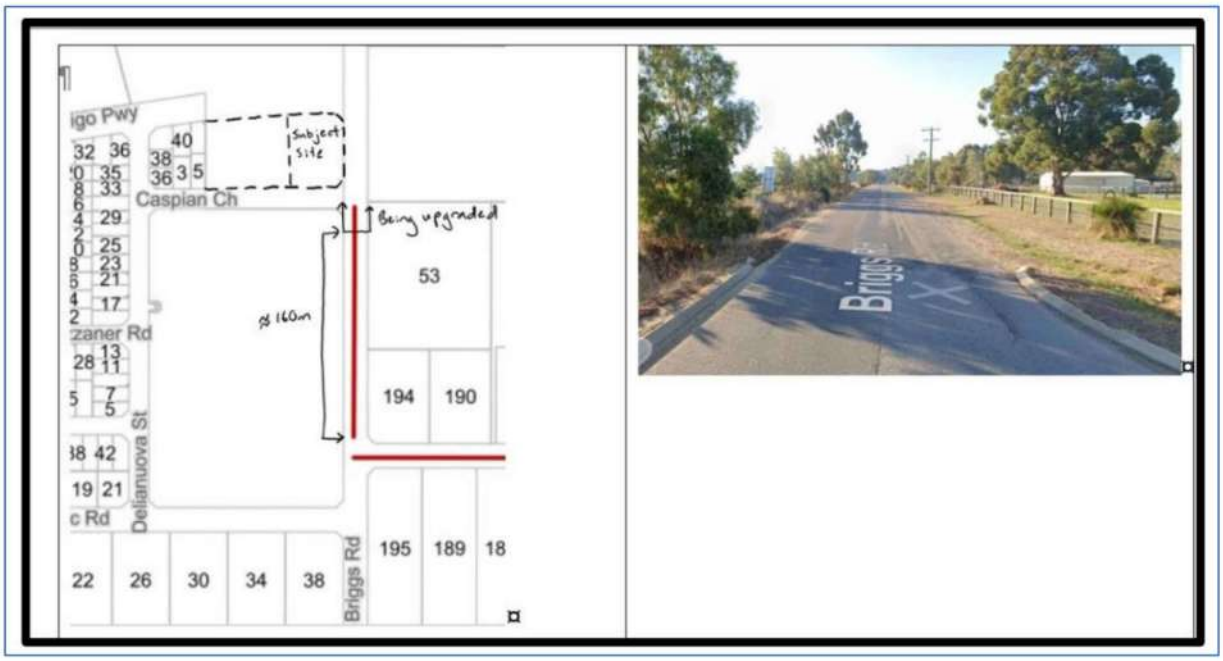
METRO OUTER JOINT DEVELOPMENT ASSESSMENT PANEL
9:30AM THURSDAY 1 JUNE 2023
ITEM 8.1 – CHILD MINDING CENTRE AT LOT 9511 BRIGGS ROAD, BYFORD

Briggs Road Upgrade

Condition e(iv) requires that

> *"The 160m section of Very Poor Condition of Briggs Road from Caspian Chase south, being upgraded to match the upgrades occurring north of Caspian Chase, as shown on Drawing Number BYFGGC12-R01 (attachment 8). This includes a road upgrade to that section of road, to become a sealed, kerbed and drained road, with concrete footpath on the western side verge."*

The section of road as shown in the planning report is shown below.



Road Condition

The planning assessment notes that the 160m section of Briggs Road south of Caspian Chase is designated as "Very Poor" according to the 2023 asset data capture. The Shire officers are of the opinion that the road upgrade north of Caspian Chase needs to be continued south of Caspian Chase by 160m to eliminate the risk posed by the very poor section of road. Without suitable upgrade, the very poor section of Briggs Road will, in the opinion of the officers, be a risk exacerbated by the intensification of traffic proposed by the development.

According to the Shire's Asset Management Strategy, a condition grading of "Very Poor" is described as an asset that has failed and is no longer serviceable. There would be a risk in leaving the asset in service and replacement is required. The maintenance of public roads is understood to be the responsibility of the Shire with the exception of roads owned by Main Roads WA which does not include Briggs Road.

Although it is also understood that budget constraints mean that the Shire may not be able to maintain all their roads as soon as required, it is clear that the deteriorated condition of the road is an existing issue that is not caused by the proposed development and it is unreasonable and unfair to require a developer to rectify an existing issue that they have not caused.

Intensification of Traffic

The condition refers to the risk being exacerbated by the intensification of traffic proposed by the development and so it is worth highlighting the amount of traffic that the child care centre will generate on the section of Briggs Road south of Caspian Chase.

As estimated in the Traffic Impact Assessment, the volume of traffic generated along this section of road is estimated to be in the order of 34 vehicle movements during each of the peak hours on the road network. This represents a 7.6% to 8.3% increase from the current peak hour traffic volumes along this section of Briggs Road. The increase in daily traffic is lower at approximately 4.7% compared to the current volumes.

The above increases are even lower once the traffic generated by the other upcoming developments along Briggs Road are accounted for, including the proposed lifestyle village and another proposed child care centre on the east side of Briggs Road, directly opposite the site.

According to the WAPC *Transport Impact Assessment Guidelines* (TIA guidelines), an increase of less than 10% capacity, approximately 100 vehicles per hour, would not normally be likely to have a material impact on any particular section of road. As above, the proposed child care centre will generate well below 100 vehicles per hour on the section of Briggs Road south of Caspian Chase and is therefore unlikely to have a material impact on this road section.

On this basis, we do not believe that adding approximately 5% to 8% of additional traffic warrants the developer to repair and upgrade a road beyond the frontage of their site.

Urban Standard vs. Rural Standard

The Byford Infrastructure Development Contribution Plan includes provision for various community infrastructure items to support ongoing development including road and intersection upgrades, public open space and drainage.

As there is no provision for the upgrade of Briggs Road to an urban standard with kerbing and drainage, the current procedure for upgrading Briggs Road is via approval conditions which are applied to developers. Specifically, each developer is required to upgrade the section of Briggs Road directly adjoining the land that they are developing. For example, the developer of Stage 7 of Byford Meadows is only required to upgrade the adjacent section Briggs Road to an urban standard, but not the sections beyond their frontage. It has generally been accepted that the remaining sections of Briggs Road can remain as a rural standard road until the adjacent land is developed.

As shown on the civil engineering drawings for Byford Meadows Stage 7, the adjacent section of Briggs Road is being upgraded to have a 7.2m wide pavement, kerbing on both sides and pit and pipe drainage. The section of Briggs Road to the south of the site between Caspian Chase and Larsen Road has been measured to be between 7.0m and 7.3m which is a similar width to the proposed urban standard to the north.

According to *Austroads Guide to Traffic Management Part 3: Transport Study and Analysis Methods*, the roadway conditions that affect capacity, level of service and degree of saturation include:

- The type of facility and its development environment
- Traffic lane widths
- Shoulder widths and lateral clearances
- Design speed
- Horizontal and vertical alignment

This list does not include the condition of the road pavement. Although the condition of a road may affect vehicle safety, repairing a damaged road does not increase the theoretical capacity of a road. Similarly, upgrading a road from a rural to and urban standard by adding kerbing and drainage does not increase the traffic capacity of a road, particularly where the current pavement width is the same as if it were to be upgraded to an urban standard.

Austroads Guide To Road Design Part 3: Geometric Design recommends that the desirable lane width of rural roads is 3.5m and so for a two-way road, the desirable width is therefore 7.0m. The section of Briggs Road between Caspian Chase and Larsen Road is at least 7.0m wide which satisfies the desirable lane width.

So for these reasons, it does not appear to be justified that the 160m section of Briggs Road south of Caspian Chase needs to be upgraded to a sealed, kerbed and drained road in order to accommodate the increase in traffic generated by the proposed child care centre.

Path Connection to Larsen Road

Condition e(iii) requires that

> "*The existing footpath on Larsen Road being extended west across Briggs Road, then north to connect with the footpath infrastructure across the full frontage of the development site;*"

The section of path as shown in the planning report is shown below.

Child care centres typically generate low demand for walking / cycling / scooter trips as most patrons will have prams or young children alongside them. Walking / cycling / scooter trips to and from child care centres are typically limited to dwellings within a relatively short walking distance. According to the TIA guidelines, the typical walkable catchment is 400m or a 5-minute walking distance. The walkable catchment would arguably be shorter for a child care centre.

As shown below, less than 10 dwellings are within a 400m walkable catchment along the route of the required footpath. On this basis, the number of child care centre patrons or staff likely to use this path would be minimal, if any.

The Shire has referred to the Department of Planning Lands and Heritage Planning Bulletin which emphasis the health and safety of children attending child care centre. Specifically, the Shire officers maintain the view that the lack of footpath network will create unsafe conditions for children and families.

If the requested section of footpath is not delivered as part of this development, we would consider it highly unlikely that any residents in the 10 dwellings within the walkable catchment would decide to walk to and from the site along the road. If there was any demand among these 10 dwellings, the mostly likely scenario would simply be that they would drive to and from the site which is a reasonable outcome.

It is also noted that if it is agreed that the 160m section of Briggs Road south of Caspian Chase does not need to be upgraded to an urban standard with kerbing and drainage, then the provision of a path along the west side of Briggs Road would be extremely difficult to construct as there is extensive vegetation, swale drains and utilities that would need to be removed or relocated in order to accommodate a footpath.

Signalised Pedestrian Crossing

Condition q requires that

> *"Prior to operation of the development, a suitable pedestrian crossing treatment comprising of crossing lights shall be provided between the subject land and the public open space on the north side of Indigo Parkway, to the satisfaction of the Shire on advice of Main Roads WA (who will be required to separately approve such crossing treatment and lights)."*

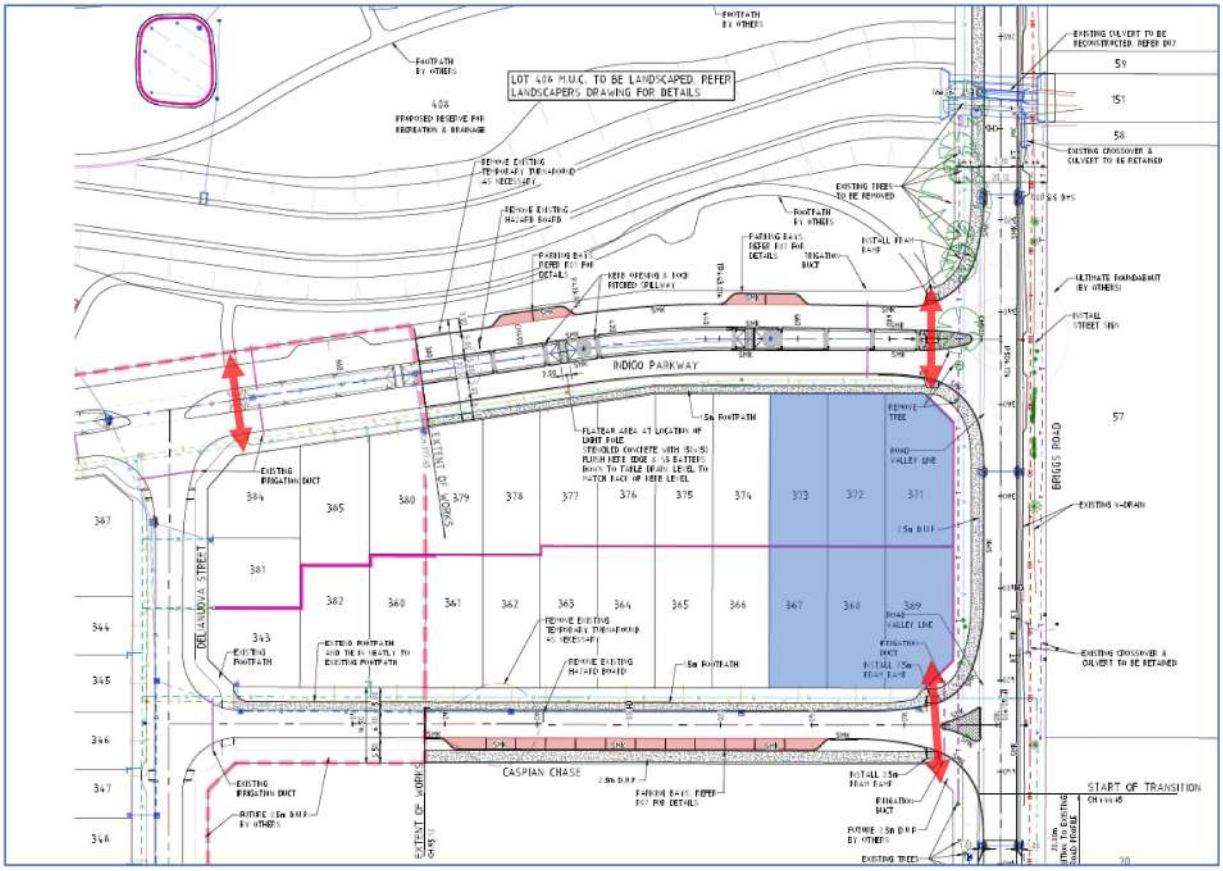
The TIA guidelines provides guidance on the hourly traffic volumes that would adversely affect the ability of pedestrians to cross a road. The relevant extract is provided below.

Table 3: Traffic volumes affecting pedestrian crossing amenity

Road cross-section	Traffic volume affecting ability of pedestrians to cross * (vehicles per hour – two-way)
2 lane undivided	1,100 vph
2 lane divided (or with pedestrian refuge islands)	2,800 vph
4 lane undivided (without pedestrian refuge islands)	700 vph
4 lane divided (or with pedestrian refuge islands)	1,600 vph

* See the Pedestrian assessment section of **Volume 5** for details on how the above volume thresholds were determined.

Indigo Parkway is proposed to be a two-lane, divided road and so 2,800vph is the approximate threshold beyond which the ability to cross the road is adversely affected. Several pedestrian crossings in the form of median breaks and pram ramps will be constructed as part of the current subdivision. The proposed crossings are shown below.



According to the Transport Assessment for Byford Meadows, the forecast daily traffic volume for Indigo Parkway (then called San Simeon Boulevard) is 8,600 vehicles per day (vpd). Peak hour traffic volumes are typically equivalent to 10% of the daily traffic volumes and so the peak hour volumes are estimated to be 860vph.

860vph is well below the above threshold and so it is reasonable to conclude further treatment beyond the proposed median breaks are not warranted by the development.

All signalised pedestrian crossings are to be reviewed and approved by Main Roads WA. The Main Roads WA *Guidelines for Pedestrian Crossings Facilities at Traffic Signals* notes the following:

- In determining whether the installation of a mid-block pedestrian crossing is suitable, there must be consideration of the overall costs associated with installation, operation and vehicle delay, with regard to the projected crash cost savings.
- Signalised mid-block crossings are suitable at locations where there is a demonstrated demand, there is insufficient gaps for pedestrians to cross the road due to high volumes, and where efficiency and safety benefits can be demonstrated.
- Crossings that are irregularly used by pedestrians can present a risk, as motorists become accustomed to driving through the signalised crossing without stopping, no longer expecting a pedestrian to cross. For this reason, the number of pedestrians trying to cross the road in a regular period must be considered.

As there are numerous existing and proposed crossing points along Indigo Parkway, it is unlikely that the crossing demand would be concentrated enough at any single point to warrant the provision of a signalised crossing. The child care centre itself is unlikely to generate significant demand for pedestrians to cross Indigo Parkway as most patrons are likely to drive to and from the site.

The Department of Transport's *Planning and designing for pedestrians: guidelines* also advises on the inappropriate location of mid-block pedestrian crossings. One of the examples of an inappropriate location is close to an intersection. Based on the location of the child care centre, any crossing proposed on or close to the frontage of the site would be in close proximity to the Briggs Road / Indigo Parkway intersection. A signalised crossing would therefore carry a reasonable risk of causing queuing back towards Briggs Road which is an undesirable outcome.

Lastly, it is noted that the officer's recommendation does not include condition q as the planning assessment did not raise any concerns with regards to crossing Indigo Parkway or the need for a signalised pedestrian crossing to enable crossing this road.

Government of **Western Australia**
Development Assessment Panels

Presentation Request Form

Regulation 40(3) and DAP Standing Orders 2020 cl. 3.5

Must be submitted at least 72 hours (3 ordinary days) before the meeting

Presentation Request Guidelines

Persons interested in presenting to a DAP must first consider whether their concern has been adequately addressed in the responsible authority report or other submissions. Your request will be determined by the Presiding Member based on individual merit and likely contribution to assist the DAP's consideration and determination of the application.

Presentations are not to exceed **5 minutes**. It is important to note that the presentation content will be **published on the DAP website** as part of the meeting agenda.

Please complete a separate form for each presenter and submit to daps@dplh.wa.gov.au

Presenter Details

Name	Lara Iozzi
Company (if applicable)	Spagnolo Developments Pty Ltd
Please identify if you have any special requirements:	**YES** ☐ **NO** ☒ If yes, please state any accessibility or special requirements: Click or tap here to enter text.

Meeting Details

DAP Name	Metro Outer Joint Development Assessment Panel
Meeting Date	1 June 2023
DAP Application Number	DAP/23/02452
Property Location	9511 Briggs Rd, Byford
Agenda Item Number	Item 8.1

Presentation Details

I have read the contents of the report contained in the Agenda and note that my presentation content will be published as part of the Agenda:	**YES** ☒
Is the presentation in support of or against the report recommendation)? *(contained within the Agenda)*	**SUPPORT** ☐ **AGAINST** ☒
Is the presentation in support of or against the proposed development?	**SUPPORT** ☒ **AGAINST** ☐
Will the presentation require power-point facilities?	**YES** ☐ **NO** ☒ **If yes, please attach**

Government of **Western Australia**
Development Assessment Panels

Presentation Content*

These details may be circulated to the local government and applicant if deemed necessary by the Presiding Member. Handouts or power points will not be accepted on the day.

Brief sentence summary for inclusion on the Agenda	*The presentation will address:* To request deletion of some proposed conditions

In accordance with Clause 3.5.2 of the *DAP Standing Orders*, your presentation request must also be accompanied with a written document detailing the content of your presentation.

Please attach detailed content of presentation or provide below:

Click or tap here to enter text.

Developer Response to Development Assessment Panel

Item 8.1 - Child minding Centre – 9511 Briggs Road, Byford

Introduction

We are the developer of the proposed child minding centre.

We have under contract 6 lots which form part of the Byford Meadows Estate (Stage 7). We have until 10 June 2023 to satisfy our development approval condition.

The subdivision works to create the 6 lots are currently underway by the subdividing developer and include the construction of Indigo Parkway and Caspian Chase to Briggs Road. The 6 lots would ultimately be amalgamated to create one lot that contains the child minding centre. For the purposes of clarity, we and the subdividing developer are independent to each other.

We have 3 main issues with the Shire's recommendation to you, which are the imposition of the following conditions:

1. upgrading of 160 metres of very poor condition of Briggs Road to become a sealed, kerbed and drained road, with concrete footpath;
2. existing footpath on Larsen Road being extended west across Briggs Road, then north to connect with the footpath infrastructure across the full frontage of the development site; and
3. providing a suitable pedestrian crossing treatment comprising of crossing lights between the subject land and the public open space on the north side of Indigo Parkway.

For the reasons that follow, we request that these conditions be deleted when you make your decision on the application.

1 Upgrade of 160 metres of Briggs Road

1.1 Condition Wording

The Shire has included the following condition:

Prior to issue of a building permit, detailed plans being submitted to and approved by the Shire, depicting the following road and footpath infrastructure upgrades:

(i) …
(ii) …
(iii) ….
(iv) *The 160m section of Very Poor Condition of Briggs Road from Caspian Chase south, being upgraded to match the upgrades occurring north of Caspian Chase, as shown on Drawing Number BYFGGC12-R01 (attachment 8). This includes a road upgrade to that section of road, to become a sealed, kerbed and drained road, with concrete footpath on the western side verge.*

Once approved, the applicant must undertake and complete all infrastructure upgrade works prior of the commencement of the development's operations.

1.2 Shire Reasoning for Condition

The Shire's RAR provides as follows:

- The section of road in question is designated as "Very Poor" according to the 2023 asset data capture.
- Without a suitable upgrade, the very poor section of Briggs Road will, in the opinion of officers, be a risk exacerbated by the intensification of traffic proposed by the development.
- The actual deteriorated section of Briggs Road does not represent a current infrastructure standard that can safely manage the planned increase in traffic. To address this aspect, a road upgrade is needed to enable the proposed development to safely operate based on the expected traffic demands which show in the interim period 40% of traffic coming from the south.

The Shire's Director of Development Services, Andrew Trosic provided the following additional reasoning which was provided to Councillors in response to an email we sent to Councillors prior to the Council Meeting on 15 May 2023 (**Director of Development Services Email**):

- The TIA Guidelines (volume 4 which relate to development proposals) states that *"As a general guide, an increase in traffic of less than 10 per cent of capacity would not normally be likely to have a material impact on any particular section of road, but increases over 10 per cent may."* The guidelines then state however that *"For sensitive areas, (for example, past schools), or where a significant proportion of the development's traffic is likely to be heavy commercial vehicles, a lower threshold than the above might trigger the need for assessment."*
- Officers note that to the south of the development is a future school, and further south of that is the Shire's Byford Trotting Complex, which is an especially sensitive area in terms of equine trails crossing Briggs Rd. The 10 per cent capacity is not a relevant trigger for this reason.
- In thus looking at the TIA Guidelines, it states under s5.12 that the TIS should:

  5.12 Safety issues

  - Identify and discuss any existing or potential safety issues. Where appropriate, suggest remedial measures
- The submitted TIS does not deal with, or make mention of, the 160m section of category 5 very poor condition section of Briggs Rd. Consistent with s5.12 of the TIA Guidelines, a sufficient TIS ought to have discussed and dealt with this potential safety issue, and define an acceptable remedial measure. Officers hold the view that the remedial measure required is that captured by condition 7(iv). Road safety is of importance in respect of a merits based planning assessment in this regard.

1.3 Developer's Responses to Shire's Reasoning for Condition

The Transport Impact Statement

The Transport Impact Statement (**TIS**) prepared by Shawmac for the development provides the following traffic volumes:

The 2022 traffic volumes along Briggs Road (south of Thomas Road) are:

- Daily 3,829 vpd (1,898 NB / 1,931 SB)
- AM Peak 449 vph (254 NB / 195 SB)
- PM Peak 411 vph (209 NB / 202 SB)

Our development is estimated to generate the following vehicle trips and % increases:

- 450 daily vehicle trips (11.7% increase)
- 86 AM Peak trips (19.2% increase)
- 87 PM Peak trips (21.2% increase)

Only 40% of our traffic is estimated to use the section of Briggs Rd south of Caspian (being the relevant section of road pursuant to the condition) and so the increase on this section of road equates to:

- 180 daily vehicle trips (4.7% increase on existing volumes)
- 34 AM Peak trips (7.8% increase on existing volumes)
- 34 AM Peak trips (8.3% increase on existing volumes)

The TIS states:

- Under Main Roads WA Functional Road Hierarchy, Briggs Road is classified as a Local Distributor Road with a target maximum daily volume of 6,000vpd. As above, the resulting daily traffic volume is within the target threshold.
- The resulting daily and peak hour traffic volumes along Briggs Road are well below 900 vph in each direction and there appears to be spare mid-block capacity to accommodate increased traffic volumes.
- According to the WAPC Transport Impact Assessment Guidelines (**TIA Guidelines**), an increase of less than 10% of capacity, approximately 100 vehicles per hour, would not normally be likely to have a material impact on any particular section of road. As shown, the proposed development will not increase the traffic volume on any particular section of road by more than 100 vehicles per hour and is therefore unlikely to have a material impact on the adjacent road network.

Responses to Shire's Reasoning

As our TIS provides that the development is unlikely to have a "material impact" on the section of road in question, it is unreasonable for the Shire to impose a condition which requires us to design and fund the upgrade of that section of road.

The Shire's Local Planning Policy 4.24 – Child Minding Centres outlines that an acceptable development with respect to traffic is one where:

> "*Traffic generation poses an increase of no more than 10% of the current recorded daily volumes on the roads which the development adjoins. This is confirmed by a traffic impact statement*."

In relation to this criteria, the RAR states our development is "acceptable" in this regard. We consider that as our development meets this criteria and the threshold in the TIA Guidelines, it is unreasonable for the Shire to impose the Briggs Road upgrade condition on our development.

We note that when the DAP considered another child minding centre located at Beenyup Road, Nos. 13 & 15 (Lots 102 & 103) Byford on 6 April 2022, the Shire's RAR provided:

> "*These movements as reflected above, are significantly below the 100 vehicle an hour servicing threshold criteria established within the WA Planning Commission's Transport Impact Assessment Guidelines. This threshold provides an indication of the likelihood that a development may to lead traffic*

safety issues on the road network. Typically, where movements are below this, the network is considered adequate in servicing the development."

It is evident from this statement that the Shire clearly has regard to the TIA Guidelines threshold.

The Shire had previously sought to have the developer of the Byford Meadows subdivision undertake the Briggs Road upgrading works as part of the subdivision clearance process for Stage 7. It was successfully (and reasonably) argued by the subdivider/project engineer at the time that these works were unreasonable on the basis that these works should be undertaken as part of the development of the school site, which abuts the relevant section of road. This was accepted by the Shire's engineers. We consider the Shire's request for this upgrade to be opportunistic and not being imposed for a proper planning purpose.

There are two other developments currently proposed along Briggs Road being:

- Lifestyle Village - located at Lots 59, 60 and 61 Briggs Road and Lot 62 Thomas Road, Byford
- Child minding centre – located at 57 Briggs Road, Byford,

and both developments add to the traffic generated south along Briggs Road as follows:

In relation to the proposed Lifestyle Village, the applicant's report provides "[t]he local traffic movements from the Subject Site are likely to be concentrated initially to the south along Briggs Road,…".

The proposed child minding centre at 57 Briggs Road provides in its Transport Impact Statement as follows:

2.14 Traffic Flow Distribution

How many routes are available for access / egress to the site?	Two (2)
Route 1 / Movement 1	
Provide details for Route No 1	To/from the north via Briggs Road
Percentage of Vehicular Movements via Route No 1	60% [271 VPD; AM 50 VPH; PM 44 VPH]
Route 2 / Movement 2	
Provide details for Route No 2	To/from the south via Briggs Road
Percentage of Vehicular Movements via Route No 2	40% [181 VPD; AM 33 VPH; PM 29 VPH]

This centre will add traffic to the relevant section of Briggs Road in very similar volumes to the traffic our site is generating.

It is unreasonable to expect that our site fully fund the upgrade of this section of Briggs Road when other developments will also be generating additional traffic along that section of road. A school site is also proposed along Briggs Road and this site would clearly add considerable traffic to the relevant section of road, certainly in a much more material way than our site.

The Shire's comment in relation to this was:

> "Officers are intending to present the second child care centre to Council in June. It is likely a similar condition will be imposed. Should two development approvals include upgrading the same 160m section of road, it would logically result in a co-contribution. However, there is no certainty that both developments will proceed, and therefore in order to protect the interest of ratepayers it is important that the condition as currently written, remains."

We disagree with the Shire's reference that "it would logically result in a co-contribution" as there is no legal mechanism to allow for one developer to require another developer to co-contribute in such circumstances. As such, the developer to first develop will be burdened with the costs of the upgrade and this is not an equitable outcome.

We reject the Shire's reference to the area being a "sensitive area" and that the "10% capacity is not a relevant trigger". The only examples given in the TIA Guidelines for a sensitive area is "past schools" or where "significant proportion of the development's traffic is likely to be heavy commercial vehicles". We highlight the following:

- The school is not constructed or proceeding in the foreseeable future and that the road would be upgraded by the time the school is in place;
- The Byford Trotting Complex is not adjacent to the section of road in very poor condition;
- The child care centre will not generate any heavy commercial vehicles. The current heavy vehicle percentage along Briggs Road near Thomas Road is only 3% daily and 2% during the peak hours.

The Shire references part only of s5.12 of the TIA Guidelines. Section 5.12 goes onto provide examples of possible safety issues and all the examples are linked back to issues created by the development. Our development is not creating the "Very Poor" condition of road.

Further, section 4 of the TIA Guidelines provide that *"[i]t should be noted that inclusion of a particular road, … or other feature in the study area does not necessarily imply that the proponent will be responsible for all improvements that the assessment might recommend at that location*." We submit that the classification of the road as "Very Poor" by the Shire does not and should not imply that we are responsible for upgrading it.

The DAP Practice Notes: Making Good Planning Decisions March 2021 (**DAP Practice Notes**) provide that a condition is valid if:

(i) It has a planning purpose;
(ii) It fairly and reasonably relates to the development; and
(iii) It is not so unreasonable that no reasonable planning authority could have imposed it.

In relation to the first limb, a planning condition must not be imposed for an ulterior purpose. The classification as "Very Poor" per the Shire's Asset Management Strategy 2020 -2024 has this description "an asset has failed and is no longer serviceable. There would be a risk in leaving the asset in service. Replacement is required". It is evident from this description that works are required to the section of road irrespective of our development occurring. Our view is that the Shire has imposed this condition to avoid the Shire bearing the cost of upgrading the asset.

For the second limb, the DAP Practice Notes quote from *Perrymead Investments Pty Ltd v WAPC* (1996) 16 SR (WA) 181 that "… the condition can be said to reasonably relate if it arises from changes precipitated by the development or subdivision." Any upgrades required to the road do not arise from changes precipitated by our development, instead they arise from the current "very poor" condition of the road. The existing poor condition is generating the need and it is not appropriate for the Shire to pass this burden onto us particularly when:

- The relevant section of road does not abut our site;
- The additional traffic generated along this section of road by our development is low/ "unlikely to have a material impact" (as set out above from our TIS)

For the third limb, the DAP Practice Notes provide that whether a condition is unreasonable really infers to whether "what is imposed is proportional to what has been applied for". Our application is for a 110 place child minding centre on a total land area of 2,522 square metres. The condition requires 160 metres of road (not abutting the development) to be upgraded to an urban standard. The costs to design and upgrade this section of road are significant, on our engineer's initial review, it is likely to be in the vicinity of $300,000 - $400,000. We consider such costs are not proportionate to the scale of the development. If this condition remains, the development will not be viable and will not be able to proceed.

This type of condition is of the kind imposed on a subdividing developer and not of the kind imposed on an individual development application of this scale. We note that subdividing developers have a legal mechanism to request reimbursement for road upgrade costs from other abutting subdividing developers.

For the reasons set out, it is clear that the upgrade to Briggs Road is not triggered or warranted by our development and therefore, there is a lack of clear nexus as required for the condition to be valid. We request this condition is removed.

2 Footpath

2.1 Condition Wording

Prior to issue of a building permit, detailed plans being submitted to and approved by the Shire, depicting the following road and footpath infrastructure upgrades:
(i) …
(ii)
(iii) The existing footpath on Larsen Road being extended west across Briggs Road, then north to connect with the footpath infrastructure across the full frontage of the development site;

Once approved, the applicant must undertake and complete all infrastructure upgrade works prior of the commencement of the development's operations.

2.2 Shire's Reasoning

The Shire's RAR provides as follows:

- Footpaths along the interfacing roads would be constructed as part of the ongoing subdivisional works which would provide pedestrian access to the proposed development.
- A condition is however included to also secure the required footpath infrastructure that adjoins the frontages of this lot, which also extends to link to the footpath network (existing) on Larsen Road. This is important in order to facilitate safe pedestrian access to the proposed development.
- The existing network and additional footpath link to be conditioned, is shown following. This is essential in order to provide safe pedestrian access to the centre, for clients based to the south and east of the proposed development, consistent with the planning framework to ensure that all modes of transport are catered for.

- With respect to the subdivision works currently underway to create the site, this shows that the extent of planned footpath works will not connect to the existing path on Larsen Road. This is the basis for the recommended condition.

The Director of Development Services Email references the DPLH Planning Bulletin, which emphasises the health and safety of children attending child care centres. It provides that:

- Officers maintain the view that the lack of a footpath network will create unsafe conditions for children and families.
- The public transport network in this area includes bus stops along Eurythmic Road, and further evidences the importance of a footpath network
- The Council's new Child Minding Centre Local Planning Policy states the following in terms of pedestrian infrastructure being provided:

  Designated pedestrian footpaths from the street to the centre and the car park to the centre.
  Demonstrate that pedestrians can safely navigate to and around the site, with dedicated pathways.

- As a result, officers hold the view that this condition is reasonable, has a proper planning purpose and applies to the proposal specifically in question.

2.3 Developer's Responses to Shire's Reasoning

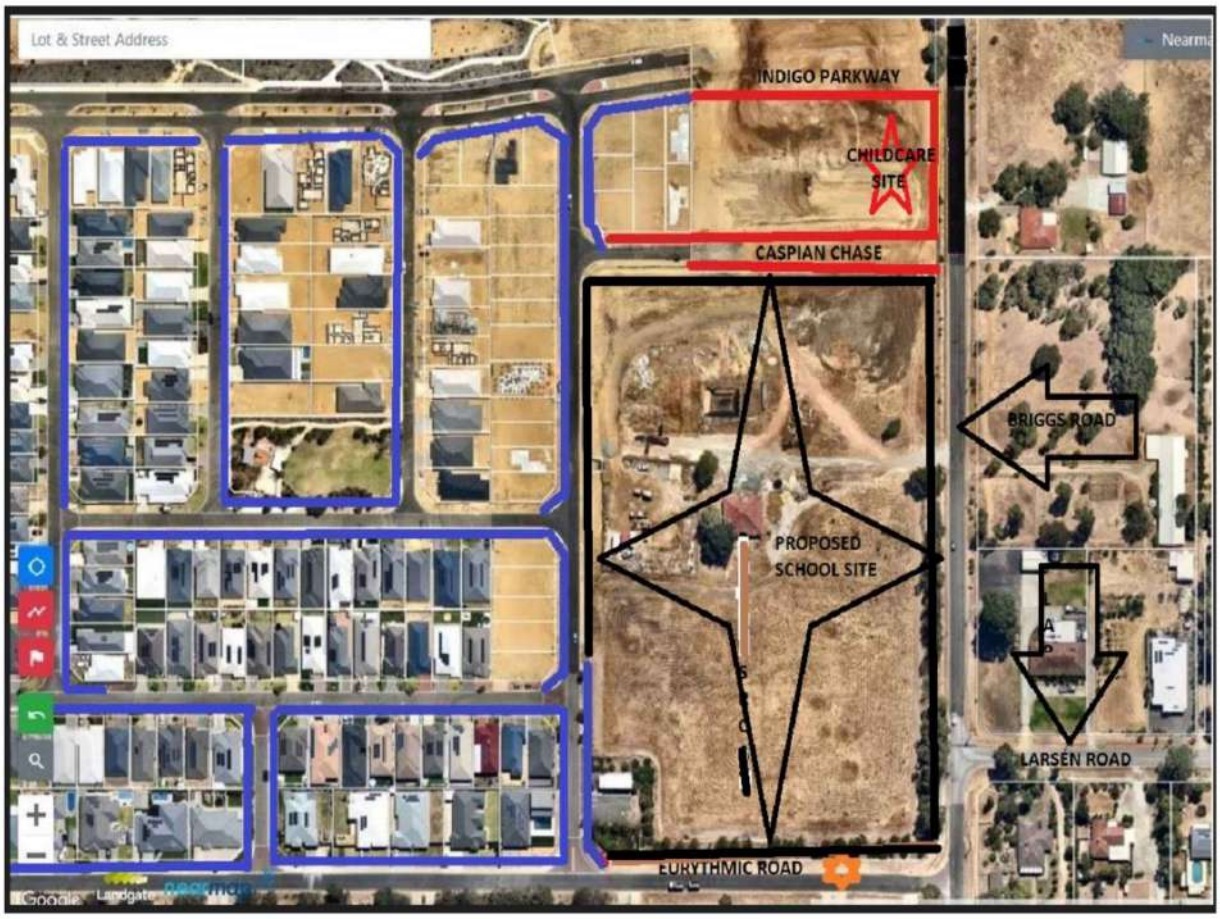
According to the TIA Guidelines, the typical walkable catchment is 400 metres or a 5-minute distance. The walkable catchment would arguably be shorter for a child care centre.

There are only about 5 houses within a 400 metre walkable catchment along the route of the required footpath. On this basis, the number of child care centre patrons or staff likely to use this path would be minimal, if any.

We consider the construction of this footpath is premature as the need for it is not warranted at this time or by our centre. To impose such a condition on our development is onerous and unreasonable.

Our TIS makes reference to the planned path network and provides that the "existing and planned path network is considered to be adequate for the movement of pedestrians and cyclists to and from the development".

We provide the following details of existing paths and paths to be completed as part of the current subdivision works (which create our site and adjoining lots, being Stage 7 Byford Meadows (**Stage 7 Works**)). The blue lines show the existing paths and the red lines show the paths to be completed as part of the Stage 7 Works.



As can be seen from the above image, there are sufficient paths around and within the vicinity of the proposed development.

The Transport Assessment Report that was prepared for Byford Meadows Estate shows additional paths that will be created when the school site is developed – see below:

As can be seen, the path the Shire is requiring us to construct directly abuts the future school site and appropriately should be constructed when that site is developed.

There also seems to be an issue from a practical perspective with the requirement to construct the footpath. From our initial investigations, there does not appear to be sufficient room within the existing road reserve to locate the footpath on the western side of Briggs Road without comprising the existing drain and there is considerable vegetation along the western side of Briggs Road. It therefore appears that the footpath may not be able to be constructed without an increase in the road reserve and we are not the owner / have no control over the land that abuts this section of road reserve. It is unreasonable to impose this condition when third-party involvement is likely to be required.

We consider:

- there are sufficient current and soon to be completed paths within the vicinity of the proposed development;
- there is an insufficient number of dwellings within the 400 metre walkable catchment of the path to warrant the construction of the path;

- the road reserves on the western side of Briggs Road does not appear of sufficient width to accommodate a footpath,

and therefore the proposed condition is not warranted or reasonable in the circumstances. We request that this condition is deleted.

3 Pedestrian crossing treatment

3.1 Condition Wording

At the Council Meeting, the Council resolved to add the following condition:

q. Prior to operation of the development, a suitable pedestrian crossing treatment comprising of crossing lights shall be provided between the subject land and the public open space on the north side of Indigo Parkway, to the satisfaction of the Shire on advice of Main Roads WA (who will be required to separately approve such crossing treatment and lights).

This condition was not included within the Shire Officer's recommendation.

3.2 Shire's Reasoning

The Council Minutes provide that the reason for the condition is:

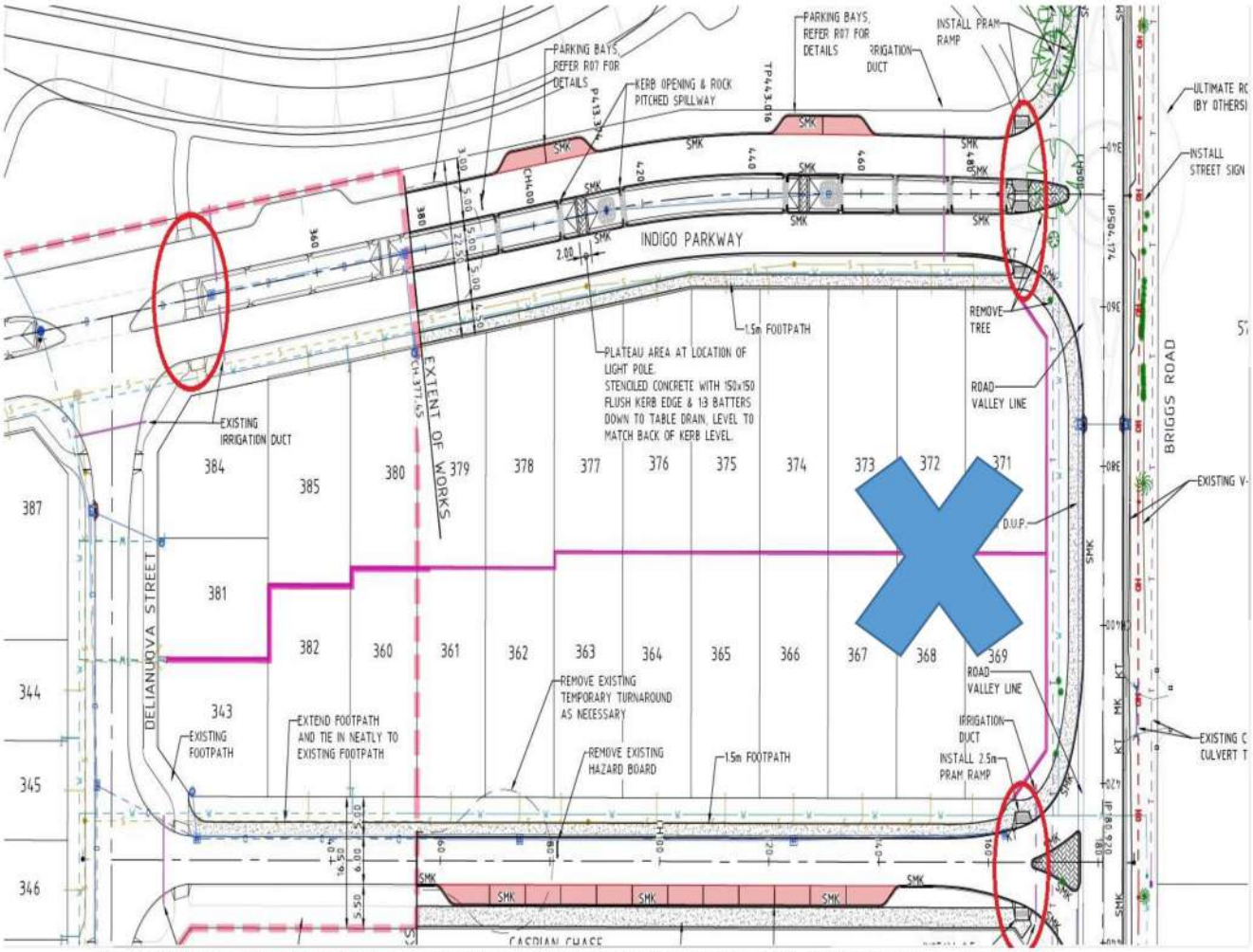
The inclusion of pedestrian crossing lights in consideration of Local Planning Policy 4.24 and the Department of Planning, Lands and Heritage Planning Bulletin 72/2009.

3.3 Developer's Response to Shire's Reasoning

Our TIS has not recommended the installation of crossing lights.

Our traffic consultant, Shawmac have provided a submission which outlines the reasons why the pedestrian crossing treatment is not appropriate/ required for this location.

We also wish to highlight that upon completion of the subdivision works associated with the creation of our lots, there will be several pedestrian connections with pram ramp facilities (see below circled in red with our 6 lots shown with blue cross):



[*The Stage 7 Byford Meadows Roadworks Layout Plan & Intersection Details*]

In addition, the Byford Meadows Multiuse Corridor Landscape Concept Plan (**attached**) shows several pedestrian connections within the Public Open Space on the north side of Indigo Parkway.

In the Summary of Submissions received for the application, Main Roads responded that it "has no objections" to the proposal. This demonstrates that Main Roads did not see the need for pedestrian crossing lights.

We do not consider there is a proper planning purpose for this condition and request it is deleted.

Advice notes

We also request that the advice notes set out in our planner, Rowe Group's written submission are accepted in relation to conditions n. and o and conditions e(i) and (ii). The reasons for these advice notes have been explained in the Rowe Group submission.

Conclusion

We consider there are strong grounds for the three conditions in question to be deleted, being conditions (e)(iii), e(iv) and q. and kindly request that they are deleted when your decision is made. We also request that the advice notes proposed by Rowe Group are accepted in relation to conditions n. and o and conditions e(i) and (ii).

For ease of reference, Rowe Group in their written submission have provided an Alternative Recommendation which shows our requested amendments to the Shire's recommendation. We kindly request you approve the proposed development in accordance with that Alternative Recommendation.

We are happy to answer any questions you might have prior to or at the meeting. I can be contacted on 043 9919 697 or lara@malfcorp.com.au.

Yours faithfully

Lara Iozzi
Representative – Spagnolo Developments Pty Ltd

LEGEND

- extent of landscape works
- pedestrian connections
- proposed path
- existing path
- proposed play area
- informal compacted gravel trail
- informal mulch trail
- proposed walls
- existing basin walls
- basin walls
- proposed turf
- sedge and shrub planting to drainage basins
- shrub and groundcover planting
- proposed trees
- existing trees
- proposed shelter and picnic settings
- informal crossing points
- section lines - refer BM-MUC-02

informal seating nodes to garden bed areas create a shaded break areas.

gabion walls to tie into the works in the stage 1 POS

shelters provided to picnic areas.

gravel used to define informal trails and seating nodes

inclusion of seating boulders to garden bed edges to allow for respite along walking trails.

low block retaining walls

informal trails through garden beds

through the placement of boulders and logs coupled with breaks in the planting there is an opportunity to include informal crossing points to central stream.

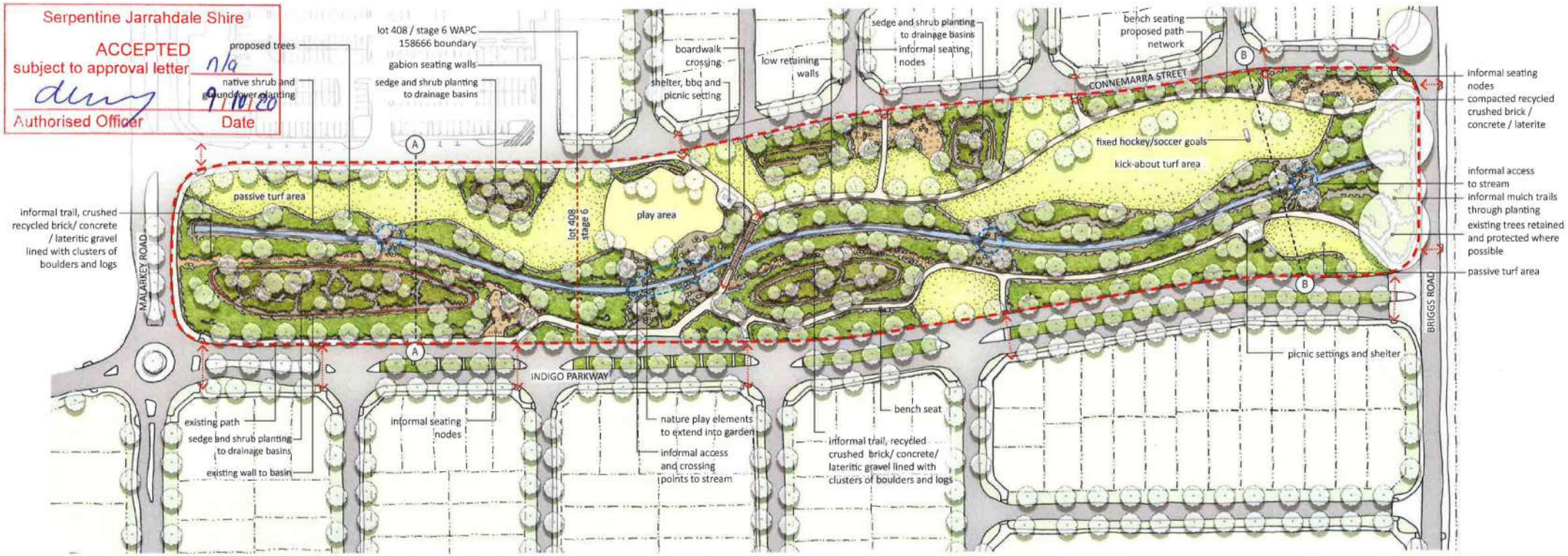
formal boardwalk crossing central to MUC

Serpentine Jarrahdale Shire

ACCEPTED
subject to approval letter n/a

Authorised Officer

Date 9/10/20



indicative nature play elements for play space. opportunity to extend elements into the garden bed adjacent stream

passive turf with opportunities for kick-about

BYFORD MEADOWS - MULTIUSE CORRIDOR

LANDSCAPE CONCEPT PLAN

DWG BU-MUC01
REV C
DATE 09.09.2020
SCALE 1 : 1500 @ A3

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emerge ASSOCIATES

sample planting list

Anigozanthos bush diamond
Anigozanthos Bush Elegance
Anigozanthos Bush inferno
Banksia nivea
Banksia sessilis
Baumea juncea
Baumea rubiginosa
Beaufortia elegans
Beaufortia squarrosa
Callistemon phoeniceus 'Flat Fred'
Callistemon spotfire
Calothamnus quadrifidus
Carex appressa
Conostylis aculeata
Conostylis candicans
Corymbia calophylla
Corymbia ficifolia
Dianella australiana
Dianella caerulea breeze
Dichelachne crinita
Eremophila glabra 'prostrate'
Eremophila glabra 'Kalbari Carpet'
Eremophila nivea
Eucalyptus erythrocorys
Eucalyptus kruseana
Eucalyptus macrocarpa
Eucalyptus marginata
Eucalyptus rhodantha
Eucalyptus rudis
Eucalyptus torquata
Eucalyptus victrix
Grevillea jenkinsii
Grevillea preissi mini
Hakea burrendong beauty
Hakea laurina
Hakea prostrata
Hemiandra pungens
Hibbertia stellaris 'orange stars'
Juncus kraussii
Juncus pallidus
Kennedia prostrata
Kunzea baxteri
Lechenaultia biloba
Lepidosperma calcicola
Lepidosperma twilight green
Leucophyta brownii
Lomandra lime tuff
Lomandra tanika
Meeboldina scariosa
Melaleuca fulgens
Melaleuca pentagona 'little penta'
Melaleuca preissiana
Melaleuca rhaphiophylla
Pennisetum alopecuroides
Poa eskdale
Themeda triandra
Thryptomene baeckeace 'Prostrate'
Westringia damperi
Westringia Jervis gem
Westringia Morning Light
Westringia Mundi
Westringia Smokie
Xanthorrhoea preissii

Anigozanthos Sp.

Anigozanthos Sp.

Conostylis candicans

Dianella breeze

Lomandra Sp.

Ficinia nodisa

Lepidosperma calcicola

Hemiandra pungens

Hakea burrendong beauty

Westringia "mundi"

Leucophyta brownii

Eremophila nivea

Calothamnus quadrifidus

Lechenaultia biloba

Eremophila glabra

Kenedia prostrata

Eucalyptus macrocarpa

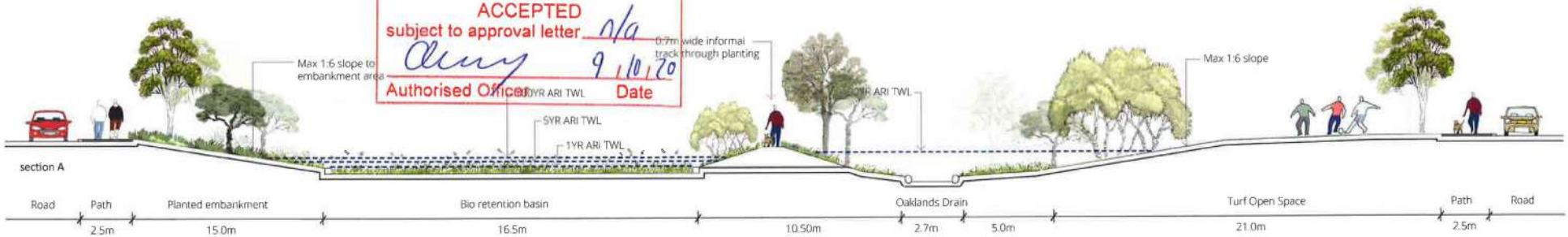
Corymbia ficifolia

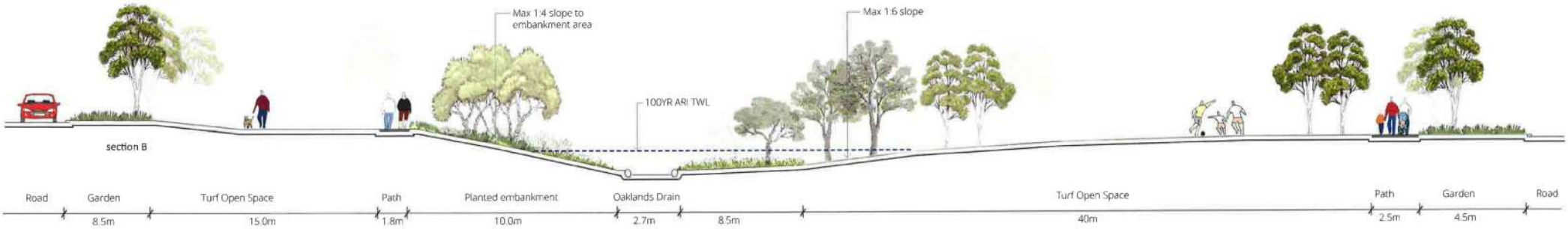
Eucalyptus torquata

Eucalyptus victrix

Melaleuca rhaphiophylla

Serpentine Jarrahdale Shire
ACCEPTED
subject to approval letter n/a
9/10/20
Authorised Officer Date





BYFORD MEADOWS - MULTIUSE CORRIDOR
LANDSCAPE CHARACTER

DWG BU-MUC02
REV C
DATE 09.09.2020
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emerge ASSOCIATES

Government of **Western Australia**
Development Assessment Panels

Presentation Request Form

Regulation 40(3) and DAP Standing Orders 2020 cl. 3.5

Must be submitted at least 72 hours (3 ordinary days) before the meeting

Presentation Request Guidelines

Persons interested in presenting to a DAP must first consider whether their concern has been adequately addressed in the responsible authority report or other submissions. Your request will be determined by the Presiding Member based on individual merit and likely contribution to assist the DAP's consideration and determination of the application.

Presentations are not to exceed **5 minutes**. It is important to note that the presentation content will be **published on the DAP website** as part of the meeting agenda.

Please complete a separate form for each presenter and submit to daps@dplh.wa.gov.au

Presenter Details

Name	Nathan Stewart
Company (if applicable)	Rowe Group
Please identify if you have any special requirements:	**YES ☐** **NO ☒** If yes, please state any accessibility or special requirements: Click or tap here to enter text.

Meeting Details

DAP Name	Metro Outer Joint Development Assessment Panel
Meeting Date	1 June 2023
DAP Application Number	DAP/23/02452
Property Location	Lot 9511 Briggs Road, Byford
Agenda Item Number	8.1

Presentation Details

I have read the contents of the report contained in the Agenda and note that my presentation content will be published as part of the Agenda:	**YES ☒**
Is the presentation in support of or against the report recommendation)? *(contained within the Agenda)*	**SUPPORT ☐** **AGAINST ☒**
Is the presentation in support of or against the proposed development?	**SUPPORT ☒** **AGAINST ☐**
Will the presentation require power-point facilities?	**YES ☐** **NO ☒** **If yes, please attach**

Government of **Western Australia**
Development Assessment Panels

Presentation Content*

These details may be circulated to the local government and applicant if deemed necessary by the Presiding Member. Handouts or power points will not be accepted on the day.

Brief sentence summary for inclusion on the Agenda	*The presentation will address:* Mr Nathan Stewart (Rowe Group) will present in support of the proposed development and against the Officer Recommendation. We are generally supportive of the Conditions in the Officer Recommendation, subject to the removal of Condition e.(iii) and (iv) of the Officer Recommendation and Condition q. from the Council Recommendation and the inclusion of two (2) new Advice Notes in relation to Conditions n. and o and Condition e.(i) and (ii).

In accordance with Clause 3.5.2 of the *DAP Standing Orders*, your presentation request must also be accompanied with a written document detailing the content of your presentation.

Please attach detailed content of presentation or provide below:

Refer enclosed information.

METRO OUTER JOINT DEVELOPMENT ASSESSMENT PANEL

9:30AM THURSDAY 1 JUNE 2023

ITEM 8.1 – CHILD MINDING CENTRE AT LOT 9511 BRIGGS ROAD, BYFORD

Summary and Background

Rowe Group acts on behalf of Spagnolo Developments Pty Ltd in relation to Lot 9511 Briggs Road, Byford (**the subject site**). Spagnolo Developments Pty Ltd are under contract to purchase six (6) lots approved as part of the Byford Meadows Stage 7 subdivision. Subdivision works associated with Stage 7 are substantially progressed. We lodged a Development Application with the Shire of Serpentine-Jarrahdale (**the Shire**) on 1 March 2023 which seeks Development Approval for a childcare centre at the subject site. The Development Application is required to be determined by the Metro Outer Joint Development Assessment Panel (**JDAP**).

The Shire's Responsible Authority Report (**RAR**) contains two (2) recommendations; a Council Recommendation and an Officer Recommendation. Both recommendations are for approval subject to conditions. We have reviewed both the Council and Officer Recommendations and we are generally supportive of both, subject to the removal of Condition e.(iii) and (iv) of the Officer Recommendation and Condition q. from the Council Recommendation and the inclusion of two (2) new Advice Notes in relation to Conditions n. and o and Condition e.(i) and (ii).

The following members of the Project Team will be in attendance at the JDAP meeting and will be available to respond to any questions from the JDAP.

- Ms Lara Spagnolo (Iozzi) and Mr Marc Spagnolo – Representatives of Spagnolo Developments Pty Ltd.
- Mr Nathan Stewart – Rowe Group.
- Mr Paul Nguyen – Shawmac.

Condition e.(iii) and (iv) – Larsen Road Footpath Upgrades and Briggs Road Upgrades

Condition e. of the Officer Recommendation reads:

> *e. Prior to issue of a building permit, detailed plans being submitted to and approved by the Shire, depicting the following road and footpath infrastructure upgrades:*
>
> *(i) The full extension of Indigo Parkway to Briggs Road as a 'T' intersection with a median strip constructed up to Briggs Road;*
>
> *(ii) The full extension of Caspian Chase as a 'T' intersection up to Briggs Road;*
>
> *(iii) The existing footpath on Larsen Road being extended west across Briggs Road, then north to connect with the footpath infrastructure across the full frontage of the development site;*
>
> *(iv) The 160m section of Very Poor Condition of Briggs Road from Caspian Chase south, being upgraded to match the upgrades occurring north of Caspian Chase, as shown on Drawing Number BYFGGC12-R01 (attachment 8). This includes a road upgrade to that section of road,*

to become a sealed, kerbed and drained road, with concrete footpath on the western side verge.

Once approved, the applicant must undertake and complete all infrastructure upgrade works prior of the commencement of the development's operations.

It is understood parts (i) and (ii) of Condition e. will be satisfied as part of subdivision works associated with Byford Meadows Stage 7, which will be completed prior to an application for a building permit being submitted. These works are currently being undertaken. Parts (i) and (ii) of Condition e. are accepted subject to an advice note which provides some certainty to our client that if the works have been completed as part of the subdivision works, no further upgrades are required by our client.

Parts (iii) and (iv) relate to works that do not directly relate to the proposed child care centre. We therefore consider the road and footpath upgrading works described in parts (iii) and (iv) of Condition e. to be unreasonable and should be deleted. Our reasons follow:

Larsen Road Footpath Upgrades

The length of the footpath that would need to be constructed to satisfy the condition would be in excess of 200m.

There would be a very low demand from existing residents along Larsen Road wanting to walk to / from the proposed development, as there are less then 10 houses (in total) within 400m walking distance on the eastern side of Larsen Road. Beyond that, parents would be expected to drive to the centre.

Drawing Number BYFGGC12-R01 identifies a 'future 2.5m dual use path' on the western side of Briggs Road and a 'future 2.5m footpath' on the eastern side of Briggs Road. The drawing also depicts existing v-drains on both sides of the road. Works required to construct a footpath (in association with road works required by e iv) would be significant and would impose an unreasonable and inappropriate burden on the developer of the child care centre.

In any event, the demand for this section of footpath to be provided would only occur when either:

- The school site is developed, or alternatively;
- The land east of Briggs Road (within the approved Briggs Larsen Local Structure Plan) is subdivided.

Furthermore, it should be acknowledged that even if our Client constructs the footpath, we are advised that it will be very likely that it will be removed again prior to the school site being developed in several years time. To require the developer to construct the footpath now, when there is no demonstrated nexus between the development and the need for the footpath in this location, is an unnecessary and unreasonable financial burden for this small developer.

Briggs Road Upgrades

The length of Briggs Road that would need to be upgraded to satisfy the condition would be in excess of 160m. This is an unreasonable and unnecessary expense for a smaller developer especially where there is no demonstrated need or nexus for the upgrades.

The Shire had previously sought to have the developer of the Byford Meadows subdivision to undertake the Briggs Road upgrading works now set out by Condition e. (iv,) including as part of the Stage 7 subdivision works and an earlier subdivision relating to Lot 370 (the school site). It was successfully (and reasonably) argued by the subdivider/project engineer at the time that these works were unreasonable on the basis that these works should be undertaken as part of the development of the school site. This was accepted by the Shire's engineers and the relevant condition cleared.

Additionally, this section of Briggs Road is already classified as "Very Poor" in the Shire's Asset Management Strategy 2020-2024 (endorsed by Council in July 2020). Therefore, it is clear that this is a pre-existing issue that should, in our view, be the responsibility of the local authority to resolve, not a developer. For this reason, and the fact this matter has been raised again by the Shire now appears opportunistic and does not satisfy the relevant tests for relevance or reasonableness of a planning condition.

It is our view the road upgrading works should reasonably only be applied at the time:

- The school site is developed, or alternatively;
- The land east of Briggs Road (within the approved Briggs Larsen Local Structure Plan) is subdivided.

No Nexus

In addition to the above, there are numerous State Administrative Tribunal (**SAT**) decisions which explain the tests to determine whether a condition on a Development Approval is valid or not (the Newbury or nexus tests). In *WAPC v Temwood Holdings Pty Ltd [2004] HCA 63* and *Reid v WAPC [2016] WASCA 181*, it was determined that a condition on a Development Approval will be valid if:

- A condition must be for a proper planning purpose and not for an ulterior purpose; and
- A condition must fairly and reasonably relate to the proposed development; and
- A condition must not be so unreasonable that no reasonable planning authority could have imposed it.

In particular, we refer to the matter of *Reid v WAPC [2016] WASCA 181*. Paragraph 37 of the decision of *Reid v WAPC [2016] WASCA 181* states:

> *Those principles require the establishment of a connection or relationship between the planning purpose for which the condition has been imposed, and the likely or possible consequences of the proposed subdivision. That connection or relationship must be established as a matter of fact. A relevant connection or relationship will not be established merely because the application for subdivision approval provides an opportunity or occasion to impose a condition in the furtherance of a proper planning purpose. Rather, the relevant connection or relationship must be between the planning purpose to be served by the condition and the likely or possible consequences of the proposed subdivision - such as a need for public open space, or a foreshore reserve, or improved road access as a consequence of residential subdivision and development.*

It is our understanding of the decision of *Reid v WAPC [2016] WASCA 181* that a 'proper planning purpose' is the connection of a planning purpose to a development or subdivision, usually by considering its likely impacts, and the need to impose conditions to mitigate those impacts.

In consideration of the above, we are of the view that the proposed Condition e.(iii) and (iv) fails the Newbury tests for the following reasons:

- The condition is not for a proper planning purpose. The Condition e.(iii) and (iv) appears opportunistic and does not satisfy the relevant tests for relevance or reasonableness of a planning condition. Therefore, the condition fails the first Newbury test.
- In relation to Condition e.(iii). There are less than 10 dwellings within a 400m walkable catchment on the eastern side of Briggs Road. We are advised that walking, cycling and scooter trips to and from a child care centre are typically limited to dwellings within a relatively short walking distance. Therefore, the walkable catchment for a child care centre would be arguably shorter than the generic 400m walkable catchment. As a result the likely demand for a footpath from these dwellings is minimal, if any. Therefore, Condition e.(iii) does not fairly and reasonably relate to the proposed development and fails the second limb of the Newbury test.
- In relation to Condition e.(iv). The Shire's Local Planning Policy No. 4.24 – Child Minding Centres (**LPP4.24**) states that an acceptable development with respect to traffic is one where:

  > *Traffic generation poses an increase of no more than 10% of the current recorded daily volumes on the roads which the development adjoins. This is confirmed by a traffic impact statement.*

  The proposed development is estimated to generate 450 daily vehicle trips (11.7%). However, only 40% of the anticipated daily vehicle trips (180 daily vehicle trips) is expected to use the section of Briggs Road south of Caspian (being the relevant section of road proposed to be upgraded as per the condition). This represents a 4.7% increase on the existing traffic volumes – substantially lower than the 10% suggested by LPP4.24.
  On this basis, Condition e.(iv) does not fairly and reasonably relate to the proposed development and fails the second limb of the Newbury test.
- In relation to Condition e.(iii). The imposition of Condition e.(iii) on this development is unreasonable due to the lack of any connection between the proposal and the footpath construction. Additionally, the cost to upgrade the footpath is equally unreasonable in the context of this proposed development. Therefore, Condition e.(iii) fails the third limb of the Newbury test.
- In relation to Condition e.(iv). It should be noted that there is already an agreement in place with the Shire for the Briggs Road upgrades to be undertaken as part of the development of the school site. To now require the construction of the Briggs Road upgrades as part of this development (in the absence of any connection between the proposed development and the need for the upgrades) is unreasonable. Therefore, Condition e.(iv) fails the third limb of the Newbury test.

On the basis of the above, we are of the view that Condition e.(iii) and (iv) should be removed.

Condition q. – Signalised Pedestrian Crossing

Condition q. of the Council Recommendation reads:

> *q. Prior to operation of the development, a suitable pedestrian crossing treatment comprising of crossing lights shall be provided between the subject land and the public open space on the north side of Indigo Parkway, to the satisfaction of the Shire on advice of Main Roads WA (who will be required to separately approve such crossing treatment and lights).*

It should be acknowledged that Condition q. was not recommended by the Shire's Officers. It was recommended that Condition q. was inserted into the Officer Recommendation by the Shire's Council at its 15 May 2023 Ordinary Council Meeting. According to the Minutes of the 15 May 2023 meeting, Council recommended Condition q. for the following reason:

> *The inclusion of pedestrian crossing lights in consideration of Local Planning Policy 4.24 and the Department of Planning, Lands and Heritage Planning Bulletin 72/2009.*

On review of LPP4.24, there does not appear to be any provisions within the Policy which would suggest or specify that a signalised pedestrian crossing is required in this instance. The provisions of LPP4.24 which we think the Council is relying on here is the performance-based criteria which reads:

> *Demonstrate that pedestrians can safely navigate to and around the site, with dedicated pathways.*

However, this only applies where the proposal does not satisfy the acceptable development criteria in LPP4.24, which reads:

> *Designated pedestrian footpaths from the street to the centre and the car park to the centre.*

The proposed development will be constructed within the Byford Meadows Stage 7 subdivision. Subdivision works associated with Stage 7 are substantially progressed and will be completed prior to a building permit being lodged for the proposed development. The subdivision works will include the construction of a footpath network shown on the enclosed Roadworks Layout Plan and Intersection Details plan (Drawing No. BYFGGC12 R01). Refer **Attachment 1 – Engineering Drawing**. This drawing indicates suitable pedestrian crossovers to the public open space to the north of the development. Therefore, the proposed development complies with the acceptable development criteria of LPP4.24.

The provision of an additional signalised pedestrian crossing on Indigo Parkway is not necessary or appropriate because the proposed development will be constructed within a, then existing pedestrian and road network.

Additionally, it is our view that it would only be appropriate for a condition (such as Condition q.) to be imposed where there was a direct connection between the proposal and the need to construct the signalised pedestrian crossing. For example, if the proposed child care centre was to rely on the use of the public open space for outdoor play space, then it may be appropriate. However, that is not the case. The proposed development does not rely on the use of the public open space at all. In fact, the proposed development exceeds the minimum outdoor play space requirement set out in the *Education and Care Services National Law (WA) Act 2012*. Therefore, Condition q. is not relevant to the proposal.

Furthermore, it should be noted that Condition q. refers to the advice from Main Roads WA. As mentioned in the Shire's RAR, Main Roads WA had no objection to the proposal and there is no reference to the need for a signalised pedestrian crossing in its advice.

On the basis of the above, Condition q. should be removed.

Conditions n. and o. – Developer Contributions

Conditions n. and o. of the Officer Recommendation read:

> n. *Arrangements being made with the Shire of Serpentine Jarrahdale for the landowner/applicant to contribute towards the costs of providing common infrastructure, as established through Amendment 208 (once gazetted) to Shire of Serpentine Jarrahdale Town Planning Scheme No. 2.*
>
> o. *Prior to issue of a Building Permit, the landowner/applicant contributing towards development infrastructure, pursuant to the Shire of Serpentine Jarrahdale Town Planning Scheme No. 2.*

Whilst Conditions n. and o. are recommended to be applied to this development approval, they were also included as conditions of the Stage 7 Subdivision Approval (WAPC Ref: 158666). As such, the contributions required for the six (6) lots comprising the child care centre site will already have been paid as part of the preceding subdivision.

We accept that if the six (6) lots were instead created as a single lot (which is not proposed), the Shire would wish to have a mechanism to require contributions to be provided as part of the development of the site. However, it is our understanding the Development Contribution Plan would not require contributions to be paid for all six lots **and** upon development of the child care centre.

Therefore, whilst the retention of Conditions n. and o. are provisionally accepted, this would be on the basis that an accompanying Advice Note be included as part of the Officer Recommendation to the JDAP to the effect that:

> *With regard to Conditions n. and o., if contributions have been received from the constituent lots created as part of WAPC reference 158666, no further contribution for the development will be required*.

Condition e. (i) and (ii) – Indigo Parkway and Caspian Chase Extensions

Condition e. (i) and (ii) read:

> e. *Prior to issue of a building permit, detailed plans being submitted to and approved by the Shire, depicting the following road and footpath infrastructure upgrades:*
>
> *(i) The full extension of Indigo Parkway to Briggs Road as a 'T' intersection with a median strip constructed up to Briggs Road;*
>
> *(ii) The full extension of Caspian Chase as a 'T' intersection up to Briggs Road;*
>
> *....*

The works required by Condition e. (i) and (ii) are subdivisional works that are also required to be undertaken as part of the Subdivision Approval (WAPC Ref: 158666) which will ultimately create the subject site. These works are currently being undertaken by the subdivider. The lots that comprise the subject site will not be created until after these works have been completed. Therefore, it is our view that it is unnecessary for Condition e. (i) and (ii) to be included on this Development Approval. Since the subdivision works have not been completed yet and the new titles have not been created, we accept that Condition e. (i) and (ii) may be reasonable in this instance.

However, in order to provide some clarity to our Client, we request that a new Advice Note is inserted which reads as follows:

> *With regard to Condition e. (i) and (ii), if the upgrades referred to in this Condition are completed as part of the subdivisional works required to be undertaken to implement the Subdivision Approval WAPC Ref: 158666, then no further infrastructure upgrades or contributions are required to satisfy this Condition.*

The purpose of the Advice Note is to provide certainty to our Client that should the subdivisional works required to implement the Subdivision Approval (WAPC Ref: 158666) are undertaken, then no additional infrastructure upgrades or other contributions are required to satisfy Condition e. (i) and (ii).

Conclusion

As previously mentioned, we are generally supportive of the Council and Officer Recommendations, subject to the removal of Condition e.(iii) and (iv) of the Officer Recommendation and Condition q. from the Council Recommendation and the inclusion of a new Advice Note in relation to Conditions n. and o and Conditions e.(i) and (ii).

We request the JDAP to approve the proposed development in accordance with our proposed Alternative Recommendation (refer **Attachment 2 – Alternate Recommendation**).

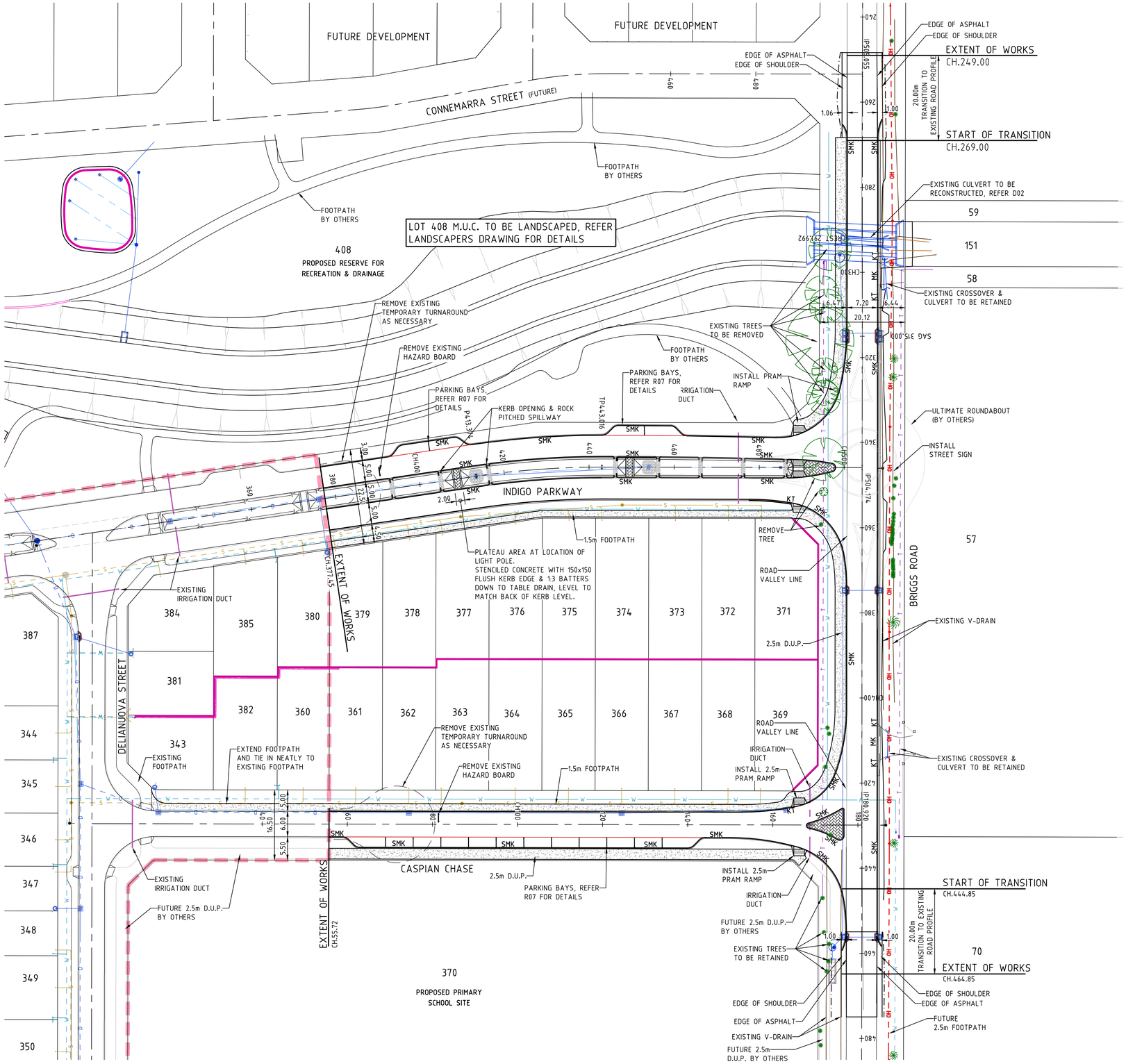
Should you have any queries in relation to this matter, please do not hesitate to contact the undersigned.

Yours faithfully

Nathan Stewart
Principal Town Planner
Rowe Group

Attachment 1

Engineering Drawing



ROADWORKS LEGEND

- CHAINAGE MARK AND TANGENT POINT
- DENOTES PRAM RAMP
- PROPOSED BRICK PAVEMENT
- BOND BEAM
- MOUNTABLE KERB M-1 U.O.N
- BLACK ASPHALT AC7 U.O.N
- FLUSH KERB
- ROAD SIGN AS PER COUNCIL STANDARDS AND SHOWN IN SPECIFICATIONS, INSTALL ON NEAREST LIGHT POLE WHERE POSSIBLE.
- HAZARD BOARD (D4-5)
- 100mm CONCRETE (N32) - BRUSHED FINISH
- 150mm THICK STENCILED CONCRETE WITH 'TERRACOTTA' COLOUR WITH HERRINGBONE PATTERN AND REINFORCED WITH F62 MESH
- RED ASPHALT (0.5% RED OXIDE)

KERB TYPES

BK	BARRIER KERB
FK	FLUSH KERB
KT	KERB TRANSITION
BB	BOND BEAM
SMK	SEMI-MOUNTABLE KERB (SM-1)
MK	MOUNTABLE KERB (M-1)
CR1	600 CONCRETE RAMP
CR2	1200 CONCRETE RAMP
S-MK	SPECIAL MOUNTBALE KERB
S-FK	SPECIAL FLUSH KERB
M-SM	MODIFIED SEMI-MOUNTABLE KERB

SERVICES LEGEND

W	EXISTING WATER
W	PROPOSED WATER
T	EXISTING TELSTRA
B	PROPOSED NBN
OF	EXISTING OPTIC FIBRE
OF	PROPOSED OPTIC FIBRE
G	EXISTING GAS
G	PROPOSED GAS
U	EXISTING UNDERGROUND POWER
U	PROPOSED UNDERGROUND POWER
S	EXISTING SEWER
S	PROPOSED SEWER
	IRRIGATION DUCT Ø225mm (U.O.N) (Ø100mm DUCTS INTO LOTS)
D	PROPOSED DRAINAGE PIPE
D	PROPOSED SUB-SOIL DRAINAGE PIPE
D	EXISTING DRAINAGE PIPE

NOTES:

1. LEVEL DATUM - AUSTRALIAN HEIGHT DATUM
2. THE CONTRACTOR SHALL CO-ORDINATE THE LOCATION OF ALL EXISTING AND PROPOSED SERVICES PRIOR TO COMMENCEMENT OF WORK. ANY CONFLICTS ARE TO BE REPORTED TO THE SUPERINTENDENT IMMEDIATELY
3. THE CONTRACTOR SHALL LOCATE ALL LEVELS FROM EXISTING BENCH MARKS
4. ALL BENCH MARKS ARE TO BE PROTECTED
5. SERVICES, SUCH AS WATER, GAS, TELEPHONE, ELECTRICITY, AND DRAINAGE MAY BE ENCOUNTERED DURING CONSTRUCTION OF THE WORKS. SERVICES INFORMATION SHOWN ON DRAWINGS IS INDICATIVE ONLY AND MAY NOT BE COMPLETE. BEFORE EXCAVATION COMMENCES THE LOCATION OF ALL SUCH SERVICES SHALL BE OBTAINED FROM THE RELEVANT AUTHORITIES
6. ALL KERBS TO BE MOUNTABLE TYPE M-1 U.O.N.
7. PATHS TO BE 300mm OFF BOUNDARY U.N.O.
8. FOOTPATHS IN FRONT OF WALLS TO BE WIDENED TO FACE OF WALL
9. FOR CROSSOVER DETAILS REFER TO LOCAL AUTHORITY STANDARD DRAWINGS
10. CLEARING SHALL BE KEPT TO AN ABSOLUTE MINIMUM
11. SIGN POSTS AND STREET NAME PLATES SHALL BE SUPPLIED AND INSTALLED AS PER LOCAL AUTHORITY STANDARDS. STREET SIGNS TO BE INSTALLED ON LIGHT POLES WHERE POSSIBLE.
12. REFER TO DRAWING **BYFGGC12 R07** FOR STANDARD DETAILS
13. ALL IRRIGATION DUCTS TO BE Ø225mm SEWER PIPE, EXCEPT DUCTS INTO LOTS WHICH ARE TO BE Ø100mm.
14. ALL IRRIGATION DUCTS TO EXTEND TO BOUNDARY LINES, WHERE DUCT RUNS PARALLEL TO ROADS EXTEND CLEAR OF PAVEMENT, KERBS, FOOTPATHS & BRICKPAVING MINIMUM 1.0m
15. IRRIGATION DUCT ENDS TO BE 600-800 BELOW GROUND LEVEL.
16. IRRIGATION DUCT ENDS TO BE "AS-CONED" WITH CO-ORDS, LENGTHS AND INVERT LEVELS.
17. ALL TEMPORARY TURNAROUNDS TO BE CONSTRUCTED USING 150 ROADBASE AND PRIMER SEAL FINISH

1:500 (A1)

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No.	DATE	BY	REVISION	
B	25/05/22	WJB	INTERSECTION LAYOUTS AMENDED, 1.5M FOOTPATH & DUP ADDED TO CASPIAN CHASE	SRA
A	14/03/22	WJB	INITIAL ISSUE	SRA

CLIENT: G&GCORP

DEVELOPMENT ENGINEERING CONSULTANTS
SUITE 3, 123A COLIN ST, WEST PERTH, 6005 WESTERN AUSTRALIA
Ph: (08) 9481 1900
Fax: (08) 9481 1700

PROJECT:
LOT 9503 BRIGGS ROAD BYFORD STAGE 7
W.A.P.C. No. - 158666

DRAWING:
ROADWORKS LAYOUT PLAN & INTERSECTION DETAILS
CAD DRAWING DO NOT MANUALLY ALTER

SCALE	DRAWN	CHECK	REV No.
1:500	WJB	SRA	B
DATE	DESIGNED	APPROVED	
MAR '22	WJB	SRA	

PROJECT NUMBER: BYFGGC12 R01
DRAWING NUMBER: S:\GGC\BYFGGC12\Drawings\BYFGGC12 R01.dwg26/05/2022

Attachment 2

Alternate Recommendation

ALTERNATE RECOMMENDATION FROM APPLICANT (modifications are shown in bold)

1. That the Metro Outer Joint Assessment Panel APPROVES the development application for the construction of a 'Child Minding Centre' at Lot 9511 Briggs Road, Byford subject to the following conditions:

a. The development is to be carried out in compliance with the plans and documentation listed below, except where amended by other conditions of this consent.

Plans and Specifications	**Development Plans received at the Shire Offices on 22 February 2023 and 21 April 2023, dated February 2023.** **Updated Transport Impact Statement received at the Shire Offices on 21 April 2023, dated 20 April 2023.** **Environmental Acoustic Assessment dated 30 January 2023 received at the Shire Offices on 22 February 2023, dated 30 January 2023.** Bushfire Management Plan received at the Shire's Offices on 22 February 2023, dated 22 February 2023.

b. The maximum number of children on the premises shall not exceed 110.

c. The operating hours shall be between 6:30am and 7:00pm, Monday to Friday.

d. Prior to issue of a Building Permit, the subject lots being amalgamated to create one single allotment.

e. Prior to issue of a building permit, detailed plans being submitted to and approved by the Shire, depicting the following road and footpath infrastructure upgrades:

(i) The full extension of Indigo Parkway to Briggs Road as a 'T' intersection with a median strip constructed up to Briggs Road;

(ii) The full extension of Caspian Chase as a 'T' intersection up to Briggs Road;

~~**(iii) The existing footpath on Larsen Road being extended west across Briggs Road, then north to connect with the footpath infrastructure across the full frontage of the development site;**~~

~~**(iv) The 160m section of Very Poor Condition of Briggs Road from Caspian Chase south, being upgraded to match the upgrades occurring north of Caspian Chase, as shown on Drawing Number BYFGGC12-R01 (attachment 8). This includes a road upgrade to that section of road, to become a sealed, kerbed and drained road, with concrete footpath on the western side verge.**~~

Once approved, the applicant must undertake and complete all infrastructure upgrade works prior of the commencement of the development's operations.

f. Prior to the occupation of the development, vehicle parking areas, access ways and crossovers shall be designed, constructed, sealed, kerbed, drained and line marked in accordance with the approved plans and thereafter maintained to the satisfaction of the Shire of Serpentine Jarrahdale.

g. A minimum of one car parking bay is to be provided and marked for the exclusive use of vehicles displaying government issued disabled parking permits. Such bay shall be located conveniently to the principal building entrance and designed in accordance with the relevant Australian Standard.

h. Prior to issue of a Building Permit, the applicant shall submit a Noise Management Plan to the specifications and satisfaction of the Shire of Serpentine Jarrahdale.

   The Noise Management Plan shall be prepared to ensure appropriate measures are designed and implemented for the development to achieve compliance with

   (i) The design of the wall on the west side of the carpark;

   (ii) The management of outdoor play areas;

   (iii) The management of indoor activities;

   (iv) The design and shielding of mechanical plant;

   (v) Parking arrangement for drop off before 7:00am.

   Once approved, the Noise Management Plan shall be implemented in its entirety to the satisfaction of the Shire. The plan shall demonstrate the development incorporating all design and operational recommendations as specified within the Environmental Acoustic Assessment, to the satisfaction of the Shire of Serpentine Jarrahdale where associated with construction requirements integrated into plans submitted for a building permit.

i. Prior to issue of a Building Permit, a Waste Management Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. Once approved, the Waste Management Plan shall be implemented in its entirety to the satisfaction of the Shire.

j. Prior to the issue of a Building Permit, a Landscape and Revegetation Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. This is required to include the full extent of verge adjoining the development site. Once approved, the Landscape and Revegetation Plan shall be implemented in its entirety and maintained thereafter by the operator, to the Shire's satisfaction.

k. Prior to the issue of a Building Permit, a Stormwater Management Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. All stormwater shall be directed so stormwater is disposed of within the property. Direct disposal of stormwater onto the road, neighbouring properties, watercourses and drainage lines is not permitted. Stormwater may be managed through either soak wells, raingardens or a combination of the two.

l. Prior to issue of a Building Permit, a Signage Strategy must be submitted to and approved by the Shire of Serpentine Jarrahdale. The Strategy shall demonstrate compliance with Local Planning Policy No 4.11 - Advertising Signs. Once approved, signage shall be displayed and maintained in accordance with the Strategy.

m. Prior to occupation of the development, the provision of percent for art being provided in accordance with Local Planning Policy 1.6 - Public Art for Major Developments to the satisfaction of the Shire.

n. Arrangements being made with the Shire of Serpentine Jarrahdale for the landowner/ applicant to contribute towards the costs of providing common infrastructure, as established through Amendment 208 (once gazetted) to Shire of Serpentine Jarrahdale Town Planning Scheme No. 2.

o. Prior to issue of a Building Permit, the landowner/applicant contributing towards development infrastructure, pursuant to the Shire of Serpentine Jarrahdale Town Planning Scheme No. 2.

p. Prior to issue of a Building Permit, a Construction Management Plan is to be submitted to and approved by the Shire of Serpentine Jarrahdale. The Plan should address the following matters:

    (i) Management of car parking, delivery vehicles and traffic associated with the construction of the development.

    (ii) Management of dust and noise.

~~**q. Prior to operation of the development, a suitable pedestrian crossing treatment comprising of crossing lights shall be provided between the subject land and the public open space on the north side of Indigo Parkway, to the satisfaction of the Shire on advice of Main Roads WA (who will be required to separately approve such crossing treatment and lights)**~~

Advice Notes

a. With regard to Conditions n. and o., if contributions have been received from the constituent lots created as part of WAPC reference 158666, no further contribution for the development will be required.

b. With regard to Condition e. (i) and (ii), if the upgrades referred to in this Condition are completed as part of the subdivisional works required to be undertaken to implement the Subdivision Approval WAPC Ref: 158666, then no further infrastructure upgrades or contributions are required to satisfy this Condition.

Government of **Western Australia**
Development Assessment Panels

Presentation Request Form

Regulation 40(3) and DAP Standing Orders 2020 cl. 3.5

Must be submitted at least 72 hours (3 ordinary days) before the meeting

Presentation Request Guidelines

Persons interested in presenting to a DAP must first consider whether their concern has been adequately addressed in the responsible authority report or other submissions. Your request will be determined by the Presiding Member based on individual merit and likely contribution to assist the DAP's consideration and determination of the application.

Presentations are not to exceed **5 minutes**. It is important to note that the presentation content will be **published on the DAP website** as part of the meeting agenda.

Please complete a separate form for each presenter and submit to daps@dplh.wa.gov.au

Presenter Details

Name	Bill Marshall
Company (if applicable)	Edenlife
Please identify if you have any special requirements:	**YES** ☐ **NO** ☒ If yes, please state any accessibility or special requirements:

Meeting Details

DAP Name	Metro Outer Joint Development Assessment Panel
Meeting Date	1 June 2023
DAP Application Number	DAP/23/02460
Property Location	Lots 59, 60 & 61 Briggs Road and Lot 62 Thomas Road, Byford
Agenda Item Number	8.2

Presentation Details

I have read the contents of the report contained in the Agenda and note that my presentation content will be published as part of the Agenda:	**YES** ☒
Is the presentation in support of or against the report recommendation)? *(contained within the Agenda)*	**SUPPORT** ☒ **AGAINST** ☐
Is the presentation in support of or against the proposed development?	**SUPPORT** ☒ **AGAINST** ☐
Will the presentation require power-point facilities?	**YES** ☒ **NO** ☐ **If yes, please attach**

Government of **Western Australia**
Development Assessment Panels

Presentation Content*

These details may be circulated to the local government and applicant if deemed necessary by the Presiding Member. Handouts or power points will not be accepted on the day.

Brief sentence summary for inclusion on the Agenda	*The presentation will address:* Providing an overview of proposal.

In accordance with Clause 3.5.2 of the *DAP Standing Orders*, your presentation request must also be accompanied with a written document detailing the content of your presentation.

Please attach detailed content of presentation or provide below:

- Good morning Presiding Member and Panel Members. Thank you for the opportunity to present to you today in support of the proposed Lifestyle Community on Briggs Road, Byford.
- This proposal represents the third grouped dwelling lifestyle community offered by Edenlife Communities, with others approved or currently progressing through the planning process.
- This particular model fills a gap in the market, offering affordable accommodation options for over 50's who are looking to downsize in a secure village based environment. The community will be complemented by communal facilities for exclusive use by its residents, such as a clubhouse, fitness centre, fire pit, arts and crafts room, community garden, boat and caravan storage and workshop.
- Focus on security (physical and financial) for 55+ older Australians, reduction of social isolation, sense of inclusiveness,
- Affordable – separate upfront land cost from home purchase, long term land lease
- Access to Commonwealth rent assistance (provides 1/3 subsidy)
- Choice of architecturally design modular homes (Inc. specs), all relocatable
- Solar community (imbedded energy network) with power allowance included in weekly rent
- Security – lock and leave, CCTV, key card access
- Sustainability – recycling, water storage, community garden
- We take care of the operations and management of the community – onsite manager
- Weekly fee includes rates, covers all maintenance of all community facilities, maintain communal gardens and grounds **(see AFSA report*)**
- Rebates still available (ie rates)
- No stamp duty on home
- And most important, ***no exit fees***

- When it comes time to sell, owner receives all sale proceeds (net of selling agent fees)

- We own and operate the community, issue 60 year lease to residents, remain accountable for all commitments

- Once completed, additional 350 community members

- I wanted to thank the Shire officers for working constructively with us on this project including both pre and post lodgement engagement. We also acknowledge the hard work of officers in having this item presented to the May Council meeting given the tight timeframes.

* The Association of Superannuation Funds of Australia, Detailed budget breakdowns, March 2023 Quarter

Deputation to the Metro Outer Joint Development Assessment Panel

Item 8.2 – Lots 59, 60 and 61 Briggs Road and Lot 62 Thomas Road, Byford Proposed Grouped Dwellings and Associated Communal Facilities (Lifestyle Village)

Thursday 1st June 2023

Village Masterplan

EDENLIFE

- 202 lots
- Clubhouse
- Community facilities

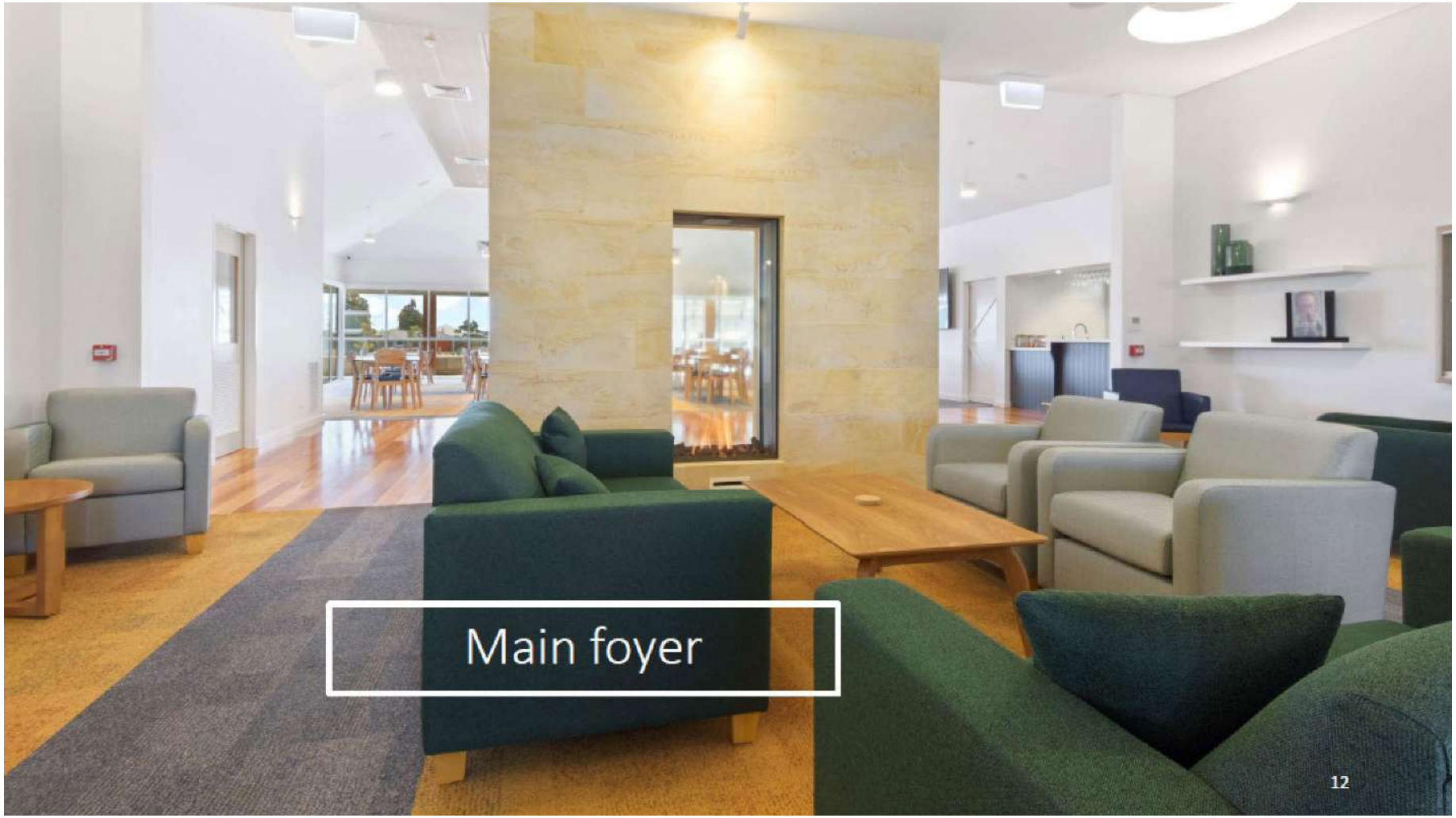
Allerding & Associates

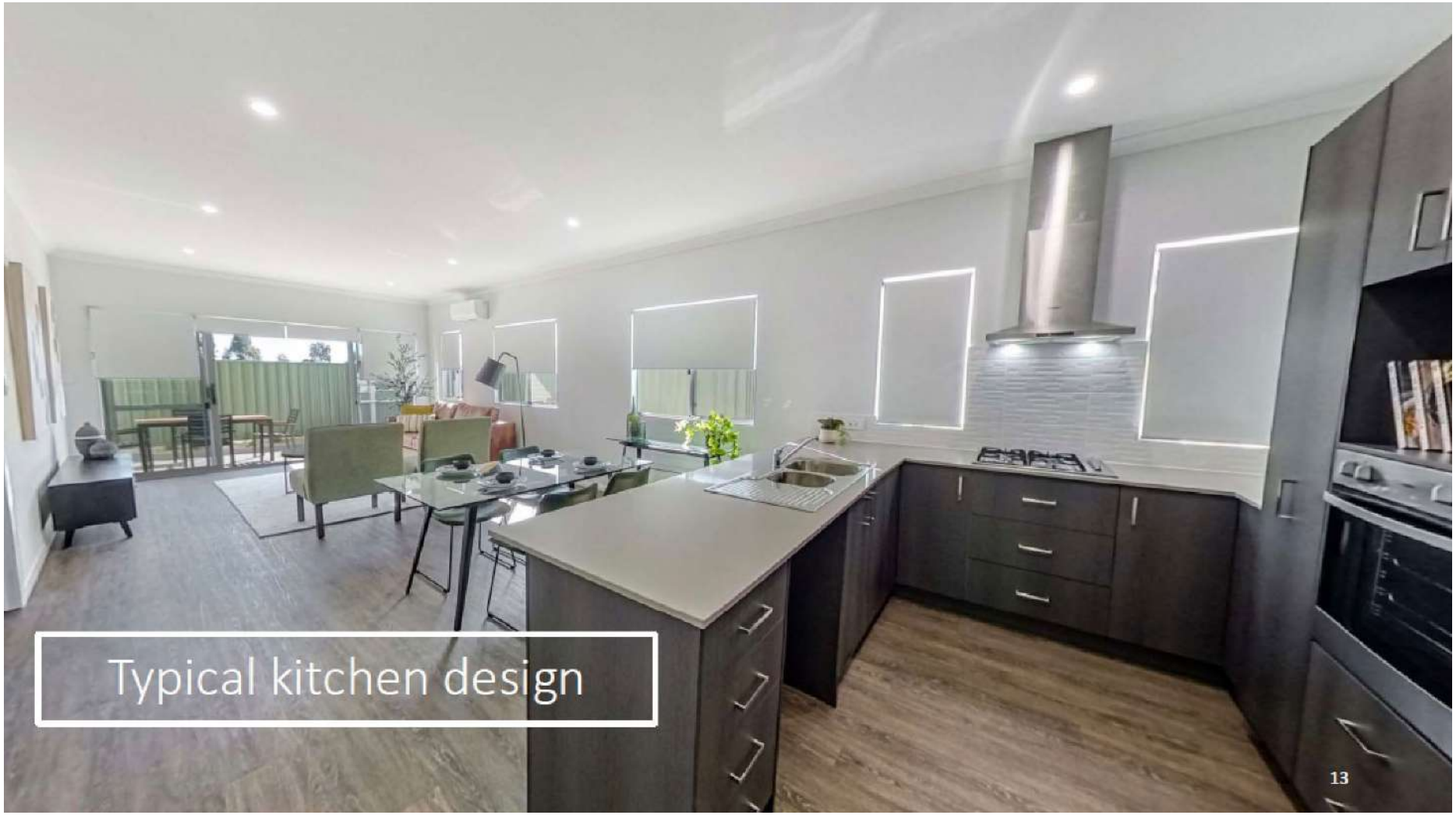
Our homes

EDENLIFE

Our homes

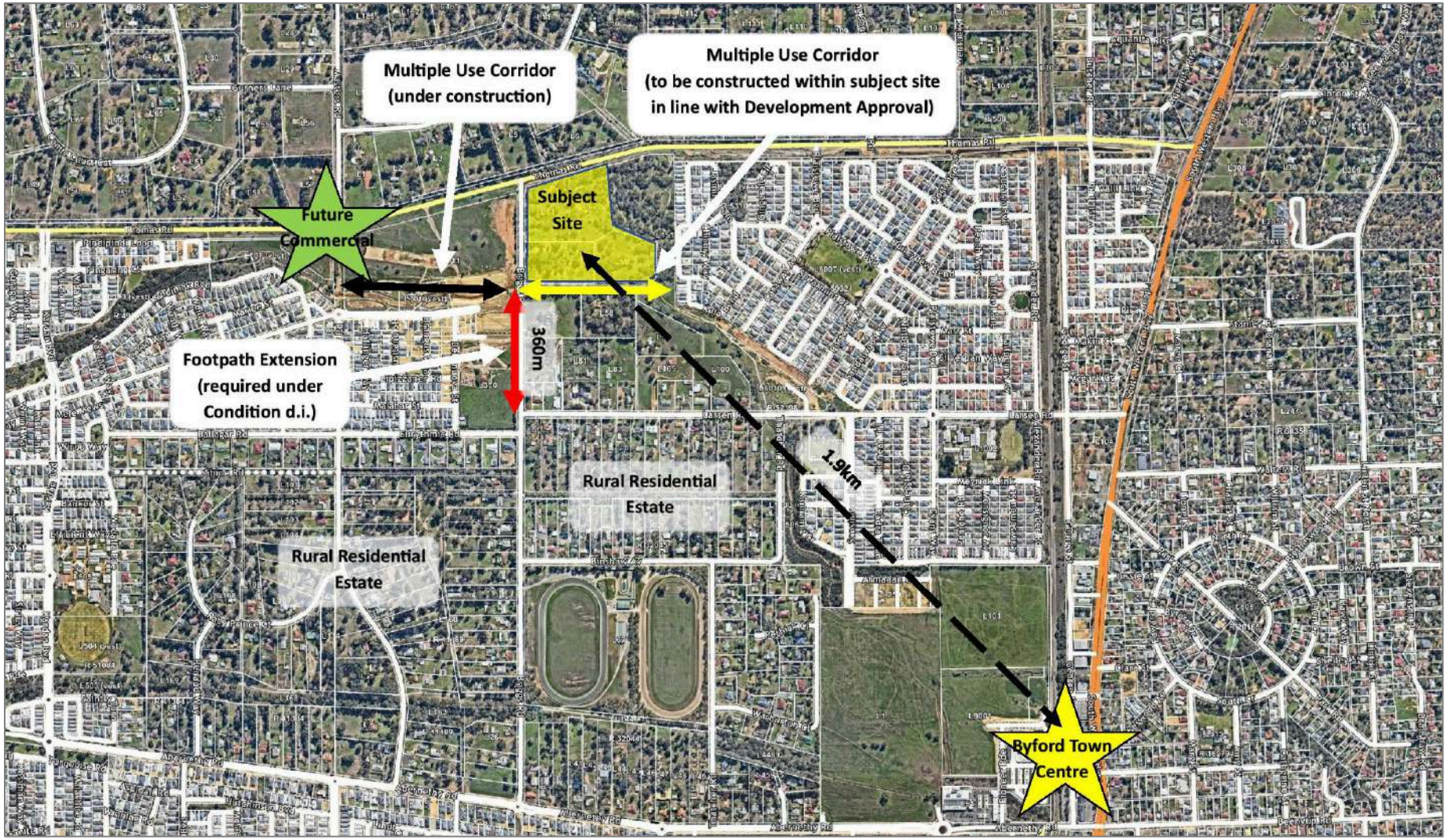
Australind

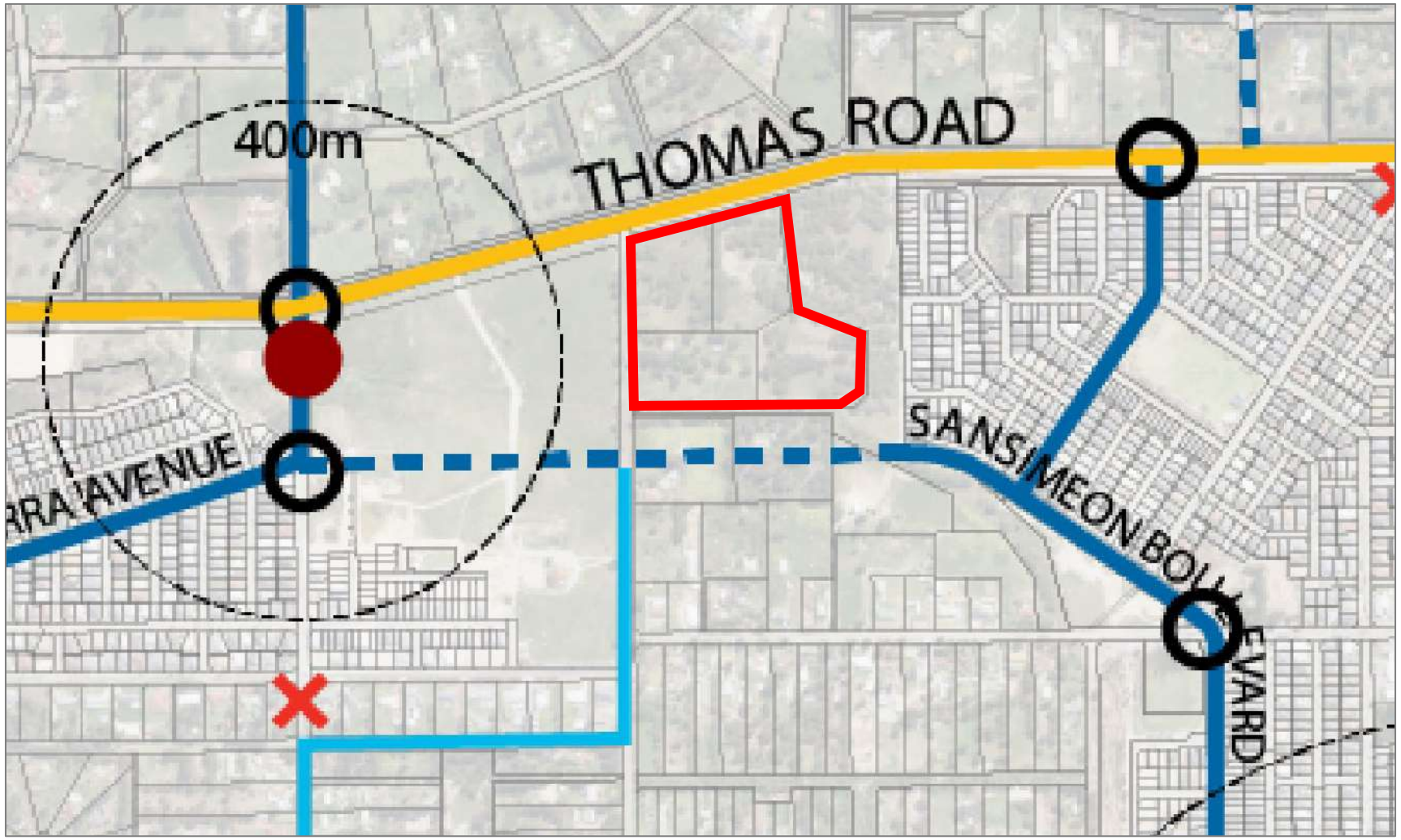

Main foyer
12

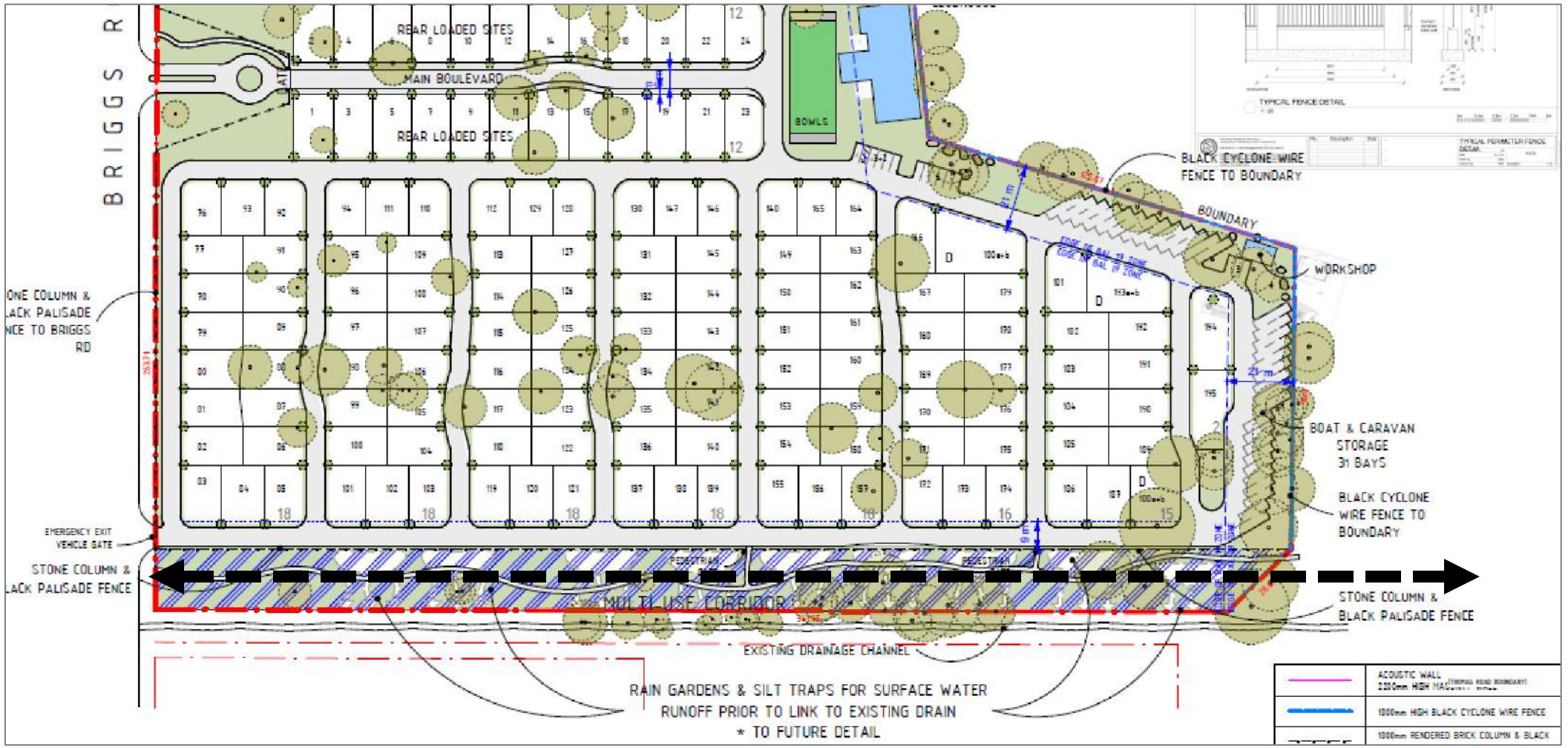

Typical kitchen design
13

Typical living area
14

Streetscape example


Multiple Use Corridor
(under construction)
Multiple Use Corridor
(to be constructed within subject site
in line with Development Approval)
Future
Commercial
Subject
Site
360m
Footpath Extension
(required under
Condition d.i.)
1.9km
Rural Residential
Estate
Rural Residential
Estate
Byford Town
Centre


400m
THOMAS ROAD
AVENUE
SANSIMEON BOULEVARD



Allerding & Associates

Questions

Government of **Western Australia**
Development Assessment Panels

Presentation Request Form

Regulation 40(3) and DAP Standing Orders 2020 cl. 3.5

Must be submitted at least 72 hours (3 ordinary days) before the meeting

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Please complete a separate form for each presenter and submit to daps@dplh.wa.gov.au

Presenter Details

Name	Tom Hockley
Company (if applicable)	Allerding & Associates
Please identify if you have any special requirements:	**YES** ☐ **NO** ☒ If yes, please state any accessibility or special requirements:

Meeting Details

DAP Name	Metro Outer Joint Development Assessment Panel
Meeting Date	1 June 2023
DAP Application Number	DAP/23/02460
Property Location	Lots 59, 60 & 61 Briggs Road and Lot 62 Thomas Road, Byford
Agenda Item Number	8.2

Presentation Details

I have read the contents of the report contained in the Agenda and note that my presentation content will be published as part of the Agenda:	**YES** ☒
Is the presentation in support of or against the report recommendation)? *(contained within the Agenda)*	**SUPPORT** ☒ **AGAINST** ☐
Is the presentation in support of or against the proposed development?	**SUPPORT** ☒ **AGAINST** ☐
Will the presentation require power-point facilities?	**YES** ☒ **NO** ☐ **If yes, please attach**

Government of **Western Australia**
Development Assessment Panels

Presentation Content*

These details may be circulated to the local government and applicant if deemed necessary by the Presiding Member. Handouts or power points will not be accepted on the day.

Brief sentence summary for inclusion on the Agenda	*The presentation will address:* Support for proposal and response to Condition d.i.

In accordance with Clause 3.5.2 of the *DAP Standing Orders*, your presentation request must also be accompanied with a written document detailing the content of your presentation.

Please attach detailed content of presentation or provide below:

- Thank you Presiding Member and Panel for the opportunity to speak today.
- Firstly I would like to reiterate Bill's comments with respect to the Shire's cooperative approach and hard work in getting this item onto the agenda.
- Overall, we would like to commend the Officers report and recommendation which we support and would just like to respond to one condition, being condition d.i. which we seek to be deleted.
- Condition d.i. requires:

  d. Prior to the issue of a Building Permit or approval of earthworks / civil plans (whichever comes first), updated development plans shall be submitted to and approved by the Shire of Serpentine Jarrahdale which depict the following being undertaken as part of the development:

  i. A new footpath being extended on the eastern side verge of Briggs Road to link the development to the existing footpath on Larsen Road;

- This condition would require Edenlife to fund the construction of a 360m length of footpath connection to Larsen Road to the south. This is a significant impost on the developer which we say does not reasonably or fairly relate to the development proposed for the reasons outlined as follows:
- One of the reasons identified in the agenda item for this path is to enable safe pedestrian access to the Byford Town Centre.
- The area south of Larsen Road contains Rural Residential properties which do not provide a direct connection to the Byford Town Centre which is located approximately 1.9km to the south-east. Given the distance between the subject site and the town centre, we consider it unlikely that residents would utilise this path to walk to the town centre, or any other destination south of Larsen Road. For this reason, it is likely that there would be a very limited demand for the footpath from the Lifestyle Community.
- Once the land immediately south of the subject site is developed for residential purposes (which is zoned Urban Development), there would be an opportunity at that time to seek a footpath connection along the frontage of that land should it be deemed necessary.
- The agenda item also states that a footpath in this location would avoid the need for elderly residents of the Lifestyle Community to cross Briggs Road to access the subdivision to the west.

- The Byford District Structure Plan identifies a future Local Distributor just south of the subject site connecting to the neighbourhood centre to the west. We understand from officers that this intersection will be a controlled left-in left-out arrangement. It is therefore likely that this future road connection will provide for a safe east to west pedestrian crossing in close proximity to the subject site. In the short term, there is limited need to cross Briggs Road to the west given that the adjacent land is undeveloped and the commercial areas further to the west are yet to be developed. It is expected that trips to and from the Lifestyle Community for groceries and other services will be by car.

- Finally, the proposed Multiple Use Corridor along the southern boundary of the subject site will provide for safe footpath connectivity to the existing residential estate to the east. Residents of the community will have direct access to this footpath via internal gates and this connection is therefore likely to provide a safe and convenient pedestrian environment for residents to access existing areas of Byford.

- For these reasons, we do not see any practical planning benefit or need for the construction of a 360m footpath connection to the rural residential area to the south of the subject site. We do not consider Condition d.i. to fairly and reasonably relate to the development and we therefore seek for it to be deleted.

- Otherwise, I would like to commend the Officers report and recommendation which we support.

- Thank you for your consideration and we would be happy to respond to any questions of the panel.

Deputation to the Metro Outer Joint Development Assessment Panel

Item 8.2 – Lots 59, 60 and 61 Briggs Road and Lot 62 Thomas Road, Byford Proposed Grouped Dwellings and Associated Communal Facilities (Lifestyle Village)

Thursday 1st June 2023

Village Masterplan

EDENLIFE

- 202 lots
- Clubhouse
- Community facilities

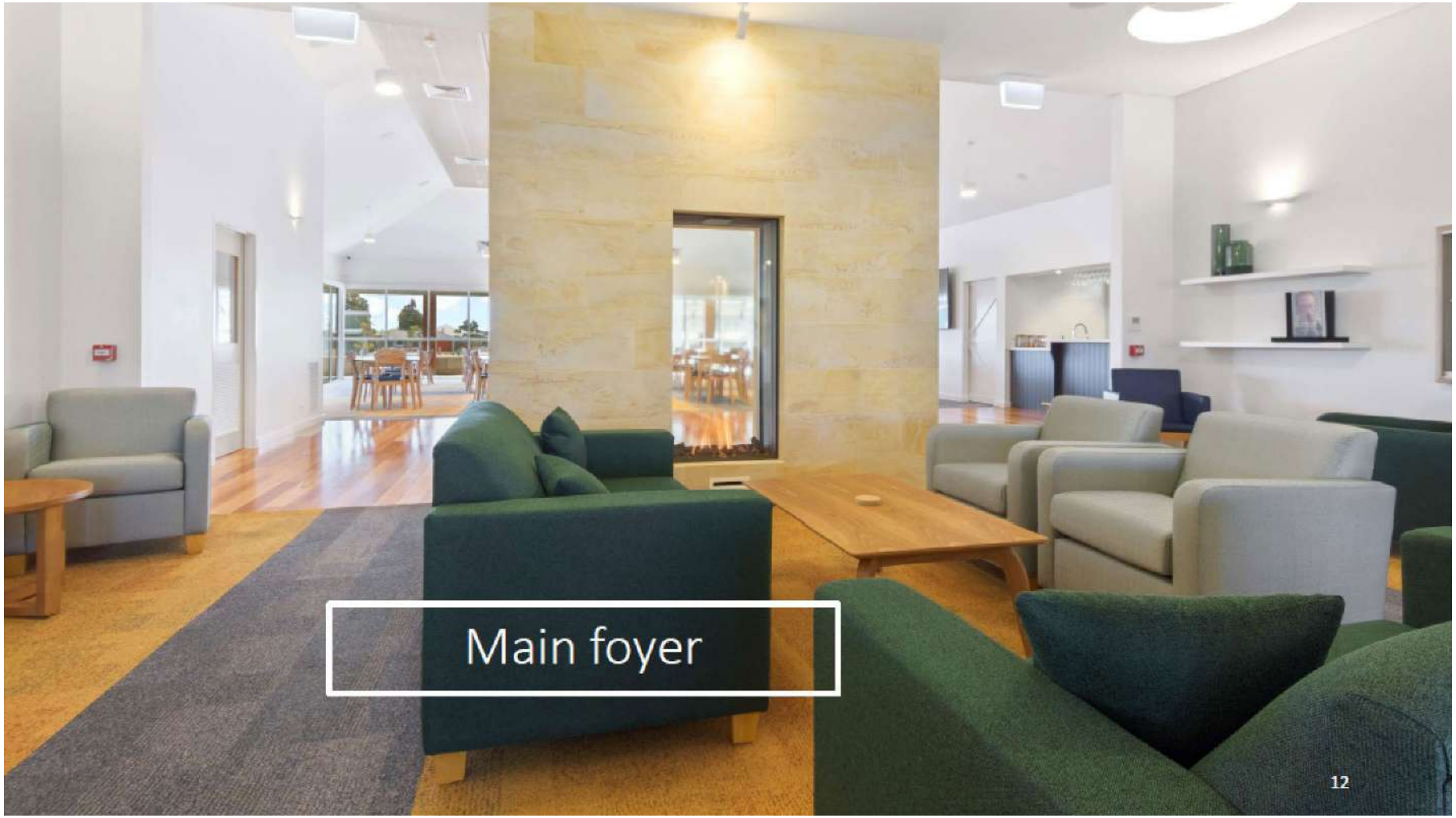
Allerding & Associates

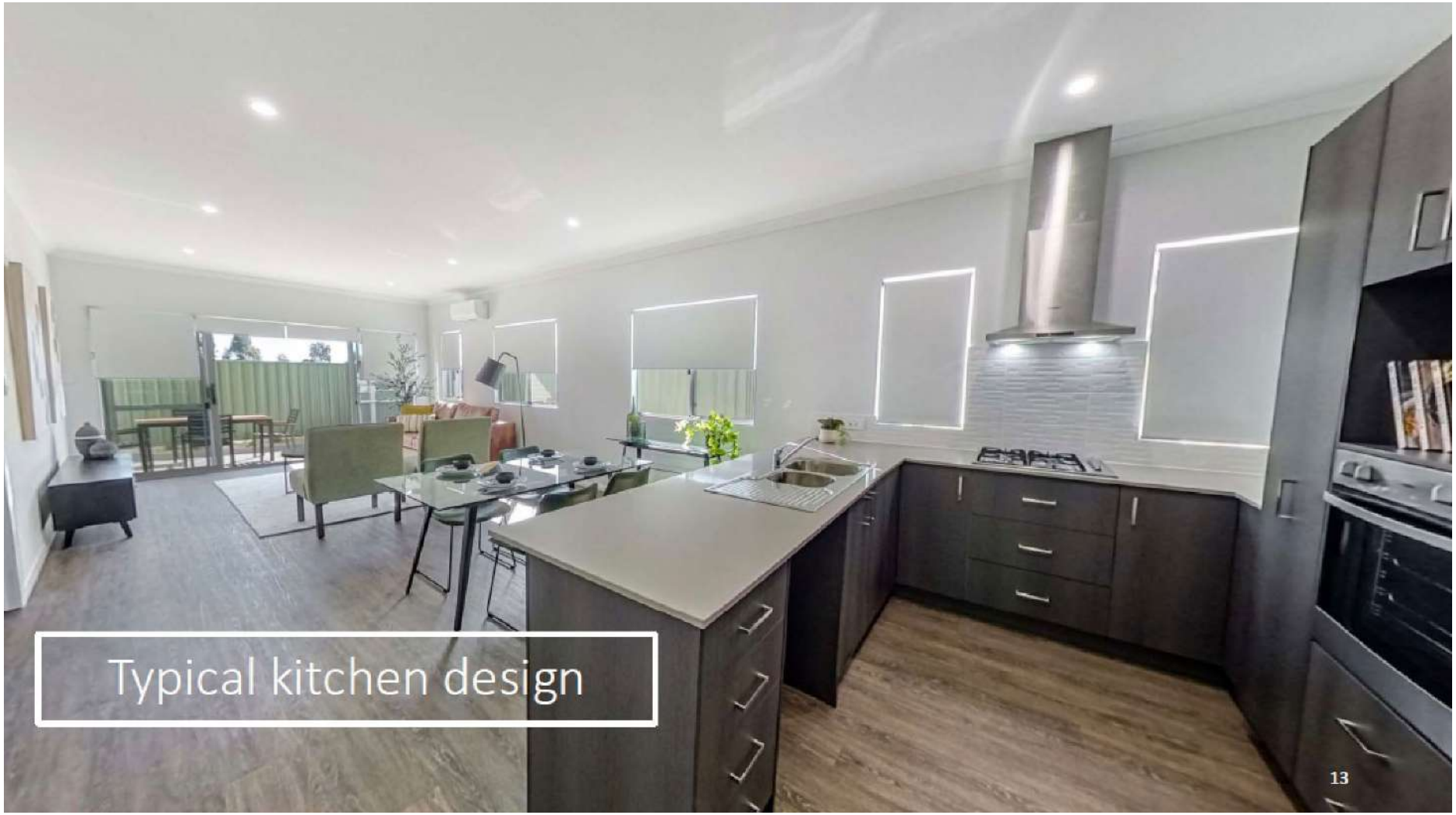
Our homes

EDENLIFE

Our homes

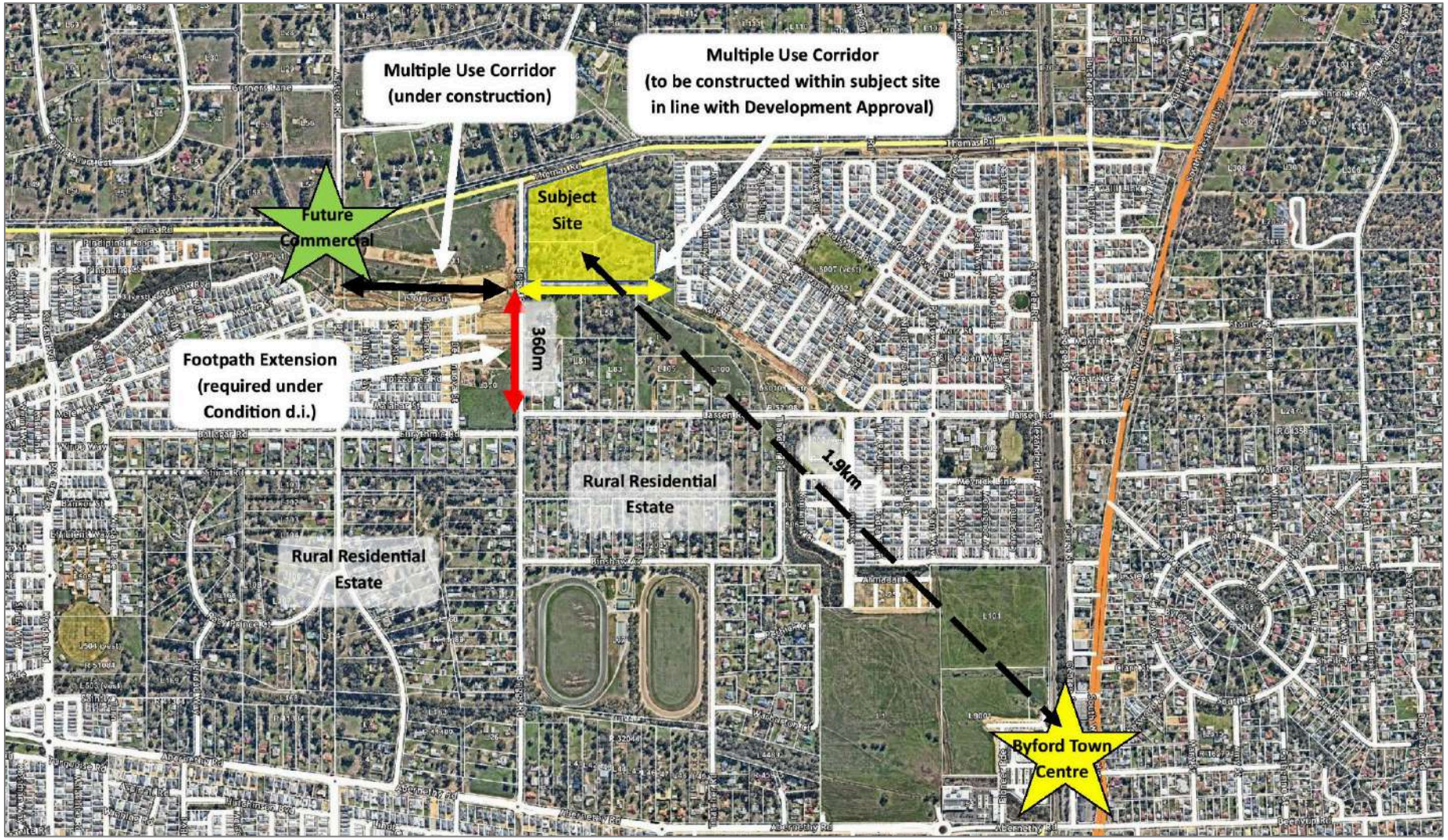
Australind

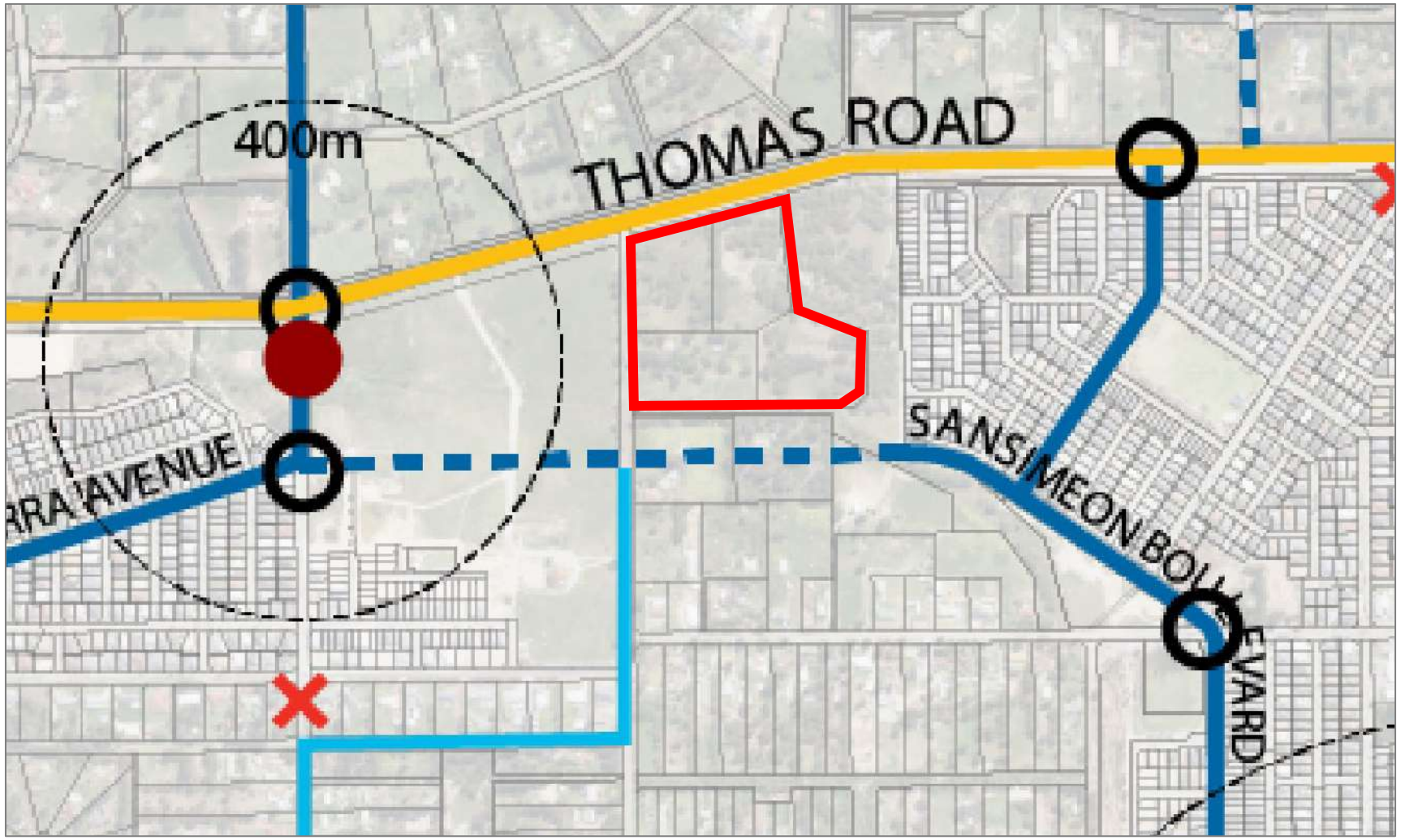

Main foyer
12

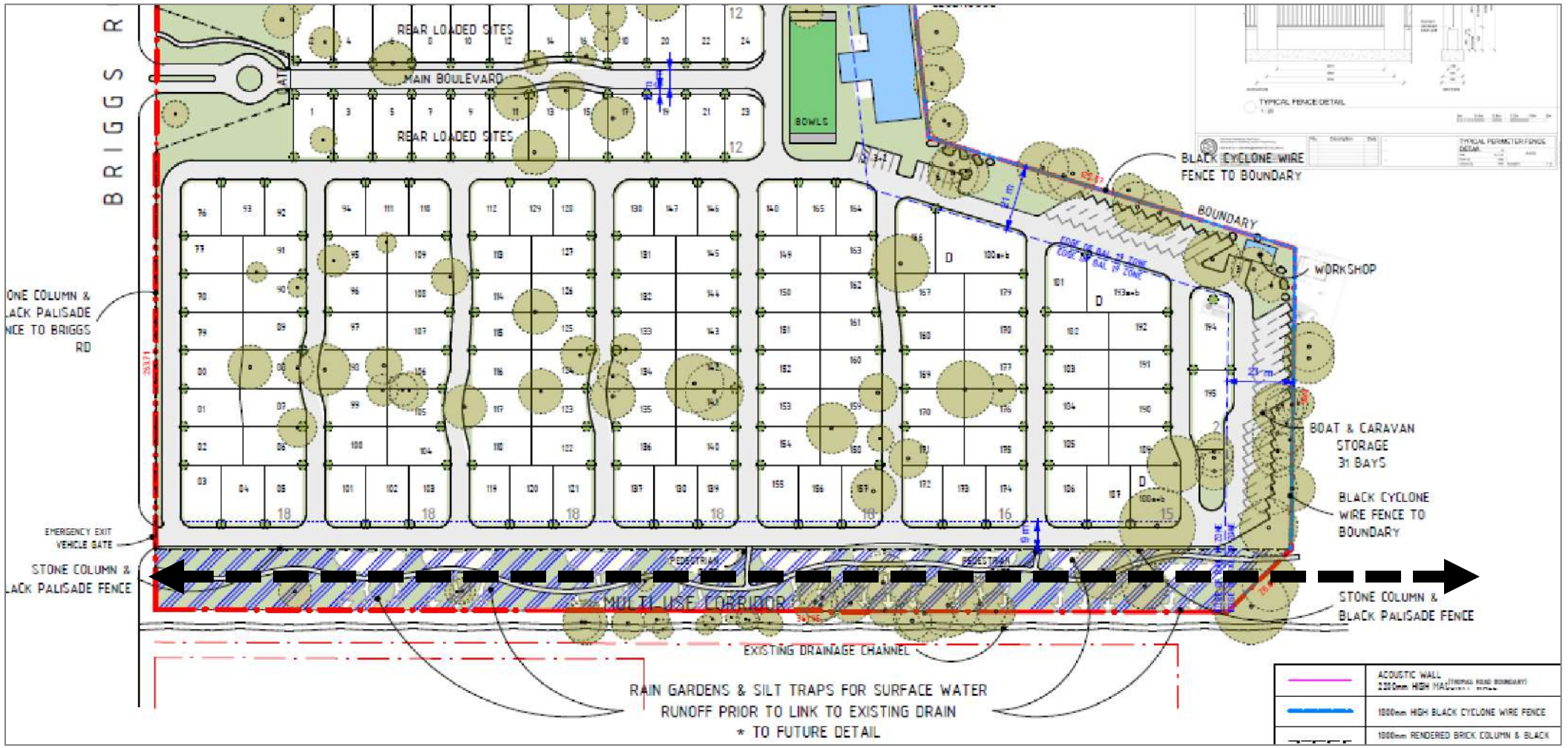

Typical kitchen design
13

Typical living area
14

Streetscape example


Multiple Use Corridor
(under construction)
Multiple Use Corridor
(to be constructed within subject site
in line with Development Approval)
Future
Commercial
Subject
Site
360m
Footpath Extension
(required under
Condition d.i.)
1.9km
Rural Residential
Estate
Rural Residential
Estate
Byford Town
Centre


400m
THOMAS ROAD
AVENUE
SANSIMEON BOULEVARD



Allerding & Associates

Questions

Government of **Western Australia**
Development Assessment Panels

Presentation Request Form

Regulation 40(3) and DAP Standing Orders 2020 cl. 3.5

Must be submitted at least 72 hours (3 ordinary days) before the meeting

Presentation Request Guidelines

Persons interested in presenting to a DAP must first consider whether their concern has been adequately addressed in the responsible authority report or other submissions. Your request will be determined by the Presiding Member based on individual merit and likely contribution to assist the DAP's consideration and determination of the application.

Presentations are not to exceed **5 minutes**. It is important to note that the presentation content will be **published on the DAP website** as part of the meeting agenda.

Please complete a separate form for each presenter and submit to daps@dplh.wa.gov.au

Presenter Details

Name	Leigh Caddy
Company (if applicable)	Element
Please identify if you have any special requirements:	**YES** ☐ **NO** ☒ If yes, please state any accessibility or special requirements:

Meeting Details

DAP Name	Metro Outer JDAP
Meeting Date	1 June 2023
DAP Application Number	DAP/23/02442
Property Location	Lot 13 (No.15) Venture Place, East Rockingham
Agenda Item Number	8.3

Presentation Details

I have read the contents of the report contained in the Agenda and note that my presentation content will be published as part of the Agenda:	**YES** ☒
Is the presentation in support of or against the report recommendation)? *(contained within the Agenda)*	**SUPPORT** ☐ **AGAINST** ☒
Is the presentation in support of or against the proposed development?	**SUPPORT** ☒ **AGAINST** ☐
Will the presentation require power-point facilities?	**YES** ☐ **NO** ☒ **If yes, please attach**

Presentation Content*

These details may be circulated to the local government and applicant if deemed necessary by the Presiding Member. Handouts or power points will not be accepted on the day.

Brief sentence summary for inclusion on the Agenda	*The presentation will address:* • Acknowledge the Responsible Authority's Report, including the City's assessment of the proposal and its compliance with the planning framework generally. • Comment on the DFES referral comments in relation to the outstanding bushfire matters. • Acknowledge and comment on the City's recommended conditions that have been provided to the JDAP. • Request the JDAP's support and conditional approval to the application.

In accordance with Clause 3.5.2 of the *DAP Standing Orders*, your presentation request must also be accompanied with a written document detailing the content of your presentation.

Please attach detailed content of presentation or provide below:

- The proposed Fuel Depot has been assessed to be generally compliant with the planning framework that applies to the site, as discussed specifically in the Responsible Authority Report.
- The outstanding matter relating to bushfire, which serves as the reason behind the recommendation to defer the application, should not prohibit the Panel approving the application conditionally.
- The classification of the vegetation in question is located on an unconstructed railway reserve, which is vested with the Public Transport Authority (PTA). The reserve will facilitate Westport's future freight rail loop through the Kwinana Industrial Area. The PTA are actively managing the vegetation within this reserve.
- Regarding the lack of response from the Department of Fire and Emergency Service (DFES)'s Hazmat team, extensive opportunity to provide feedback on the application was afforded during the the 42 day statutory timeframe.
- Additional opportunity was also afforded under an Extension of Time request (approx. 38 days) to enable the City to meet its internal reporting requirements. During this time, the City made multiple attempts to obtain comments from the Hazmat team, albeit with no success.
- Separate Works Approval and Dangerous Goods Licences are required to be obtained, both of which will involve a comprehensive hazardous materials risk and compliance assessment.
- Notwithstanding, any requirements from the DFES Hazmat team to mitigate risk can be addressed through an appropriate condition of approval.
- We understand the City has provided the Panel with a list of recommended conditions, which we have reviewed and consider generally acceptable.
- On this basis we request the Panel's support and conditional approval to the application, however, respectfully request removal of Condition 13(i). As for reasons discussed in the presentation by the project bushfire consultant, there is no need to amend the Bushfire Management Plan, as sought under the proposed condition.

Government of **Western Australia**
Development Assessment Panels

Presentation Request Form

Regulation 40(3) and DAP Standing Orders 2020 cl. 3.5

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Please complete a separate form for each presenter and submit to daps@dplh.wa.gov.au

Presenter Details

Name	Daniel Panickar
Company (if applicable)	Ecological Australia
Please identify if you have any special requirements:	**YES** ☐ **NO** ☒ If yes, please state any accessibility or special requirements:

Meeting Details

DAP Name	Metro Outer JDAP
Meeting Date	1 June 2023
DAP Application Number	DAP/23/02442
Property Location	Lot 13 (No.15) Venture Place, East Rockingham
Agenda Item Number	8.3

Presentation Details

I have read the contents of the report contained in the Agenda and note that my presentation content will be published as part of the Agenda:	**YES** ☒
Is the presentation in support of or against the report recommendation)? *(contained within the Agenda)*	**SUPPORT** ☐ **AGAINST** ☒
Is the presentation in support of or against the proposed development?	**SUPPORT** ☒ **AGAINST** ☐
Will the presentation require power-point facilities?	**YES** ☒ **NO** ☐ **If yes, please attach**

Presentation Content*

These details may be circulated to the local government and applicant if deemed necessary by the Presiding Member. Handouts or power points will not be accepted on the day.

Brief sentence summary for inclusion on the Agenda	*The presentation will address:* • Comment on the outstanding matter relating to bushfire issues raised by DFES, being the matter behind the City's recommendation to defer the application. • Discussion on the classification of the 'Plot 2' vegetation, including why DFES's assessment is invalid, and why their request to update the BMP is not warranted. • Discussion on the lack of response from the DFES Hazmat team, and why this does not prohibit the ability for the application to be approved subject to appropriate conditions. • Request the JDAP approve the application subject to appropriate conditions.

In accordance with Clause 3.5.2 of the *DAP Standing Orders*, your presentation request must also be accompanied with a written document detailing the content of your presentation.

Please attach detailed content of presentation or provide below:

- Refer to attached correspondence by Ecological Australia, 26 May 2023.

Level 1, Bishop's See
235 St Georges Terrace
Perth WA 6000
t: (08) 6218 2200

26 May 2023

Our ref: 22PER-3908

Metro Outer Development Assessment Panel
140 William Street
PERTH WA 6000

Attention: Presiding Member

Dear Presiding Member,

Re: Presentation request: Metro Outer Development Assessment Panel – Proposed fuel depot – Lot 13 Venture Place, East Rockingham

Thank you for the opportunity for the opportunity to speak in relation to Item 8.3. My name is Daniel Panickar, Principal Bushfire Consultant and Operations Manager – WA at Eco Logical Australia (ELA), acting on behalf of Askara, the proponent of the proposed Diesel Fuel Depot. I am speaking in relation to bushfire planning matters, specifically in response to comments received from the Department of Fire and Emergency Services (DFES) on the proposal.

VEGETATION CLASSIFICATION

ELA prepared a comprehensive Bushfire Management Plan (BMP) which supported the Development Application for the site. This BMP included a vegetation classification assessment undertaken in accordance with all required standards.

DFES however, disagrees with an aspect of the vegetation classification, specifically that of Plot 2 (Scrub). The history of DFES comments and responses by ELA is provided in Table 1. Our initial response to the DFES comment was concise and polite as we believed the concern DFES raised could be addressed logically. Given DFES's continued objection however, I have provided a comprehensive response to their concern below.

Before I delve into a detailed response however, I must point out that the vegetation in question has recently been cleared as evidenced by my enclosed photos. There is no longer a bushfire threat from the areas of Plot 2 immediately adjacent to the site. However, in the interest of applying precaution to the assessment of the development, I will assume that the vegetation will regrow to the state in which it was in when the BMP was prepared.

Firstly, the irrationality of the DFES position in relation to this plot of vegetation cannot be overstated. The vegetation was assessed in the field by two qualified BPAD assessors, including myself who is also a trained ecologist. DFES however, object to the classification assigned, based on a review of photos included in the BMP and aerial imagery. I am still astounded as to why the DFES comment is given any weight given the difference in assessment methodology. DFES has not been to site to assess vegetation and therefore, I recommend that their comment be disregarded as it has no standing when compared to the detailed site assessment undertaken to support the BMP.

Secondly, I assessed the vegetation within Plot 2 as Class D Scrub based on the structure of vegetation and the composition of species present. Dominant species are the common coastal shrub species, *Acacia rostellifera* and *Acacia saligna*, both of which have regular heights ranging between 1-6 m (Western Australian Herbarium 1998–). There are no trees present. Whilst *A. saligna* can on rare occasions reach up to 9 m, this is extremely uncommon and is generally a result of localised, niche environments resulting in small patches of this extreme height, rather than across the vegetation type. The average height of the vegetation within Plot 2 (and surrounding similar vegetation) is between 4-5 m (refer to enclosed photos containing vegetation height references). DFES refer to Plot 2 being adjacent to Plot 1 (Class A Forest), however it is also adjacent to other areas of Scrub vegetation as well as cleared areas – the DFES comment is selective, and based on a worst-case classification that is not appropriate for the vegetation within Plot 2.

Finally, the vegetation classification mirrors that contained within the BMP which supported the subdivision of the broader industrial estate (*Bushfire Management Plan: Subdivision Application: Lot 1 Day Road, East Rockingham v4*) prepared by ELA in 2022. This BMP was assessed and approved along with the subdivision (WAPC 162110; 25 July 2022). Given the City's previous assessment of the BMP (which contained the same vegetation classification disputed by DFES), there should be no reason why the City now recommends deferral of this development application to resolve a vegetation classification which they have previously not had issue with.

ELA is confident in our vegetation classifications and believe that no changes are required to the BMP. Should the Panel resolve to approve the application, I respectfully request removal of Condition 13(i) for the reasons I have discussed just now.

Table 1: Correspondence between DFES and ELA regarding vegetation classification

DFES comment 18 April 2023	ELA response 26 April 2023	DFES comment 2 May 2023
Vegetation plot 2 cannot be substantiated as Class D Scrub with the limited information and photographic evidence available. The photos provided detail similar species to plot 1 (Class A Forest), with similar soil types and climate present in the area. It is unclear how Plot 2 will not mature into Class A Forest unless management is applied. Further it is noted that height sticks have not been used to validate the height of the vegetation.	ELA disagrees with this comment. A comprehensive site assessment was undertaken by ELA to classify vegetation for the BMP. The vegetation within Plot 2 is comprised of Proteaceous, Myrtaceous and Acacia shrubs. These species do not mature into trees. In addition, the Class D Scrub classification is consistent with that within the approved BMP for the subdivision of the site (ELA 2022b).	The vegetation for Plot 2 may currently be at a height that could present as Class D Scrub however as Plot 2 abuts Class A Forest (Plot 1), and contains similar species to Plot 1, it is likely that without management Plot 2 will mature into Class A Forest. The updated comments from the practitioner have not provided additional information (including the requested use of height sticks to determine the current height of vegetation within Plot 2) to satisfy

DFES comment 18 April 2023	ELA response 26 April 2023	DFES comment 2 May 2023
The BMP should detail specifically how the Class D Scrub classification was derived as opposed to Class A Forest. If unsubstantiated, the vegetation classification should be revised to consider the vegetation at maturity as per AS3959, or the resultant BAL ratings may be inaccurate. Modification to the BMP is required.		DFES that the area will not reach a mature state of Class A Forest.

OTHER MATTERS

DFES also raised concerns about vehicular access and water, however I note that the City, in their Responsible Authority Report, considers these matters resolved and that the proposed development complies with both of these elements as required in the Guidelines. I support the City's position and appreciate their assistance in working towards a logical outcome for these matters.

I note that the DFES HAZMAT team has been unable to provide comments on the development due to other commitments. I do not believe that the absence of comments from this team are a barrier to development approval being granted. The proposed development is supported by both a *Bushfire Risk Management Plan* and a *Dangerous Goods Risk Assessment and Hazard Analysis* which meet all applicable policies and legislation. In addition, the developer is required to obtain a Works Approval from the Department of Water and Environmental Regulation (DWER), as well as a Dangerous Goods license from the Department of Mines, Industry Regulation and Safety (DMIRS), both of which involve a comprehensive assessment by regulatory agencies. Given the detailed management plans that have been prepared for the development and future licensing requirements, I believe that there is no necessity to defer development approval.

CONCLUSION

I believe the proposed development within the subject site can comply with SPP3.7 and the Guidelines as detailed above. No further changes to the BMP are considered necessary and I recommend that development approval be granted. However, if the JDAP are of the view that comments from the DFES HAZMAT team are required for the development, then I recommend that development approval be issued with a condition requiring comments from the DFES HAZMAT team to be addressed prior to operation.

Regards,

Daniel Panickar

Principal Bushfire Consultant

BPAD Level 3 Practitioner (37802)

Enclosure: Vegetation photos

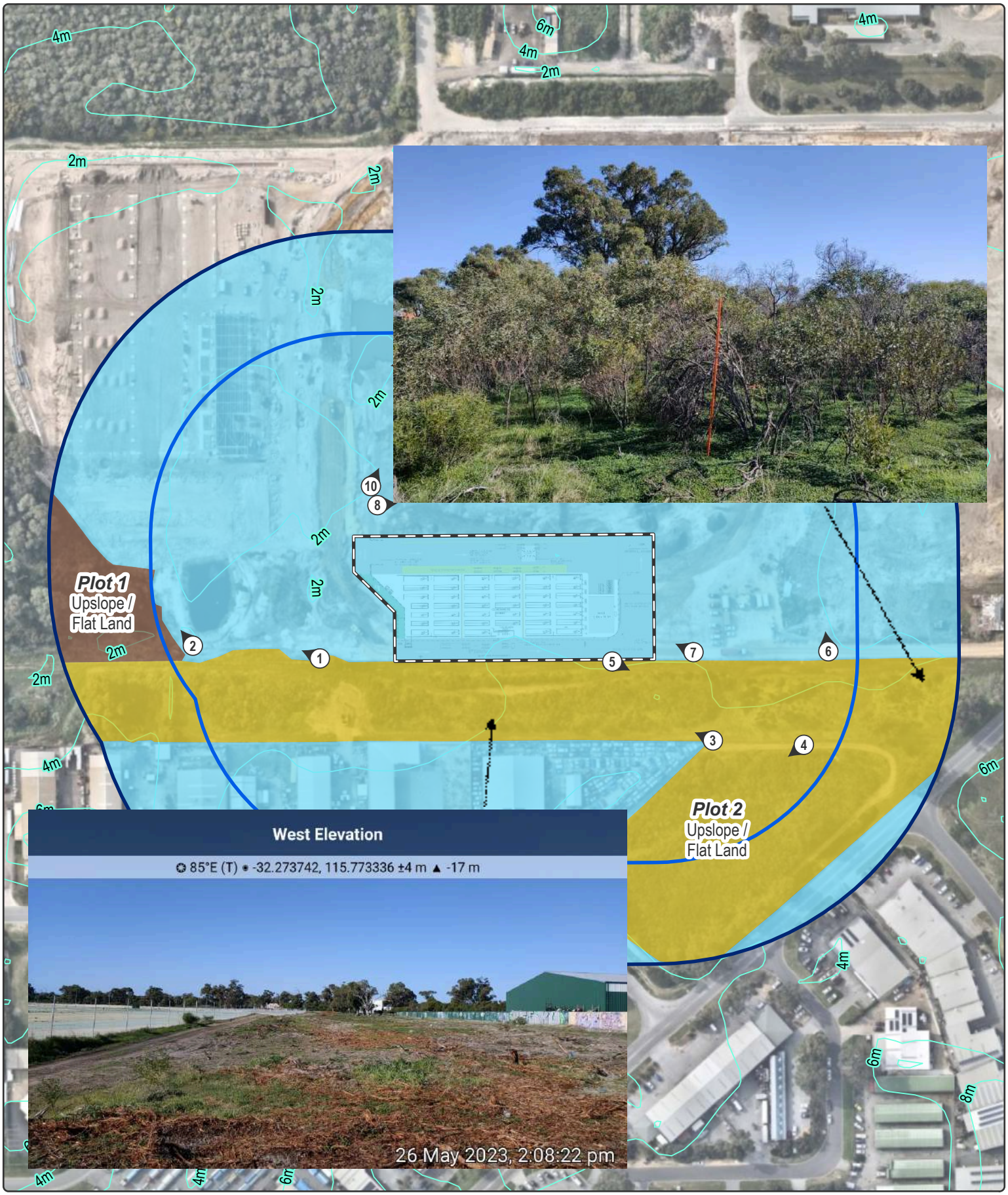


Figure 4: Vegetation Classification

Subject site
100m site assessment
150m site assessment
Contour (2m)
Photo location

Vegetation classification

Class A Forest
Class D Scrub
Excluded as per clause 2.2.3.2 (e) and (f)

0 20 40 80
Metres

Datum/Projection:
GDA 1994 MGA Zone 50

22PER3908-ED Date: 15/12/2022

N

eco logical AUSTRALIA
A TETRA TECH COMPANY

Briggs Road Lot 9511, Byford
Child Minding Centre

Form 1 – Responsible Authority Report
(Regulation 12)

DAP Name:	Metro Outer Joint Development Assessment Panel	
Local Government Area:	Shire of Serpentine Jarrahdale	
Applicant:	Rowe Group	
Owner:	Pino Gangemi	
Value of Development:	$2.0 million ☐ Mandatory (Regulation 5) ☒ Opt In (Regulation 6)	
Responsible Authority:	Shire of Serpentine Jarrahdale	
Authorising Officer:	Andrew Trosic Director Development Services	
LG Reference:	PA23/153	
DAP File No:	DAP/23/02452	
Application Received Date:	1 March 2023	
Report Due Date:	24 May 2023	
Application Statutory Process Timeframe:	90 Days	
Attachment(s):	1. Development Plans 2. Schedule of Submissions and Applicant Response 3. Deemed Provisions Regulations Clause 67 Checklist 4. Environmental Acoustic Assessment 5. Updated Traffic Impact Assessment 6. Bushfire Management Plan 7. Response to Department of Fire and Emergency Services submission 8. Approved Engineering Drawing 9. Council Minutes	
Is the Responsible Authority Recommendation the same as the Officer Recommendation?	☐ Yes ☐ N/A	Complete Responsible Authority Recommendation section
	☒ No	Complete Responsible Authority and Officer Recommendation sections

Responsible Authority Recommendation

That Council RESOLVES the following Responsible Authority Recommendation:

1. That the Metro Outer Joint Assessment Panel APPROVES the development application for the construction of a 'Child Minding Centre' at Lot 9511 Briggs Road, Byford subject to the following conditions:

a. The development is to be carried out in compliance with the plans and documentation listed below, except where amended by other conditions of this consent.

Plans and Specifications	Development Plans received at the Shire Offices on 22 February 2023 and 21 April 2023, dated February 2023. Updated Transport Impact Statement received at the Shire Offices on 21 April 2023, dated 20 April 2023. Environmental Acoustic Assessment dated 30 January 2023 received at the Shire Offices on 22 February 2023, dated 30 January 2023. Bushfire Management Plan received at the Shire's Offices on 22 February 2023, dated 22 February 2023.

b. The maximum number of children on the premises shall not exceed 110.

c. The operating hours shall be between 6:30am and 7:00pm, Monday to Friday.

d. Prior to issue of a Building Permit, the subject lots being amalgamated to create one single allotment.

e. Prior to issue of a building permit, detailed plans being submitted to and approved by the Shire, depicting the following road and footpath infrastructure upgrades:

   (i) The full extension of Indigo Parkway to Briggs Road as a 'T' intersection with a median strip constructed up to Briggs Road;

   (ii) The full extension of Caspian Chase as a 'T' intersection up to Briggs Road;

   (iii) The existing footpath on Larsen Road being extended west across Briggs Road, then north to connect with the footpath infrastructure across the full frontage of the development site;

   (iv) The 160m section of Very Poor Condition of Briggs Road from Caspian Chase south, being upgraded to match the upgrades occurring north of Caspian Chase, as shown on Drawing Number BYFGGC12-R01 (attachment 8). This includes a road upgrade to that section of road, to become a sealed, kerbed and drained road, with concrete footpath on the western side verge.

   Once approved, the applicant must undertake and complete all infrastructure upgrade works prior of the commencement of the development's operations.

f. Prior to the occupation of the development, vehicle parking areas, access ways and crossovers shall be designed, constructed, sealed, kerbed, drained and line marked in accordance with the approved plans and thereafter maintained to the satisfaction of the Shire of Serpentine Jarrahdale.

g. A minimum of one car parking bay is to be provided and marked for the exclusive use of vehicles displaying government issued disabled parking permits. Such bay shall be located conveniently to the principal building entrance and designed in accordance with the relevant Australian Standard.

h. Prior to issue of a Building Permit, the applicant shall submit a Noise Management Plan to the specifications and satisfaction of the Shire of Serpentine Jarrahdale. The Noise Management Plan shall be prepared to ensure appropriate measures are designed and implemented for the development to achieve compliance with

(i) The design of the wall on the west side of the carpark;

(ii) The management of outdoor play areas;

(iii) The management of indoor activities;

(iv) The design and shielding of mechanical plant;

(v) Parking arrangement for drop off before 7:00am.

Once approved, the Noise Management Plan shall be implemented in its entirety to the satisfaction of the Shire. The plan shall demonstrate the development incorporating all design and operational recommendations as specified within the Environmental Acoustic Assessment, to the satisfaction of the Shire of Serpentine Jarrahdale where associated with construction requirements integrated into plans submitted for a building permit.

i. Prior to issue of a Building Permit, a Waste Management Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. Once approved, the Waste Management Plan shall be implemented in its entirety to the satisfaction of the Shire.

j. Prior to the issue of a Building Permit, a Landscape and Revegetation Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. This is required to include the full extent of verge adjoining the development site. Once approved, the Landscape and Revegetation Plan shall be implemented in its entirety and maintained thereafter by the operator, to the Shire's satisfaction.

k. Prior to the issue of a Building Permit, a Stormwater Management Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. All stormwater shall be directed so stormwater is disposed of within the property. Direct disposal of stormwater onto the road, neighbouring properties, watercourses and drainage lines is not permitted. Stormwater may be managed through either soak wells, raingardens or a combination of the two.

l. Prior to issue of a Building Permit, a Signage Strategy must be submitted to and approved by the Shire of Serpentine Jarrahdale. The Strategy shall demonstrate compliance with Local Planning Policy No 4.11 - Advertising Signs. Once approved, signage shall be displayed and maintained in accordance with the Strategy.

m. Prior to occupation of the development, the provision of percent for art being provided in accordance with Local Planning Policy 1.6 - Public Art for Major Developments to the satisfaction of the Shire.

n. Arrangements being made with the Shire of Serpentine Jarrahdale for the landowner/ applicant to contribute towards the costs of providing common infrastructure, as established through Amendment 208 (once gazetted) to Shire of Serpentine Jarrahdale Town Planning Scheme No. 2.

o. Prior to issue of a Building Permit, the landowner/applicant contributing towards development infrastructure, pursuant to the Shire of Serpentine Jarrahdale Town Planning Scheme No. 2.

p. Prior to issue of a Building Permit, a Construction Management Plan is to be submitted to and approved by the Shire of Serpentine Jarrahdale. The Plan should address the following matters:

(i) Management of car parking, delivery vehicles and traffic associated with the construction of the development.

(ii) Management of dust and noise.

q. Prior to operation of the development, a suitable pedestrian crossing treatment comprising of crossing lights shall be provided between the subject land and the public open space on the north side of Indigo Parkway, to the satisfaction of the Shire on advice of Main Roads WA (who will be required to separately approve such crossing treatment and lights).

Reasons for Responsible Authority Recommendation

The inclusion of pedestrian crossing lights in consideration of Local Planning Policy 4.24 and the Department of Planning, Lands and Heritage Planning Bulletin 72/2009.

Details: outline of development application

Region Scheme	Metropolitan Region Scheme
Region Scheme Zone/Reserve	Urban zone
Local Planning Scheme	Shire of Serpentine Jarrahdale Town Planning Scheme No. 2 (TPS2)
Local Planning Scheme - Zone/Reserve	Urban Development Zone
Structure Plan/Precinct Plan	Byford District Structure Lot 500 Thomas Road, Byford Structure
Structure Plan/Precinct Plan - Land Use Designation	Residential
Use Class and permissibility:	Child Minding Centre is an 'SA' land use in the 'Residential' zone
Lot Size:	2,524m^2
Existing Land Use:	Vacant Land
State Heritage Register	No
Local Heritage	☒ N/A ☐ Heritage List ☐ Heritage Area
Design Review	☒ N/A ☐ Local Design Review Panel ☐ State Design Review Panel ☐ Other
Bushfire Prone Area	Yes
Swan River Trust Area	No

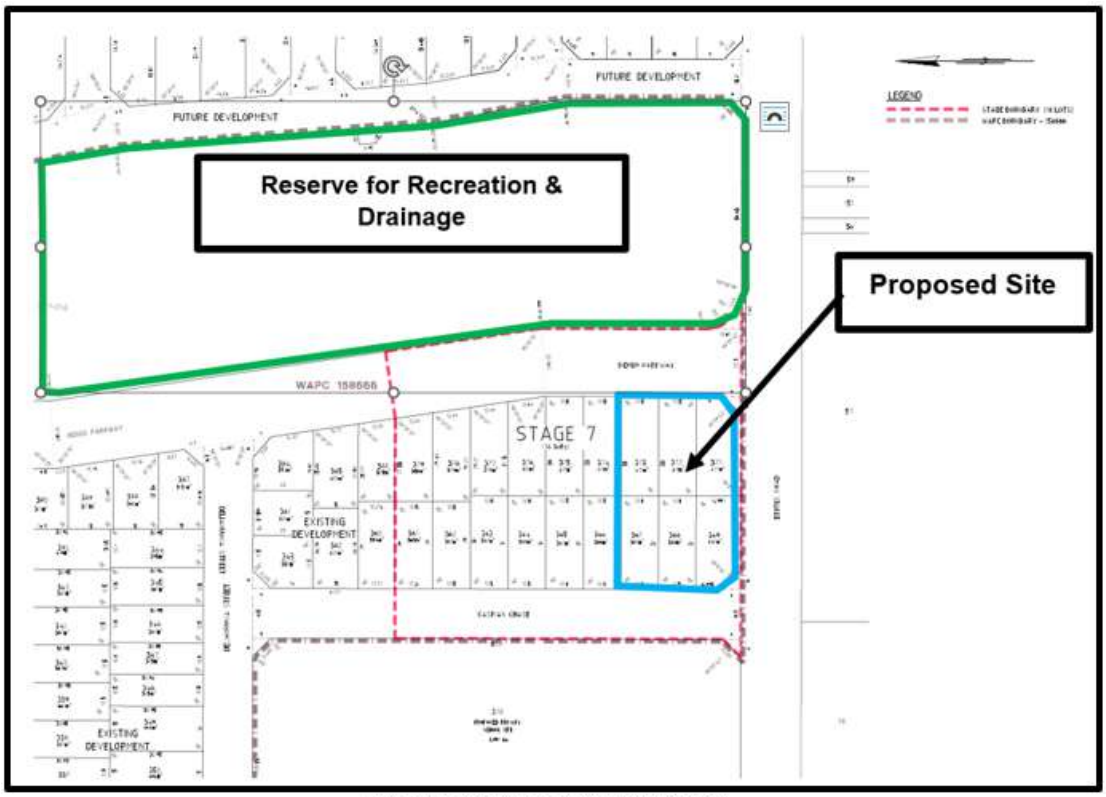
Proposal:
The development application is for a 'Child Minding Centre' on Lot 9511 Briggs Road, Byford. The development involves the construction of a Child Minding Centre, for 110 children, associated outdoor play areas, landscaping and car parking. The site consists of six approved lots forming part of the Byford Meadows Stage 7 subdivision, that would be amalgamated if development approval is secured.

Background:

Existing Development

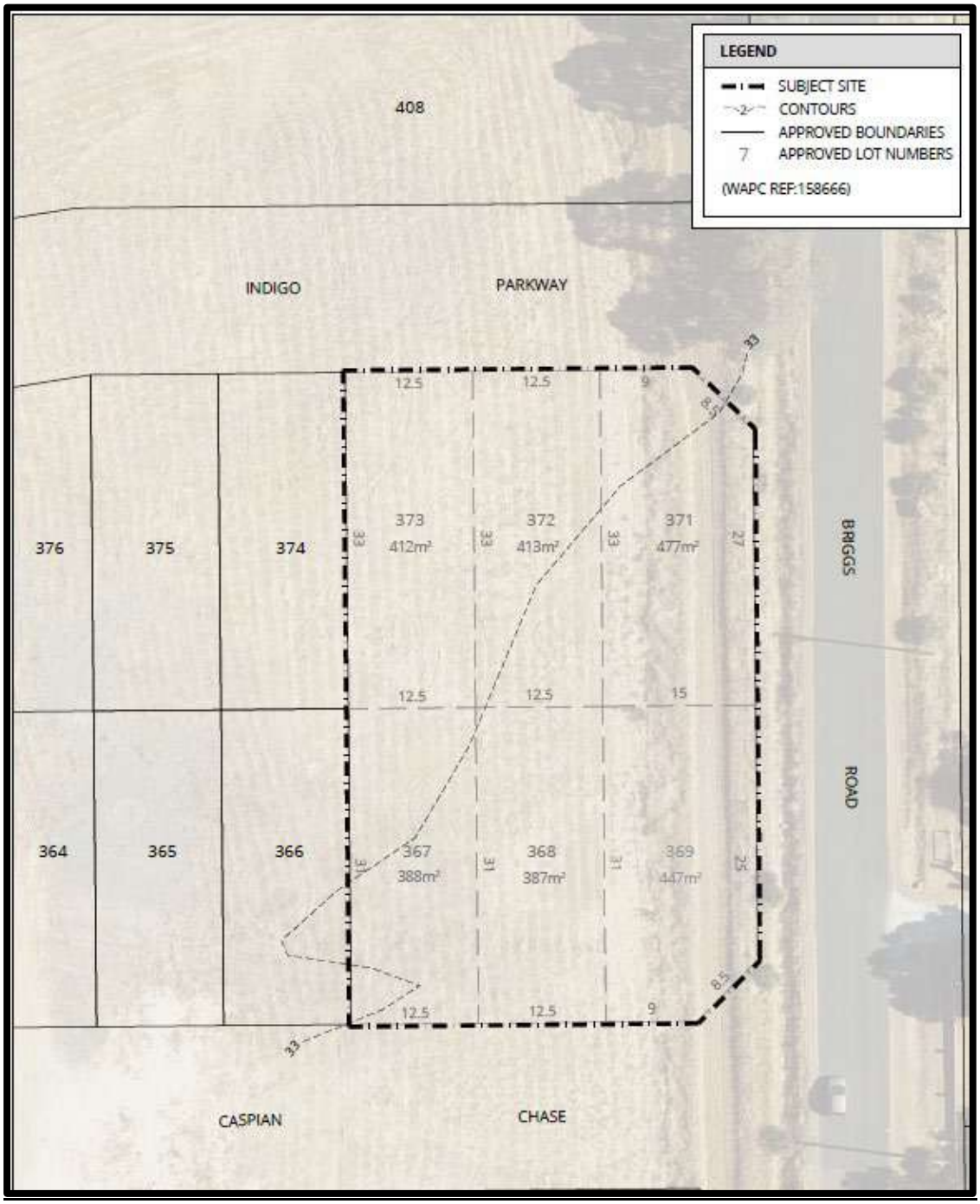
The subject site forms part of Lot 9511 Briggs Road which has a total land area of 11.3ha. The site is currently designated as 'Residential' within Lot 9500 Briggs Road, Byford Meadows Estate Local Structure Plan. The site is bound by Briggs Road to the east and future access roads being Indigo Parkway and Caspian Chase to the north and south respectively. The general locality is undergoing progressive urbanisation, with low-medium density housing and road infrastructure being constructed.

The site forms part of the Byford Meadows 'Stage 7' subdivision which has been approved and cleared by Western Australia Planning Commission (WAPC). The approved plan of subdivision below shows the area to be dedicated for public open space and drainage adjoining the site. The site is currently subject to ongoing subdivisional works which includes creating residential lots and includes the extension of Indigo Parkway and Caspian Chase to Briggs Road. Briggs Road is a gazetted road, Indigo Parkway and Caspian Chase are roads identified on the WAPC subdivision approval which will be constructed as part of 'Stage 7' of the subdivision as shown on the figure below.



Approved Plan of Subdivision

The plan below shows approved six land parcels bound by Indigo Parkway to the north, Briggs Road to the east and Caspian Chase to the south which is where the development is proposed.

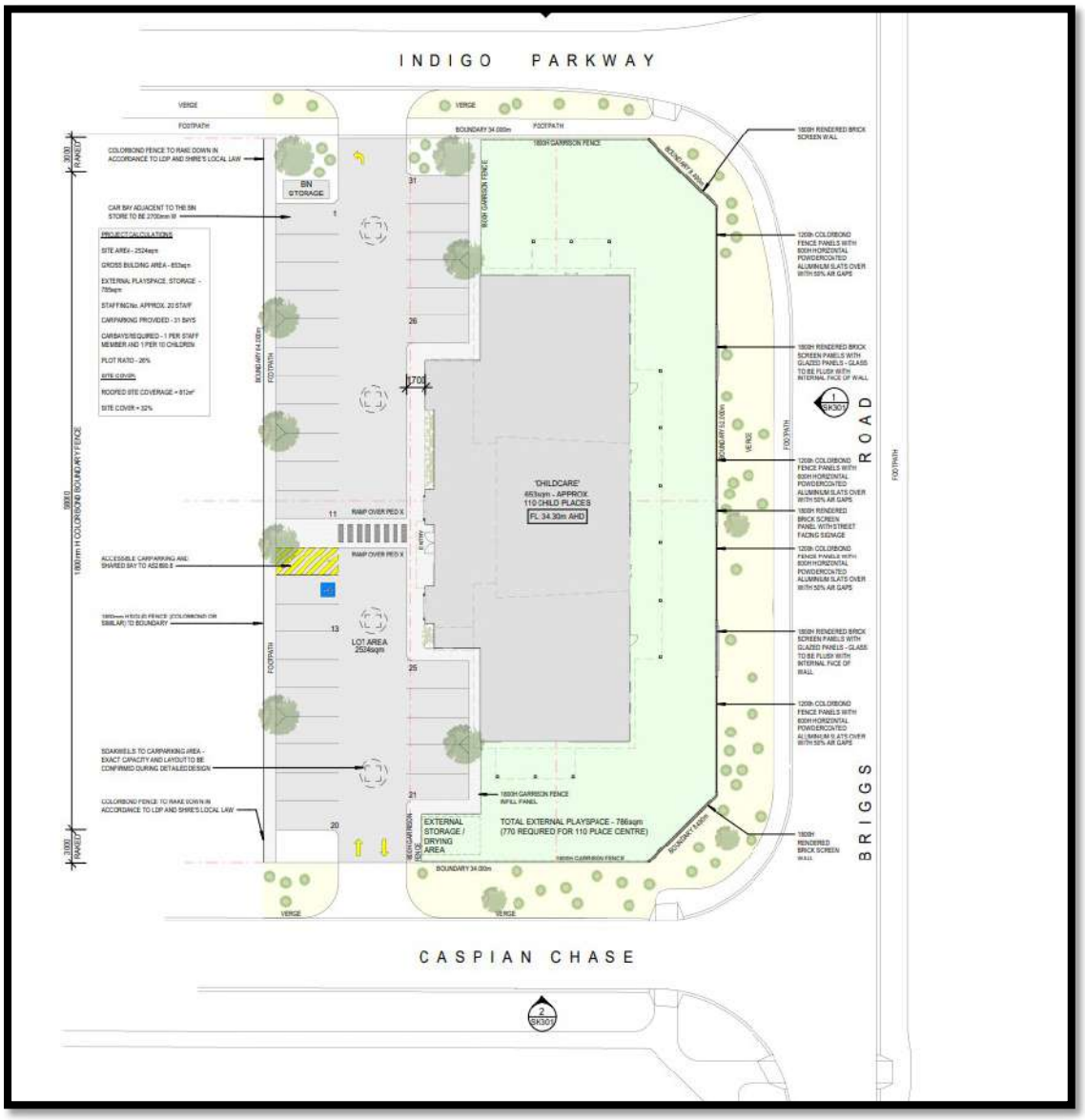


Proposed Development

The proposal seeks approval for the construction of a single storey purpose built 'Child Minding Centre'. The proposed development would occupy 2,524m^2 of the current overall land parcel of 11.3ha, which is being gradually subdivided consistent with the adopted structure plan.

The proposed building will have a total internal area of 653m^2, together with 786m^2 of outdoor play space provided to the northern, eastern, and southern aspects of the building, as well as the associated car parking area. The proposed building would be constructed of rendered blockwork panels, face brick, timber looking cladding with a colourbond roof.

Vehicle access to the subject site is proposed via a single full movement crossover on to Caspian Chase to the south of the site which is required to be constructed as part of this development. A crossover to the north which will facilitate a left/out movement only onto Indigo Parkway will also be required to be constructed.



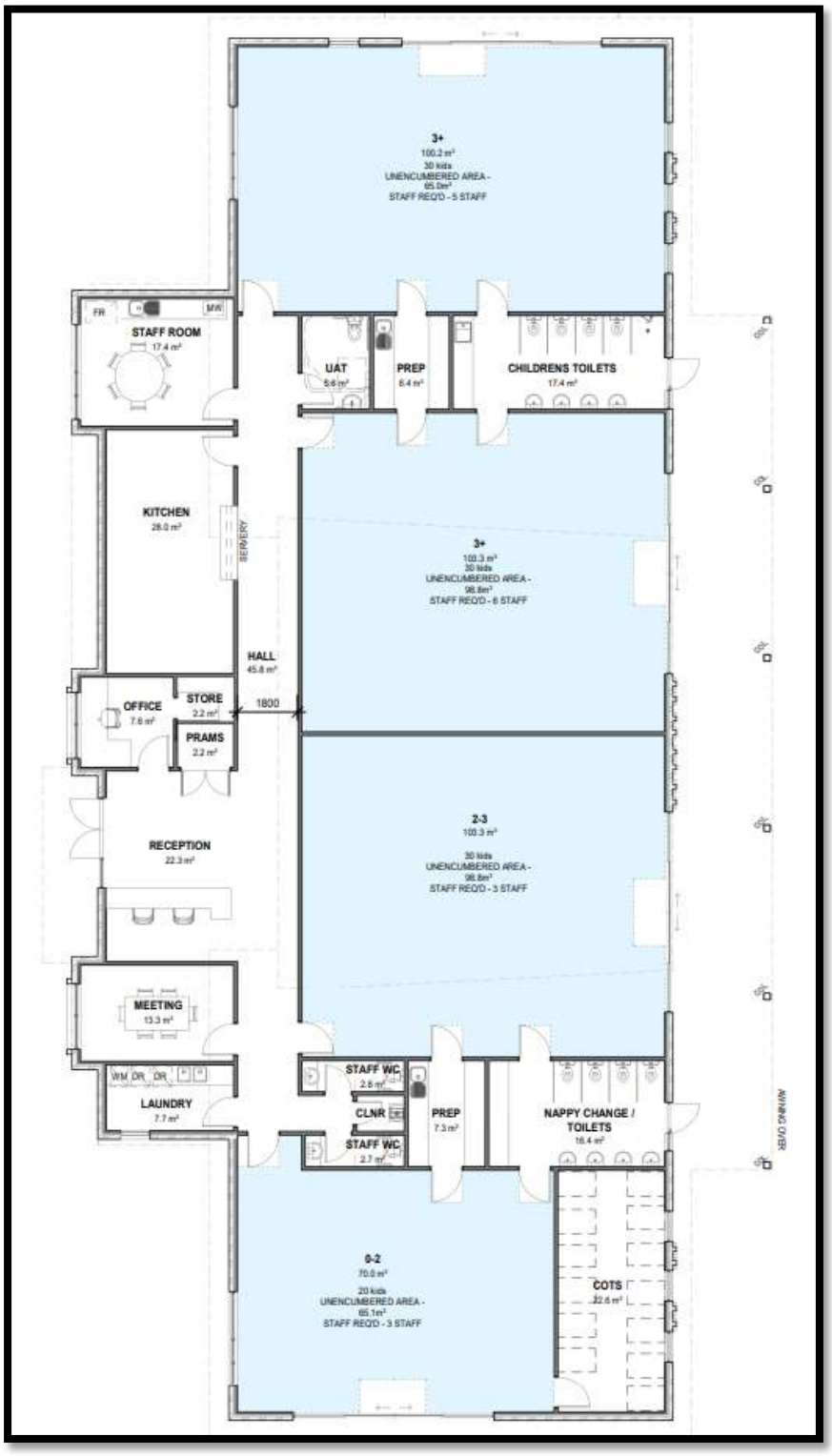
The proposed Child Minding Centre is designed to accommodate a maximum capacity of 110 children and is intended to operate between the hours of 6:30am - 7:00pm Monday to Friday. The Child Minding Centre is expected to employ up to a maximum of 20 staff across the operations in varying shift times.

The applicant provided information that the centre will accommodate children within the following age groups:

- 0-2 years: 20 places;
- 2-3 years: 30 places;
- 3+ years: 60 places.

Specifically the proposal comprises:

- Building comprising of an, reception area, office, meeting room, staff amenities, staffroom, kitchen, childrens toilets with storage areas, dining area, unencumbered areas, cots room, nap change/toilets, sleep rooms, prep rooms toilets, change rooms, laundry and storage areas;
- Construction of a car park with 31 car parking bays comprising of 11 spaces for pick-up and drop-off, 20 staff car parking spaces including one universal access bay;
- Construction of a new crossover on Indigo Parkway to provide left out access out of the car parking area;
- Construction of a new crossover on Caspian Chase to provide full movement access to the car parking area;
- Construction of outdoor play areas with a total area of 786m^2 provided to the northern, eastern and southern aspects of the building;
- Construction of 1.8m high Colourbond solid fence along the western boundary abutting the main the car park;
- Construction of 1.8m garrison style fencing along the street boundaries, and 1.8m rendered brick screen wall along Briggs Road frontage;
- Perimeter landscaping along the car park boundary to west and on the road reserves.



Full details of the proposal are contained within attachments.

Proposed Land Use	Child Minding Centre
Proposed Net Lettable Area	NA
Proposed No. Storeys	One
Proposed No. Dwellings	NA

Legislation and Policy:

Legislation

- *Planning and Development Act 2005*
- *Planning and Development (Local Planning Schemes) Regulations 2015*
- *Environmental Protection (Noise) Regulations 1997*
- *Planning and Development (Development Assessment Panel) Regulations 2011*
- *Metropolitan Region Scheme*

Local Planning Framework

- Shire of Serpentine Jarrahdale Town Planning Scheme No. 2
- Draft Shire of Serpentine Jarrahdale Local Planning Scheme No. 3
- Shire of Serpentine Jarrahdale Local Planning Strategy

State Government Policies

- South Metropolitan Peel Sub-Regional Framework Towards Perth and Peel 3.5 Million
- Planning Bulletin 72/2009 - Child Care Centres
- Environmental Protection Authority Environmental Assessment Guideline for Separation Distances

Structure Plans/Activity Centre Plans

- Byford District Structure Plan 2020
- Lot 9500 Thomas Road, Byford Local Structure Plan

Local Policies

- Local Planning Policy 1.4 - Public Consultation for Planning Matters (LPP1.4)
- Local Planning Policy 1.6 - Public Art for Major Developments (LPP1.6)
- Local Planning Policy 2.4 - Water Sensitive Design (LPP2.4)
- Local Planning Policy 4.15 - Bicycle Facilities Policy (LPP 4.15)
- Local Planning Policy 4.16 - Landscape and Vegetation Policy (LPP4.16)
- Local Planning Policy 4.24 - Child Minding Centres (LPP4.24)

Consultation:

Public Consultation

The application was advertised for a period of 21 days from 13 March 2023 to 3 April 2023 to surrounding landowners within a 500m radius of the subject site, in accordance with LPP1.4 - Consultation for Planning Matters. The application was also advertised on the Shire's website for the same period.

At the conclusion of the consultation, three submissions raising no objections were received. These did however raise concerns pertaining to the following aspects:

- An upgrade to the Briggs Road and Thomas Road intersection considered to be narrow and in poor condition,
- Upgrade or widening of Briggs Road to be able to cater for additional traffic movements and potential congestion concerns

These matters are discussed in the table below and within the traffic section of the report.

Referrals/consultation with Government/Service Agencies

Department of Education (DoE)

The application was referred to the Department of Education who provided no in-principle objections to the proposal and provided the following advice:

> *The Department is generally supportive of childcare facilities located within proximity to public schools, however careful planning consideration needs to be given to the potential impact that these facilities may have on nearby schools in terms of safety and amenity.*
>
> *The subject site is located adjacent the future Byford North Central Primary School (Primary School) site. Given the minimal impact this proposal will have to the surrounding road network and parking in the area, it is anticipated that the proposed development will have no adverse impact on the future Primary School site.*
>
> *In view of the above, the Department has no in principle objections to the proposal No submission has been received to date.*

Department of Water and Environmental Regulation (DWER)

The application was referred to DWER and no objections to the proposal were raised. DWER however recommended for the car park stormwater drainage system to be designed, constructed and managed in accordance with the Stormwater Management Manual for Western Australia (DWER, 2022).

Department of Fire and Emergency Services (DFES)

DFES has recommended modifications to be undertaken to the submitted Bushfire Management Plan. These modifications primarily relate to the justification to support the exclusion of Plots 8 and 9 to the west and management of vegetation within the public open space. The BMP currently excluded these plots and identified vegetation within them as a low threat.

Water Cooperation

The application was referred to Water Corporation who provided no in principle objections to the proposal and provided the following advice:

> *Please be advised that the site is not currently serviced with water or wastewater. Delivery of reticulated water and wastewater infrastructure is required to satisfy conditional approval of proposed subdivision WAPC 161405. Water and wastewater reticulated infrastructure will be designed and delivered in accordance with current long-term scheme planning suitable for servicing the proposed child minding centre.*

Department of Planning Land and Heritage Westport Division

The Transport Planning section of the Department has no formal comments to provide as the subject section of Thomas Road to the north is now under the control of Main Roads WA.

Main Roads Western Australia (MRWA)

The application was referred to MRWA who had no objections to the proposal.

A summary of the submissions including applicant comments can be viewed in attachments.

Design Review Panel Advice

Not applicable

Swan Valley Planning

Not applicable

Other Advice

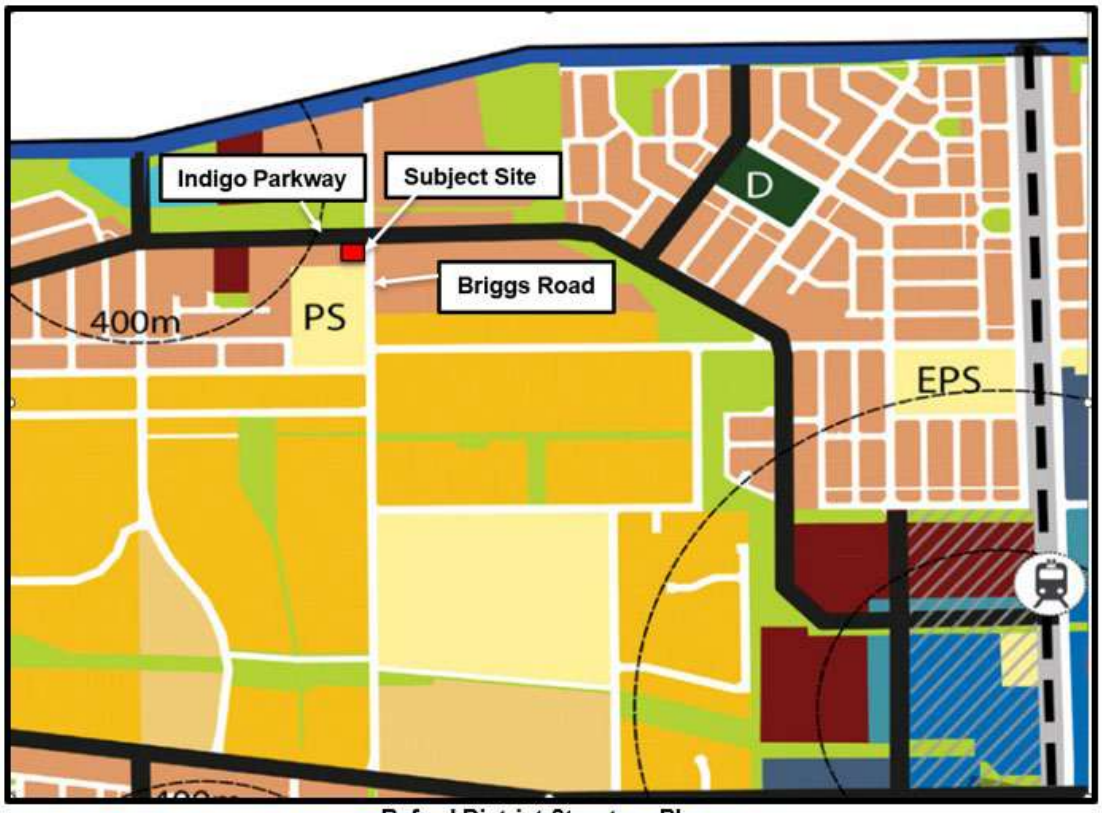
Not applicable

Planning Assessment:
The proposal has been assessed against the relevant legislative requirements of the Shire of Serpentine Jarrahdale No. 2, Draft Local Planning Scheme No.3 (LPS3), Local Planning Strategy (LPS), Byford District Structure Plan 2020, Lot 9500 Thomas Road Local Structure Plan and State Policy and Local planning policies.

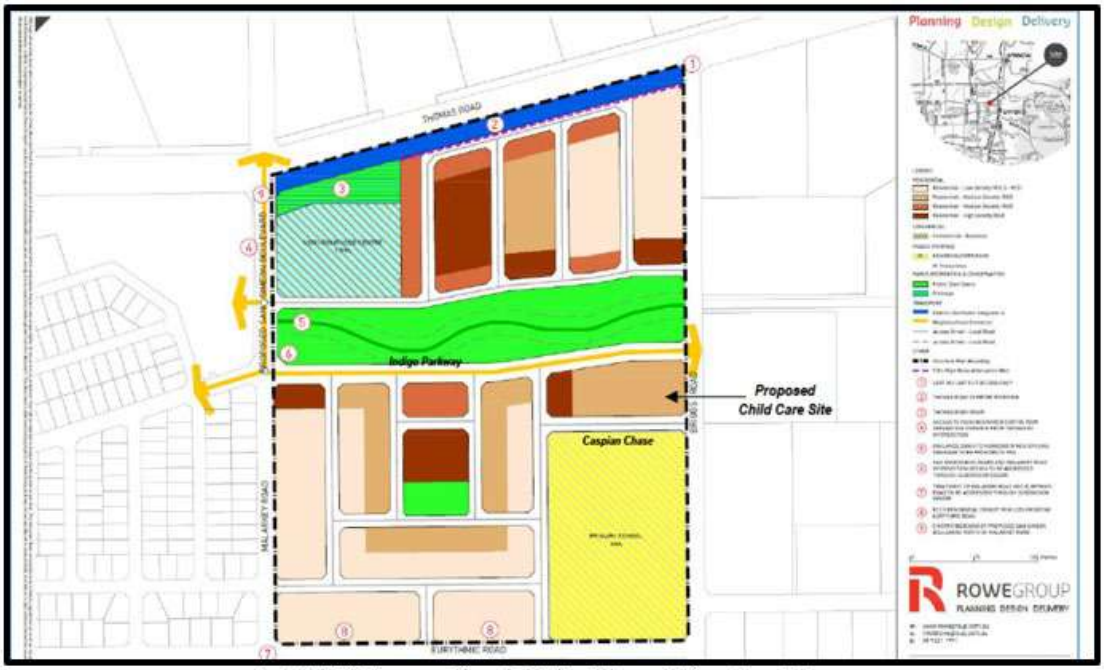
Town Planning Scheme No. 2 (TPS2)

The subject site is zoned 'Urban Development' under the Shire's TPS2. Clause 5.18 of TPS2 sets out the objective of the 'Urban Development' zone as "to provide for the orderly planning of large areas of land in a locally integrated manner and within a regional context, whilst retaining flexibility to review planning with changing circumstances". This objective is facilitated through the preparation of Structure Plans, which guide land use permissibility and development.

The subject site is identified as 'Residential' within the Byford District Structure Plan 2020 (BDSP), and the Lot 9500 Thomas Road, Byford Local Structure Plan (LSP) which provide the relevant land use permissibility and indicative land use designation applicable to the site. The proposed land use can be considered within the residential designations of the structure plans. The two structure plans, showing the land in question, are provided following:



Byford District Structure Plan



Lot 9500 Thomas Road, Byford Local Structure Plan

Land Use

The proposal falls within the TPS2 definition of 'Child Minding Centre', which means:

"…land and buildings used for the daily or occasional care of children in accordance with the Child Welfare (Care Centres) Regulations, 1968 (as amended) but does not include a family care centre as defined by those regulations, or an institutional home".

The Child-Minding Centre' is an 'SA' land use in the 'Residential' zone which means, *"that Council may, at its discretion, permit the use after notice of the application has been given in accordance with Clause 64 of the Deemed Provisions."* An 'SA' land use requires the Shire to consider all submissions received and the broader planning framework in applying its discretionary powers to determine an application for approval.

Officers consider that the development, by way of scale, intensity and form of development is consistent with the current and intended future amenity of the area. The site forms an edge to the neighbourhood, where in combination with the future primary school, will be characterised by a higher level of activity compared to other locations within the structure plan area. Placement of these higher activity generating land uses on the edge of the neighbourhood will see an effective management of current and future amenity for the area.

Officers further consider that the design of the development is compatible with the future residential development as it seeks to incorporate design elements to the building which, when viewed from the street, would appear residential in form. This will provide a high degree of compatibility with adjoining and nearby medium residential density developments located within the broader locality of the Byford Meadows and Redgum Brook estates.

Draft Local Planning Scheme No.3 (LPS3) and Local Planning Strategy (LPS

The zoning of the subject site under draft Local Planning Scheme No.3 (LPS3) will be 'Residential'. The proposal would still fall under the land use of 'Child Care Premises' which is defined as:

"means premises where -

(*a) an education and care service as defined in the Education and Care Services National Law (Western Australia) Section 5(1), other than a family day care service as defined in that section, is provided; or*

(b) a child care service as defined in the Child Care Services Act 2007 section 4 is provided".

The use is similarly a discretionary use, subject to advertising, within the 'Residential' zone of LPS3.

The 'Residential zone' objective under LPS3 supports a range of non-residential uses, which are compatible with and complementary to residential development, encouraging high quality design, built form and streetscapes throughout residential areas which is appropriate to the climate. The design is considered to reflect such objectives.

Planning Bulletin 72/2009 - Child Care Centres

The bulletin provides guidance of planning considerations in relation to the location and development of child care centres. It states that broadly, child care centre activities are located in residential areas and that the ever-increasing demand for child care centres and the strong focus on their appropriate distribution and location is closely linked to demographic change. The objectives of the policy are to:

a) locate child care centres appropriately in relation to their surrounding service area;

b) minimise the impact a child care centre has on its surrounds, in particular on the amenity of existing residential areas;

c) minimise the impact the surrounds may have on a child care centre; and

d) consider the health and safety of children attending the child care centre within the confines of the planning system.

The bulletin states that childcare centres should be located to provide the maximum benefit to the community and should be within an easy walking distance and serviced by public transport.

The proposal adjoins a future school site to the south and is located approximately 400metres from the Byford Meadows Neighbourhood Centre precinct within a medium density housing environment. It is serviced by Transperth bus routes on Eurythmic Boulevard west of Briggs Road, approximately 350 metres walking distance from the site. The proposal includes construction of a footpath around the car park that would be linked to a footpath along Indigo Parkway to the north, to be constructed as part of the ongoing Stage 7 subdivision works. In addition, a footpath on Briggs Road would be extended from Eurythmic Road to Indigo Parkway as identified within the structure plan area. The site would then be accessible once the footpath network is fully established as the area continues to be developed through the ongoing subdivisions. The footpaths would provide infrastructure to enable residents from the nearby catchment areas to walk to the subject site consistent with this objective of the Bulletin.

The bulletin also states that it is important in limiting the impact a 'Child Minding Centre' may have on surrounding activities and amenity of existing residential areas. In this regard, the development has been designed in such a way that outdoor play areas have been located furthest away from the future residential dwellings. The proposal demonstrates a configuration of development to moderate as best possible noise impacts associated with the development.

Car Parking

Clause 67(s) of the Deemed Provisions requires consideration be given to the adequacy of provision for parking of vehicles. As such, a car parking assessment has been undertaken against the requirements from TPS2 and draft LPS3.

Table V of TPS2 sets out the parking requirements for different land uses. The minimum number of car parking bays for a 'Child Minding Centre' is one space per five children accommodated. Accordingly, as the proposal seeks to accommodate up to 110 children, a minimum of 22 parking bays would need to be provided. The plans provided indicate that the proposal is compliant with the minimum TPS2 parking requirements, as it incorporates a total of 31 bays, onsite bays, (including one [1] universal bay), to the west of the proposed childcare building.

In terms of draft LPS3, the table below summarises the parking requirements:

Land Use	Parking Requirement	No of Children/Staff	Parking Required	Proposed Bays
Child Minding Centre	1:10 children, plus 1.1 employee	110 20	11 bays 20 bays	11 20
Total			31	31

The proposal complies with the parking requirements under LPS3.

Officers have also considered that public transport is conveniently located nearby the subject land, leading to this mode of transport being available for use by families and

staff alike. The bus stops would be easily accessible via existing formal footpaths and pedestrian crossing facilities once the area is fully subdivided and fully developed.

Development Requirements

Clause 7.10 and table 2 of TPS2 sets out the development standards and site requirements for development. Consideration has been given to the requirements as they apply to the 'Residential' zone, which the land is designated as under the LSP.

Table 11 TPS2 set out site requirements for selected uses in the 'Residential' Zone

Child Minding Centre	**Required**	**Provided**	**Complies**
Setbacks			
Front (Briggs Road)	7.5m	7.8m	Yes
Side (Indigo Parkway)	7.5m	14.5m	Yes
Side (Caspian Chase)	3.0m	9.0m	Yes
Plot Ratio (ratio of the gross total of the areas of all internal floors of a building to the area of site)	0.5:1	0.25.1	Yes
Site Coverage (how much of site is covered by roofed area)	0.3	0.32	No

The development slightly exceeds the prescribed site coverage requirements of TPS2. Officers have considered that the slight exceedance on the site coverage would not adversely impact on the available open space or appear as if the site is over developed. The development features outdoor playscapes fronting Briggs Road, Indigo Parkway and Caspian Chase street frontages providing for separation between the building and public realm along these street frontages, ultimately reducing the presence of the building. The minor variation is not considered to present the development as bulky or overbearing.

Form of Development

Part VII of TPS2 provides general development standards. Clause 7.1 of TPS2, relating to the general appearance of buildings and preservation of amenity, requires consideration of architectural style, colour, use of materials and the general appearance of buildings to ensure the exterior design is not out of harmony with existing buildings or likely to impact the amenity of the locality.

Below are the first set of elevations, as viewed from the west , north (Indigo Parkway) south (Caspian Chase) and from the east (Briggs Road).

Elevations Plans

In terms of the visual impacts of the development, the proposed building which covers an area of 653m^2 incorporates design elements intended to reflect residential development within the immediate locality, noting the site is located within a 'Residential' zone. The design elements include the use of timber looking boards, coloured blockwork, composite cladding, brickwork with contrasting colours and varied roof forms. These are accentuated at different areas to provide a building which reflects the rural tones of the Shire and which is aesthetically pleasing.

The design also proposes the brand 'Lego' artwork (painted red and blue panels) on the elevations which will add further interest to the building and a sense of playfulness. This is a theme contained within the Shire's Public Art Strategy and Masterplan document.

The site is subject to the Stage 7 Byford Meadows Local Development Plan which designates the site as R30. Although the development is not residential in nature and is not required to comply with the density designation, it has been designed to be sympathetic to the R30 density requirements, especially in terms of setbacks to further ensure the development is sympathetic to the existing and future residential development within the locality. It has also been designed to meet the Local Development Plan for the area which requires dwellings to address all street frontages to ensure surveillance of the street and to ensure an enhanced streetscape.

Local Planning Policy 4.24 - Child Minding Centres (LPP 4.24)

LPP4.24 seeks to provide guidance for child minding centres in relation to matters such as location, siting, design, traffic, and amenity. The objectives of the policy are as follows:

- *To provide guidance for the location of child minding centres to best take advantage of the surrounding natural environment and provide a compatible setting with the locality.*

- *To ensure that amenity impacts, including noise and traffic, are managed appropriately.*
- *To promote a design of child minding centres which reflect the rural and natural character of the Shire.*
- *To provide guidance for the consideration of convenient access and layout.*

LPP4.24 sets out particular criteria for child minding centres. Development that complies with the 'acceptable' criteria will generally be supported. Proposals falling within 'Performance Based' are required to demonstrate acceptability in relation to the specific criteria. The application has been assessed against the policy criteria below and generally complies.

Acceptable Development	Performance Based	Officer Comment
Location		
Child minding centres located within easy walking distance of activity centre or recreational nodes. Located within a walkable catchment for the local neighbourhood. Larger child minding centres being encouraged to locate near or within activity centres.	The chosen location is appropriate to the proposed scale of the child minding centre, and such location benefits from integration with the surrounding natural and built environment.	Acceptable - Proposal located within 400m of a Neighbourhood Centre. It is located within a walkable distance from existing and future residential development.
The location is close to or adjoins public open space.	Located within a walkable distance to a public open space/recreational area with good quality pathways.	Acceptable - Proposal abuts the Public Open Space to the North of Indigo Parkway.
Child minding centres are adequately separated from any incompatible nearby uses, with this supported by a suitably qualified risk assessment forming part of an application. Such risk assessment is to consider elements such as dangerous goods, hazardous materials and public health considerations. Potentially incompatible uses (taking into account design and layout) may include, for example, outlets selling petroleum, fast-food, and alcohol or tobacco products.	Where child mining centres are located within 200m of any incompatible use, such proposal demonstrates that the potential for adverse health impacts is removed. Such demonstration to be in the form of a suitably qualified consultant study.	Acceptable - No incompatible land uses within 200m of the subject site.
Parking		
Parking meets the requirements of the Local Planning Scheme, and	Suitably demonstrates that there is sufficient parking onsite in the form of a	Acceptable - Proposal is compliant with TPS2

Acceptable Development	Performance Based	Officer Comment
demonstrates how this meets the operational aspects of the development. Internal driveways having two-way movement. Landscaped parking areas in accordance with the Local Planning Scheme. Parking areas located so as to provide a separation between surrounding dwellings and outdoor play spaces.	traffic and parking assessment. Design and layout demonstrates safe movement of vehicles and pedestrians internally. Parking areas incorporate layers of landscaping and Water Sensitive Urban Design.	car parking requirements. Refer to parking section of the report.
Traffic		
Traffic generation poses an increase of no more than 10% of the current recorded daily volumes on the roads which the development adjoins. This is confirmed by a traffic impact statement. Development facilitates full movement access to and egress from the site.	Demonstrates that traffic impacts can be managed through the submission of a Traffic Management Plan. This demonstrates how traffic will be managed to not represent an adverse safety or amenity impact on the adjoining road environment. Demonstrate that access and egress to the site will not result in unsafe manoeuvring due to the lack of full movement access.	Acceptable - refer to the traffic section of the report.
Infrastructure Requirements		
Designated pedestrian footpaths from the street to the centre and the car park to the centre.	Demonstrate that pedestrians can safely navigate to and around the site, with dedicated pathways.	Acceptable - A condition will be imposed to ensure footpath abuts the frontage of the block and around the carpark.
Car parking visible from the street to discourage verge parking.	Signage or other means to discourage verge or unsafe parking.	Acceptable - refer to the car parking section of the report.
Amenity		
Outdoor play areas located in a safe place within the site, providing adequate shade, and	Outdoor play areas are arranged so as to demonstrate such will not	Acceptable - outdoor play area is located to the

Acceptable Development	Performance Based	Officer Comment
separated from noise sensitive premises. Waste service areas appropriately screened from public areas. Setbacks to side and rear boundaries and the orientation of openings to indoor play areas located to minimise noise impacts. Acoustic impact assessment submitted demonstrates how noise will be managed, particularly from: - Indoor and outdoor play areas; - Car parking areas and the impulsive noise that comes from car access (especially staff arriving before opening and departing after closure), opening and closing of car doors, arrangement of car parking bays (staff versus visitor).	adversely impact sensitive receptors. This is confirmed by an acoustic impact assessment and subsequent noise management plan. Noise levels are demonstrated to be consistent with the level of amenity currently afforded to an area.	western portion of the site.
Hours of operation 7:00am to 7:00pm Monday to Friday.	Demonstrate that operation hours outside of these times would not impact amenity of the area through an acoustic impact assessment and subsequent noise management plan.	Performance - the proposed hours of 6:30.am - 7:00am operation comply. While staff and children arriving prior to 7:00am, the use of the outdoor play areas will not occur until after 7:00am to comply with the acoustic report.
Child minding centres are not subject to unacceptable noise that could impact the health and wellbeing of children.	An acoustic impact assessment and subsequent noise management plan demonstrate that noise external to the site would not adversely impact on the wellbeing of children.	Acceptable - refer to the amenity section of the report.
Sites in residential areas greater than 1,000m^2 in areas.	Demonstrate that sites in residential areas will be able to accommodate all	Acceptable - the site is greater than 1,000m^2

Acceptable Development	Performance Based	Officer Comment
A maximum site coverage of 60%, in order to mimic typical residential form and to provide future ability to recede back to a residential development should that occur.	activities (including parking and play areas) required on the site.	
Landscaping		
On site landscaping and landscape of all adjoining verge areas, in accordance with the Scheme, to provide an attractive setting and contribute to the streetscape.	A reduction in the on-site landscaping requirement is associated with additional verge landscaping.	Acceptable - Proposed landscaping is consistent with the policy. Refer to the built form section of the report.
Design		
Development has the appearance of natural materials i.e. recycled clay face brick, vertical and horizontal patterns of timber cladding, rammed earth construction, earth block features, natural stone elements for columns, sheltering gable roof. Measures should be taken to ensure that play areas are large enough and of such dimensions to be useful as play areas and positive outdoor space. Side setback and leftover building areas are not included for such purpose.	Demonstrate that the development includes natural features to elevate the rural and natural character of the Shire. Demonstrate that the proposal is in keeping with the surrounding built and natural environment. Development in residential areas mimics residential urban patterns (front yard, central placed building, driveway to one size and rear backyard).	Acceptable - refer to Built Form section of report.

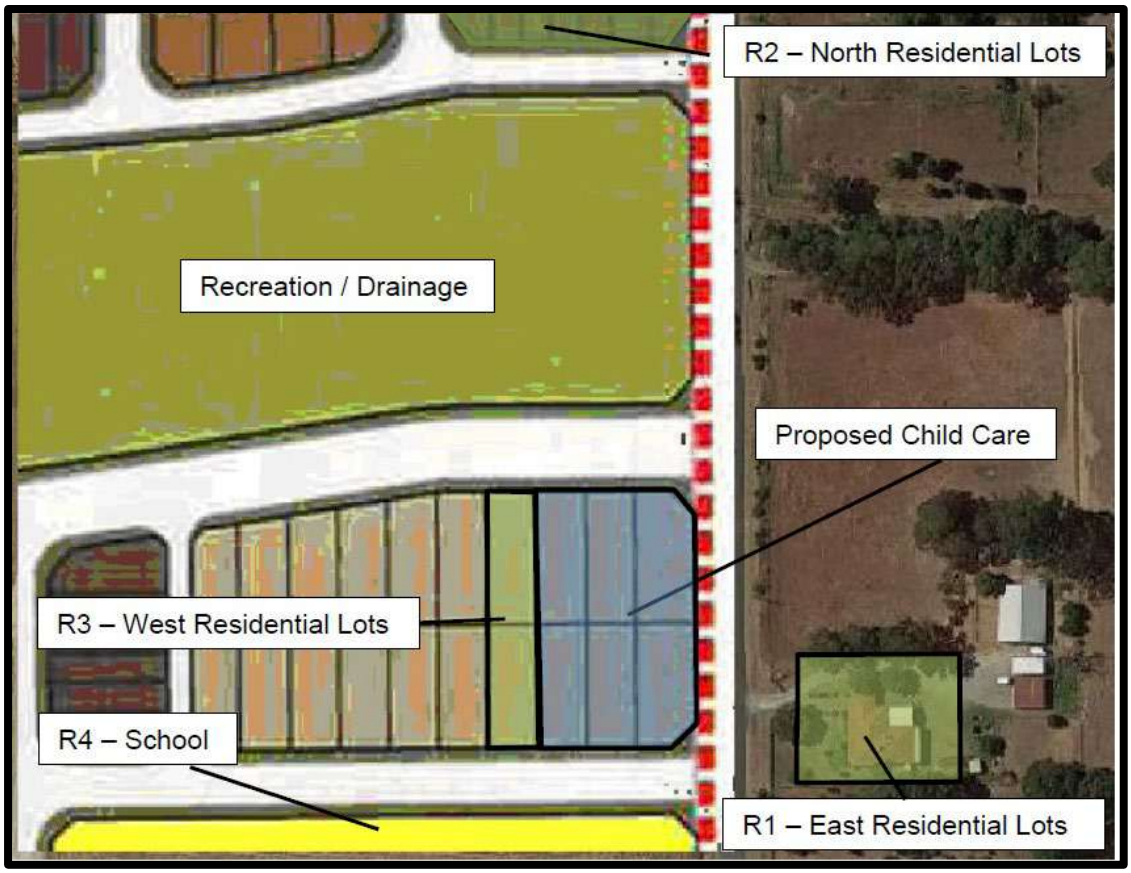
Amenity

Clause 67 of the Deemed Provisions, namely clause (n), requires the Local Government to consider the amenity impacts of a development. Noise generated from the proposal has the potential to impact upon the amenity of the area, given the proximity of the proposal to future neighbouring residential dwellings to the west of the subject site (sensitive receptors).

To address noise, the applicant submitted an Environmental Acoustic Assessment (EAA) in accordance with the *Environmental Protection (Noise) Regulations 1997* (the Regulations). This can be viewed within the attachments**.** The report assesses noise emissions from outdoor child play areas, car doors closing in the car park, car starting, car doors closing and mechanical plants (air conditioning units and exhaust extraction fans), against the prescribed standards the Regulations.

The Regulations set out the maximum allowable noise level that may be received at nearby sensitive receptors. In this case, computer modelling using the noise modelling program SoundPlan was used to predict noise emissions from the development at all

sensitive receptors identified as (R1-R3) and the educational establishment School; (R4) as shown below and demonstrated within the EAA.



The predicted noise levels received at the future educational establishment (school), existing (R1) and future (R2 and R3) sensitive receptors within the EAA for the major noise sources, have been tabulated in Tables 6.4 to 6.9 of the EAA. The location of these sensitive receptors and noise receivers at this location have been captured in the above diagram.

In terms of the outdoor child play assessment, the EAA assessment demonstrates that all noise receivers will comply with the assigned levels under the regulations with zero exceedance. The acoustic modelling of outdoor play noise was made, based on the worst-case scenario of any age group of children within the outdoor play areas shown in the site plan. The noise modelling has been based on construction of a solid wall along the western boundary enclosing the carpark and surrounding the outdoor play area as shown in the site plan. The applicant has provided information that although the proposed facility would open before 7:00am (i.e. during the night period as set in the Regulations) for drop offs, however, the outdoor play area would only be used after 7:00am thereby restricting outdoor play times. As such, Officers are satisfied that outdoor play area noise received at the neighbouring future residences to the west from the outdoor play area would comply with the assigned and maximum noise levels.

In regard to the noise emitted from the mechanical plant, the ENA demonstrates that the future school and all existing and future sensitive receptors, comply with the assigned levels under the regulations Regulation. The applicant has provided information that the assessment of the mechanical plant noise (specific AC unit types) has not been modelled on the exact mechanical plant and therefore recommended the detailed design of the units to be reviewed to ensure that noise attenuation is applied to achieve compliance with the Regulatory requirement to the future sensitive

receptors. This will include measures such as acoustic shielding of the units on all sides by a suitable barrier. This has been conditioned accordingly and required to be met prior to the issue of a building permit.

In respect to car movements, engines starting, doors opening and closing within the car park, ENA demonstrates that all noise receivers will comply with the assigned levels under the regulations for the existing nearby sensitive receptors. In order to achieve compliance for the future sensitive receptors from noise levels within the car park area, the applicant has provided information that parking bays to the west of the building (red) would not be permitted before 7:00am and bays to the south and north of the building (blue) will be reserved for staff and specifically those arriving before 7:00am only as shown in the diagram below.

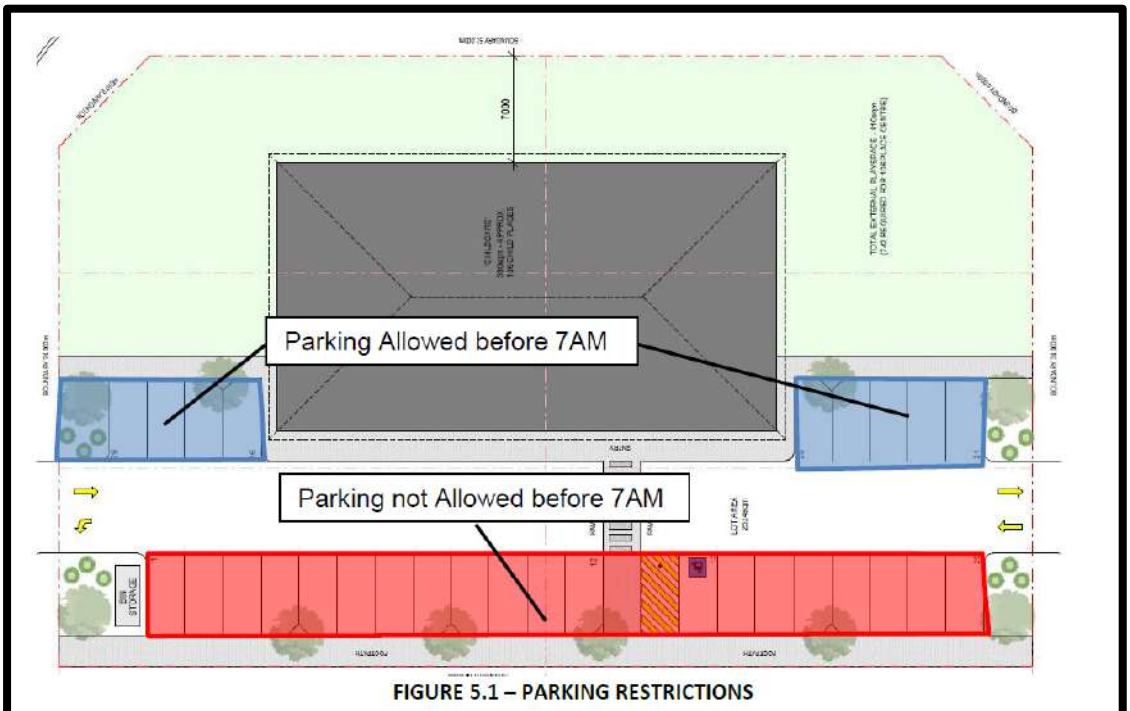


FIGURE 5.1 – PARKING RESTRICTIONS

Overall, the ENA demonstrates that all noise receivers will comply with the assigned levels under the Regulations. Officers will be recommending a Noise Management Plan be submitted to address all activities associated with outdoor play and indoor child play to further reduce noise emissions from the development and to include the recommendations within ENA. Officers are satisfied that the development can be undertaken without adversely impacting upon the amenity of the locality.

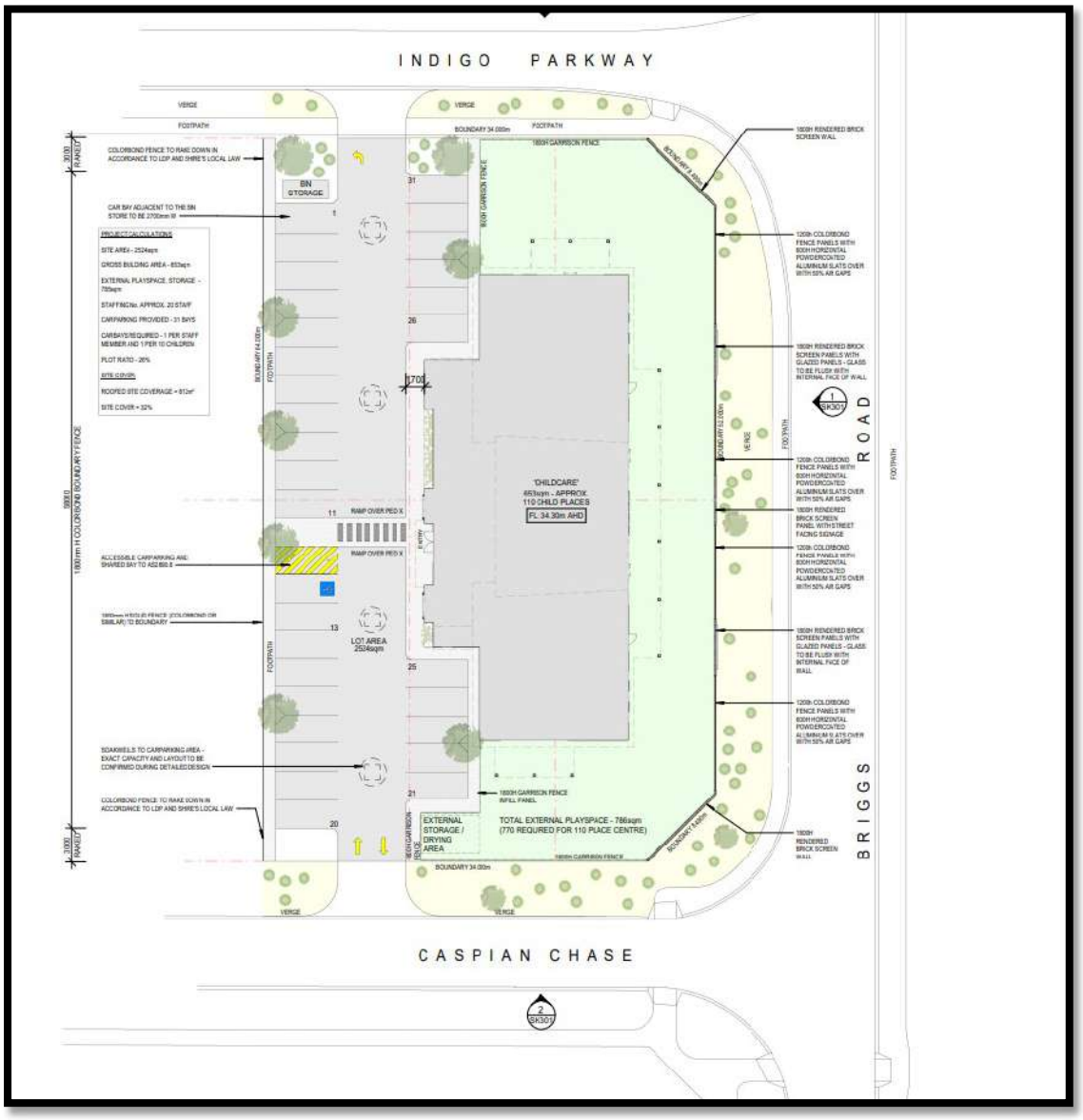
Traffic and Access

The category of the vehicles associated with the proposed development will predominantly comprise of small passenger vehicles dropping off and picking up children, as well as staff and waste vehicles. During the consultation period concerns were raised over the impacts of increased traffic movements on Briggs Road and whether its current state would be capable to accommodate additional traffic generated by the proposal.

Vehicle access to the subject site is proposed via a single full movement crossover on Caspian Chase once constructed and initially a left in/left out movement crossover to Indigo Parkway once constructed to the north of the site. The north access/egress arrangement has been modified from the plans that were advertised, to respond to

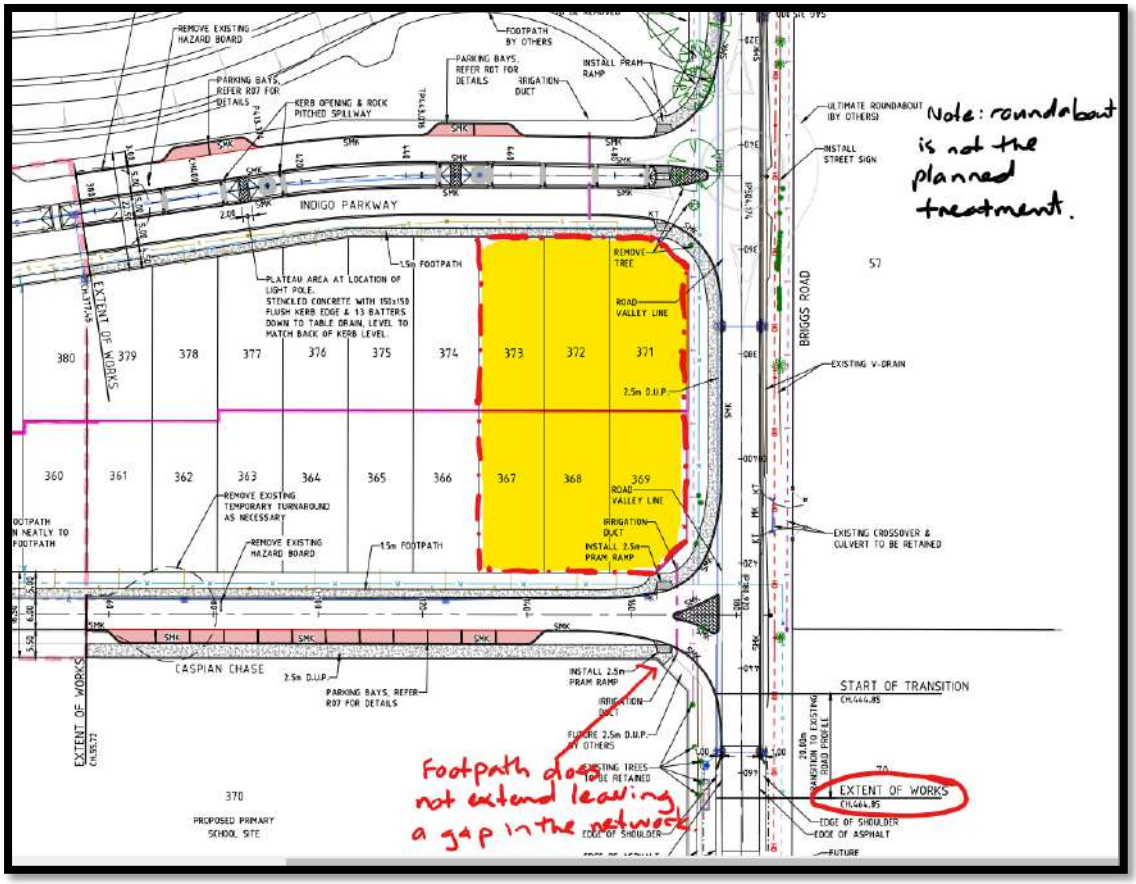
concerns regarding potential localised congestion. In this regard, to avoid possible queuing and congestion at the intersection of Briggs Road/Indigo Parkway for those vehicles wanting to access the site in a southbound direction on Briggs Road, the northern crossover has been modified to a left-out arrangement only. The proposed median strip as part of the design of Indigo Parkway at this section will also restrict the movement to left out only. This will divert vehicles to use the Caspian Chase full movement crossover, also removing potential conflict points with the access to the proposed adjoining child minding centre under a separate application as seen below. This will also address a concern raised during the public consultation.

Officers note that Caspian Chase and a portion of Indigo Parkway to Briggs Road are subject to the subdivision approval and will be constructed as T-intersections to Briggs Road as part of the Stage 7 subdivision approval of the Byford Meadows. A condition however, will also be imposed as part of this development to ensure the construction of the roads as the proposal also relies upon this. A condition will also be imposed to ensure the section of Briggs Road between Caspian Chase and Indigo Parkway is fully upgraded to an urban standard, given this will provide both interim and ultimate access to the centre for a portion of clients.



The proposed crossover on Caspian Chase will provide access to the main car park consisting of 31 bays (inclusive of one ACROD bay) as shown in the previous image. Footpaths along the interfacing roads would be constructed as part of the ongoing subdivisional works which would provide pedestrian access to the proposed development. A condition is however included to also secure the required footpath infrastructure that adjoins the frontages of this lot, which also extends to link to the footpath network (existing) on Larsen Road. This is important in order to facilitate safe pedestrian access to the proposed development. The existing network and additional footpath link to be conditioned, is shown following. This is essential in order to provide safe pedestrian access to the centre, for clients based to the south and east of the proposed development, consistent with the planning framework to ensure that all modes of transport are catered for.

With respect to the subdivision works currently underway to create the site, this shows that the extent of planned footpath works will not connect to the existing path on Larsen Road. This is the basis for the recommended condition.



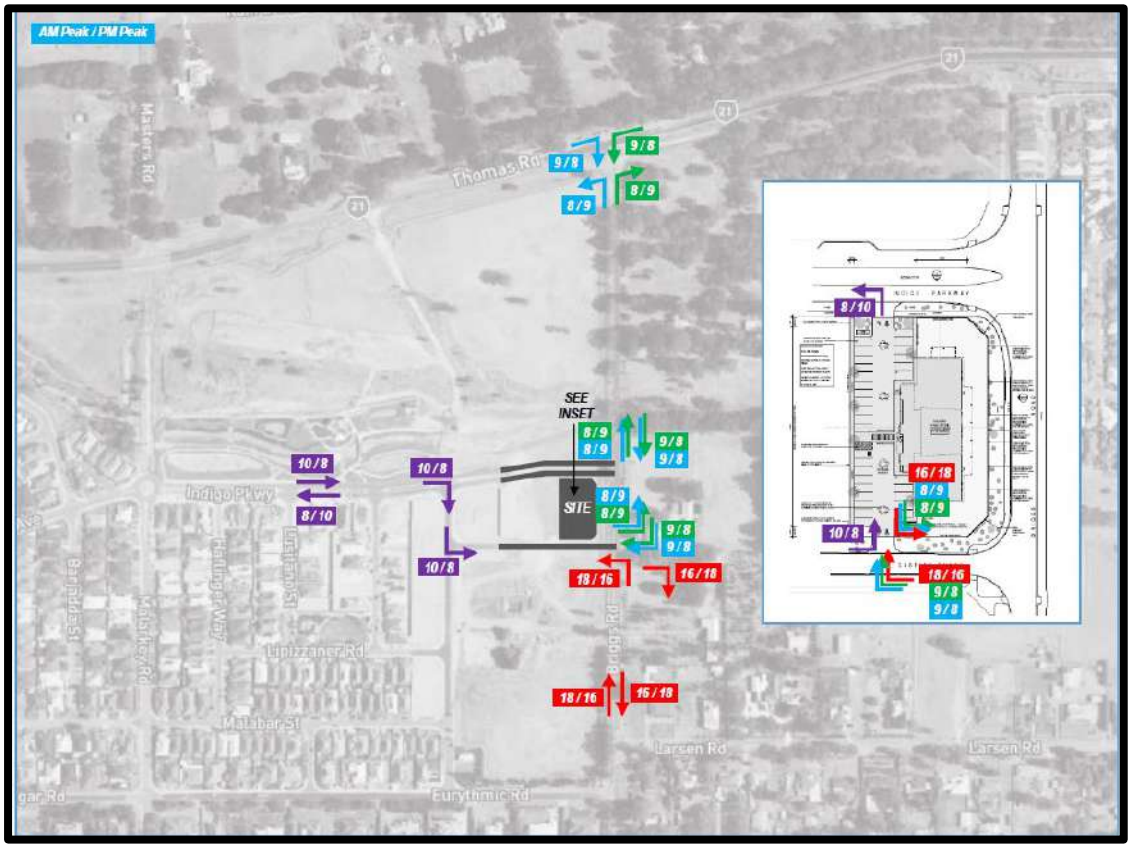
To assess the increased traffic movements on the road network and potential safety issues, a Transport Impact Statement (TIS) was provided with the application, which can be viewed within the attachments to this report. The TIS assessed traffic generated by the proposed development and its potential impact on the overall performance of the existing and future surrounding local road network. This includes the current state

of Briggs Road, Indigo Parkway Way, and Caspian Chase. Briggs Road is a Local Distributor Road and Indigo Parkway is an Access Road. Based on the approved LSP covering the site, Indigo Parkway will be upgraded to a Local Distributor and Caspian Chase will be an Access Road. Consistent with the planning for Byford and protection of the Byford Trotting Complex, Briggs Road is not intended to function as a Local Distributor Road, and has been carrying traffic associated with movements between Thomas Road and Abernethy Road, due to the delays in realising the ultimate traffic network as development of Byford continues. These issues are discussed following, including the rationale for various conditions dealing with road upgrades.

Existing Network

The findings on the volume of traffic likely to be generated by the proposal to the site, based on the existing network was estimated using available trip generation rates from the Institute of Transportation Engineers (ITE). The TIS identifies that the development will generate 450 vehicle trips per day within the local catchment. The AM peak period generating 86 vehicle trips to the site and a PM peak flow of 87 trips generated. The movements to the site with to and from the site as follows and as depicted on the diagram:

- 40% north along Briggs Road split evenly in both directions along Thomas Road
- 40% south along Briggs Road / Larsen Road / Eurythmic Road
- 20% west along Indigo Parkway



The predicted AM/PM trip generation peak periods fall under the 'moderate impact' category according to WAPC Transport Impact Assessment Guidelines.

This moderate impact, however, will in the opinion of officers exacerbate the section of Briggs Road which is not being upgraded to a suitable standard to accommodate the planned increase in traffic. There is a 160m section of Briggs Road south of

Caspian Chase, that is designated as 'Very Poor' according to the 2023 asset data capture. The current engineering drawings that will create the subject site, result in upgrades north of Caspian Chase, but not south. The section of concern is shown following:

As the approved engineering drawings within the attachments for the adjoining subdivision do not indicate the upgrade to this section of Briggs Road, officers are of the opinion that the road upgrade standard north of Caspian Chase, needs to be continued south of Caspian Chase by 160m to eliminate the risk posed by the very poor section of road.

Without a suitable upgrade, the very poor section of Briggs Road will, in the opinion of officers, be a risk exacerbated by the intensification of traffic proposed by the development. Accordingly, a condition is recommended to require the upgrade to this section of road, in order to create an acceptable road and pedestrian infrastructure outcome.

The WAPC Transport Impact Assessment Guidelines (2016) provides guidance on the assessment of traffic impacts:

> "*As a general guide, an increase in traffic of less than 10 per cent of capacity would not normally be likely to have a material impact on any particular section of road but increases over 10 per cent may. All sections of road with an increase greater than 10 per cent of capacity should therefore be included in the analysis. For ease of assessment, an increase of 100 vehicles per hour for any lane can be considered as equating to around 10 per cent of capacity. Therefore, any section of road where development traffic would increase flows by more than 100 vehicles per hour for any lane, should be included in the analysis.*"

In Officers assessing this aspect of the TIS, the actual deteriorated section of Briggs Road does not represent a current infrastructure standard that can safely manage the planned increase in traffic. To address this aspect, a road upgrade is needed to enable the proposed development to safely operate based on the expected traffic demands which show in the interim period 40% of traffic coming from the south.

Future network

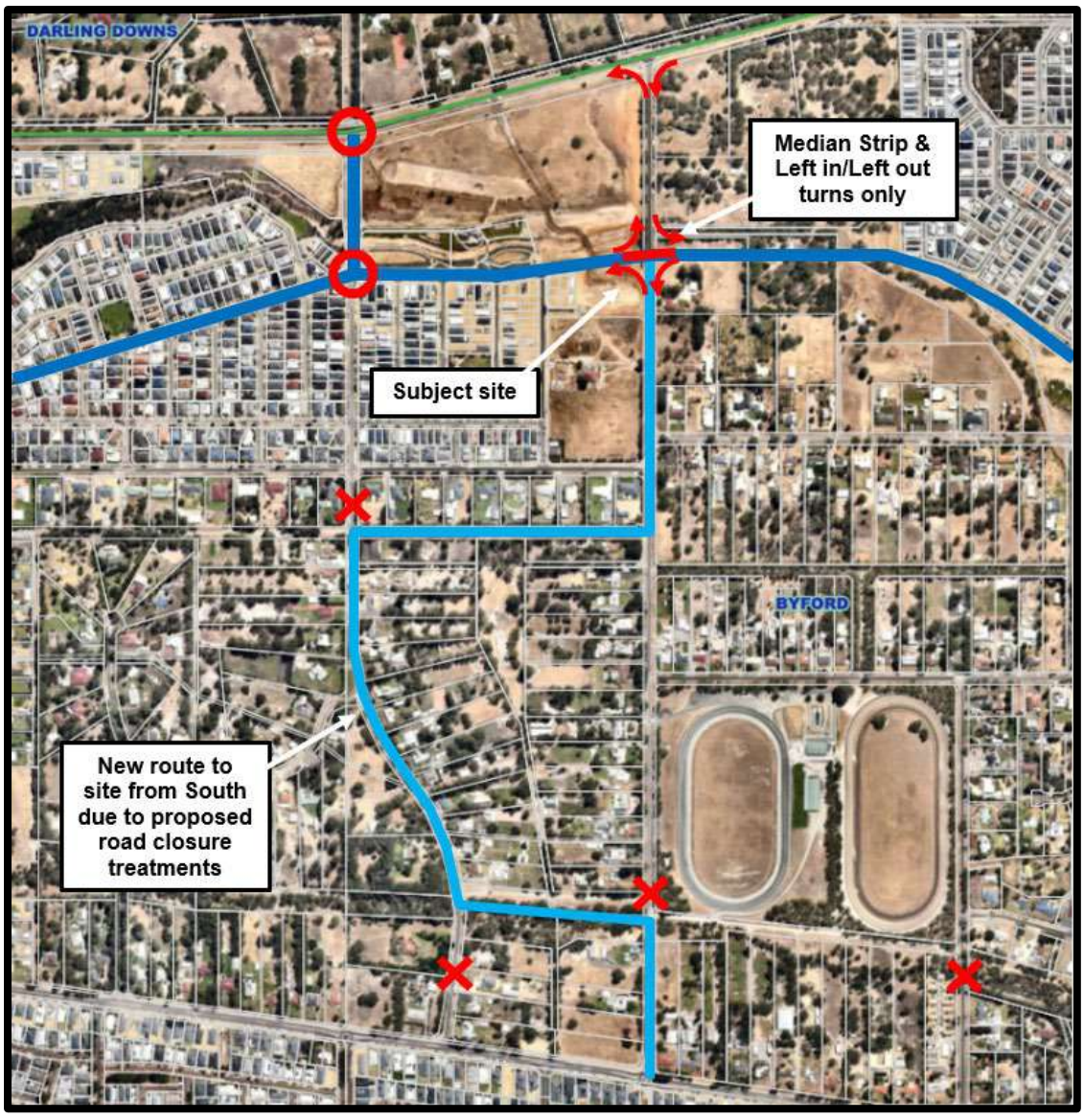
In the longer term, various proposed changes to the surrounding road network will redistribute the child care centre traffic. This is based upon the approved Byford DSP,

which depicts the ultimate network structure which aims to avoid traffic flows running through the Byford Trotting Complex along Briggs Road and Malarkey Road.

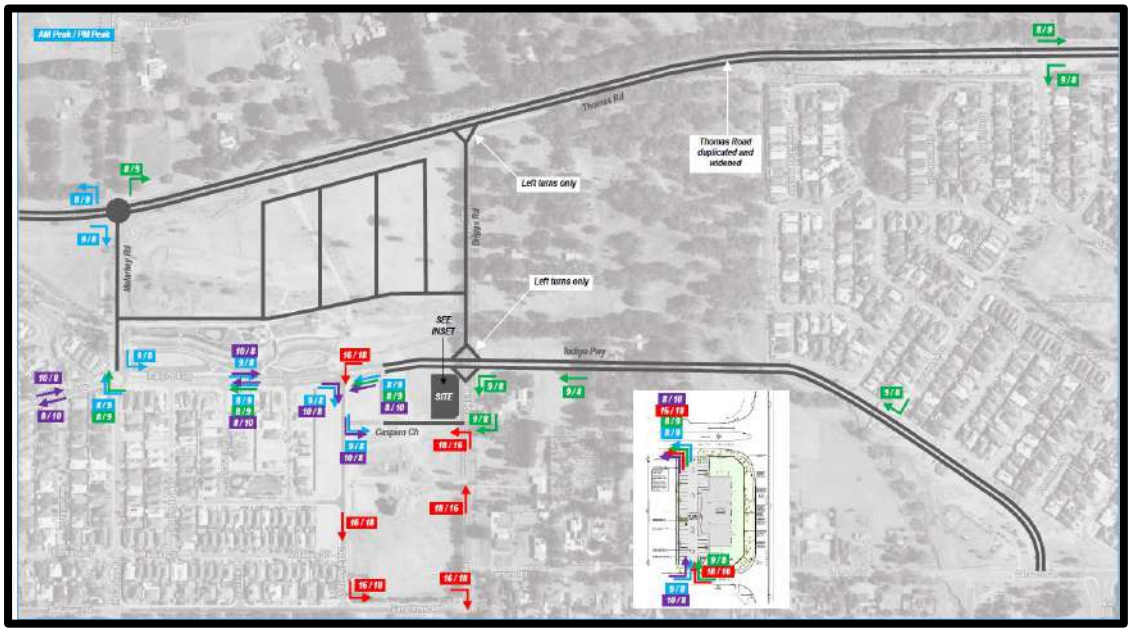
The changes to the network in the future are as follows:

- Thomas Road / Briggs Road intersection will be modified to only allow left turns.
- Briggs Road north of Abernethy Road will be modified to limit through traffic in the Byford Trotting Complex.
- Malarkey Road will be extended north to Thomas Road, and new roundabouts will be constructed on Thomas Road at Malarkey Road/Master Road and Kardan Boulevard.
- The Thomas Road / Plaistowe Boulevard intersection will be signalised.
- The median strip along Indigo Parkway will be extended across Briggs Road to block right turns and through movements along Briggs Road.

The long-term changes to the road network is depicted in the diagram below:



The estimated distribution over the long-term traffic network is seen below:



As shown, the proposed development will not increase the traffic volume on any particular section of the road by more than 100 vehicles per hour and provided the previously mention condition of upgrading the 160m section of Briggs Rd occurs, the development is unlikely to have an adverse impact on the road network in the future.

Local Planning Policy 1.6 - (LPP 1.6) - Public Art for Major Developments

The objective of LPP1.6 is to facilitate per cent for art to enhance public enjoyment, engagement and understanding of places through the integration of public art. The policy sets out the requirements for physical and financial contributions for public art for any development valued at $1 million or greater.

Officers note that the applicant has not provided any details for a public art feature within the design of the development. Should the application be approved, a percentage for art condition of development approval would be recommended by way of a condition, consistent with the policy.

Local Planning Policy 4.11 (LPP4.11) - Advertising

Local Planning Policy LPP 4.11 - Advertising sets out development standards and requirements for advertisements. The plans, as submitted, have identified nominal wall signage for the proposal integrated into the façade of the development. No detailed drawings of the signage were provided with the application.

If the application is approved, a signage plan will be required to be prepared and approved prior to operation of the development, to ensure any signage is compliant with the policy.

Local Planning Policy 4.15 (LPP4.15) - Bicycle Facilities

LPP4.15 provides guidance to developers on the design and requirements of bicycle parking and end of trip facilities for each specific land use. In accordance with the policy, bicycle facilities are to be provided in accordance with Schedule 1 of the policy.

Officers note that the applicant has not provided any details or provisions for a bicycle rack. If the application were to be approved, the applicant would be required to comply with the requirements of the policy.

Local Planning Policy 2.4 - Water Sensitive Design

LPP2.4 aims to maximise water efficiency by encouraging best practice urban water management methods. The policy aims to ensure water sensitive design best management practices are implemented for new developments with the Shire.

A Stormwater and Drainage Management Plan (SMP) will be required, demonstrating how stormwater is managed and shall be provided prior to issue of a Building Permit.

Local Planning Policy 24 (LPP24) - Designing Out Crime

LPP24 encourages commercial development to incorporate principles of Crime Prevention through Environmental Design (CPTED). LPP24 sets out five key crime prevention principles that are to be applied to different levels of the planning framework according to the policy. A development application needs to be assessed against the principles of the policy. The principles relate to surveillance, access control, territorial reinforcement, target hardening, management, and maintenance.

It is considered that the corner location of the site affords the site with a high level of passive surveillance. In addition, proposed activity spaces and outdoor play areas face public streets and facilitate passive surveillance over the public realm.

State Planning Policy 3.7 - Planning in Bushfire Prone Areas

SPP3.7 provides the requirements and guidelines for development within areas identified as bushfire prone. The subject site is located within a designated bushfire prone area in accordance with the Department of Fire and Emergency Services (DFES) Map of Bushfire Prone Areas. SPP3.7 seeks to ensure the risk of bushfire to developments is considered and mitigated through the development assessment process.

Pursuant to the provisions of SPP3.7, the application included a Bushfire Management Plan (BMP) for the subject site. The BMP which can be viewed within the attachments states that on completion the proposed childcare center is expected to achieve a compliant BAL-29 or lower outcome, under the vegetated scenario.

As a Child-Minding Centre is a vulnerable land use, the application has been referred to DFES for assessment. DFES has recommended modifications to be undertaken to the submitted Bushfire Management Plan. These modifications primarily relate to the justification on the classification of vegetation plots on the west that have been excluded and management of vegetation within the Public Open Space. The BMP currently excluded these plots and identified vegetation within them as a low threat. Officers consider vegetation within the public open space would be maintained to an appropriate APZ standard by the Shire.

Development Contributions (DCA1)

This development falls within the development contribution area DCA1 (Area A) and as such is required to contribute towards the cost of common infrastructure under the Byford Traditional Development Contribution Plan.

Under a Development Application (as opposed to a subdivision), contributions are calculated on the current lot area on which the development is situated, giving a lot “yield” for the site. The liability to pay the contribution is triggered at the building permit stage, and thus the DCP payment will be applied as a development condition needing to be met prior to the issue of a Building Permit.

Conclusion:
Officers consider that the development is consistent with the planning framework, provided conditions are imposed to address the relevant incidental matters that relate to the proposed development. The proposed development will increase the child care services and provide employment opportunities for the local community that will assist

to support the population growth within the Shire. Officers are satisfied that the conditions recommended will address concerns raised during public submissions and it is considered to not adversely impact upon the existing amenity of the area.

As such, for the reasons outlined in the report, it is recommended that the application be approved subject to conditions.

Alternatives

In accordance with clause 17(4) of the Regulations, the JDAP may determine an application by either approving the application (with or without conditions) or refusing the application.

Should the JDAP resolve to refuse the application, this determination needs to be made based on valid planning considerations as outlined under clause 67 of the Planning and Development (Local Planning Schemes) Regulations 2015 and as set out in the Development Assessment Panel Practice Notes: Making Good Planning Decisions.

However, as outlined in the report sections above, the Shire consider that the proposal, is consistent with the planning framework. The proposal is not considered to adversely impact on the amenity of neighbouring properties and the general locality and is compatible with the locality and it is therefore recommended that the application be approved.

Officer Recommendation

That Council RESOLVES the following Responsible Authority Recommendation:

1. That the Metro Outer Joint Assessment Panel APPROVES the development application for the construction of a 'Child Minding Centre' at Lot 9511 Briggs Road, Byford subject to the following conditions:

a. The development is to be carried out in compliance with the plans and documentation listed below, except where amended by other conditions of this consent.

Plans and Specifications	Development Plans received at the Shire Offices on 22 February 2023 and 21 April 2023. Updated Transport Impact Statement received at the Shire Offices on 21 April 2023. Environmental Acoustic Assessment dated 30 January 2023 received at the Shire Offices on 22 February 2023. Bushfire Management Plan received at the Shire's Offices on 22 February 2023.

b. The maximum number of children on the premises shall not exceed 110.

c. The operating hours shall be between 6:30am and 7:00pm, Monday to Friday.

d. Prior to issue of a Building Permit, the subject lots being amalgamated to create one single allotment.

e. Prior to issue of a building permit, detailed plans being submitted to and approved by the Shire, depicting the following road and footpath infrastructure upgrades:

   (i) The full extension of Indigo Parkway to Briggs Road as a 'T' intersection with a median strip constructed up to Briggs Road;

(ii) The full extension of Caspian Chase as a 'T' intersection up to Briggs Road;

(iii) The existing footpath on Larsen Road being extended west across Briggs Road, then north to connect with the footpath infrastructure across the full frontage of the development site;

(iv) The 160m section of Very Poor Condition of Briggs Road from Caspian Chase south, being upgraded to match the upgrades occurring north of Caspian Chase, as shown on Drawing Number BYFGGC12-R01 (attachment 8). This includes a road upgrade to that section of road, to become a sealed, kerbed and drained road, with concrete footpath on the western side verge.

Once approved, the applicant must undertake and complete all infrastructure upgrade works prior of the commencement of the development's operations.

f. Prior to the occupation of the development, vehicle parking areas, access ways and crossovers shall be designed, constructed, sealed, kerbed, drained and line marked in accordance with the approved plans and thereafter maintained to the satisfaction of the Shire of Serpentine Jarrahdale.

g. A minimum of one car parking bay is to be provided and marked for the exclusive use of vehicles displaying government issued disabled parking permits. Such bay shall be located conveniently to the principal building entrance and designed in accordance with the relevant Australian Standard.

h. Prior to issue of a Building Permit, the applicant shall submit a Noise Management Plan to the specifications and satisfaction of the Shire of Serpentine Jarrahdale. The Noise Management Plan shall be prepared to ensure appropriate measures are designed and implemented for the development to achieve compliance with the *Environmental Protection (Noise) Regulations 1997,* with particular regard to the following points:

(i) The design of the wall on the west side of the carpark;

(ii) The management of outdoor play areas;

(iii) The management of indoor activities;

(iv) The design and shielding of mechanical plant;

(v) Parking arrangement for drop off before 7:00am.

Once approved, the Noise Management Plan shall be implemented in its entirety to the satisfaction of the Shire. The plan shall demonstrate the development incorporating all design and operational recommendations as specified within the Environmental Acoustic Assessment, to the satisfaction of the Shire of Serpentine Jarrahdale where associated with construction requirements integrated into plans submitted for a building permit.

i. Prior to issue of a Building Permit, a Waste Management Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. Once approved, the Waste Management Plan shall be implemented in its entirety to the satisfaction of the Shire.

j. Prior to the issue of a Building Permit, a Landscape and Revegetation Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. This is required to include the full extent of verge adjoining the development site. Once approved, the Landscape and Revegetation Plan shall be implemented in its entirety and maintained thereafter by the operator, to the Shire's satisfaction.

k. Prior to the issue of a Building Permit, a Stormwater Management Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. All stormwater shall be directed so stormwater is disposed of within the property. Direct disposal of stormwater onto the road, neighbouring properties, watercourses and drainage lines is not permitted. Stormwater may be managed through either soak wells, raingardens or a combination of the two.

l. Prior to issue of a Building Permit, a Signage Strategy must be submitted to and approved by the Shire of Serpentine Jarrahdale. The Strategy shall demonstrate compliance with Local Planning Policy No 4.11 - Advertising Signs. Once approved, signage shall be displayed and maintained in accordance with the Strategy.

m. Prior to occupation of the development, the provision of percent for art being provided in accordance with Local Planning Policy 1.6 - Public Art for Major Developments to the satisfaction of the Shire.

n. Arrangements being made with the Shire of Serpentine Jarrahdale for the landowner/ applicant to contribute towards the costs of providing common infrastructure, as established through Amendment 208 (once gazetted) to Shire of Serpentine Jarrahdale Town Planning Scheme No. 2.

o. Prior to issue of a Building Permit, the landowner/applicant contributing towards development infrastructure, pursuant to the Shire of Serpentine Jarrahdale Town Planning Scheme No. 2.

p. Prior to issue of a Building Permit, a Construction Management Plan is to be submitted to and approved by the Shire of Serpentine Jarrahdale. The Plan should address the following matters:

    (i) Management of car parking, delivery vehicles and traffic associated with the construction of the development.

    (ii) Management of dust and noise.

Reasons for Officer Recommendation

Officer's recommendation differs from Council's, as Council included pedestrian crossing lights in consideration of Local Planning Policy 4.24 and the Department of Planning, Lands and Heritage Planning Bulletin 72/2009.

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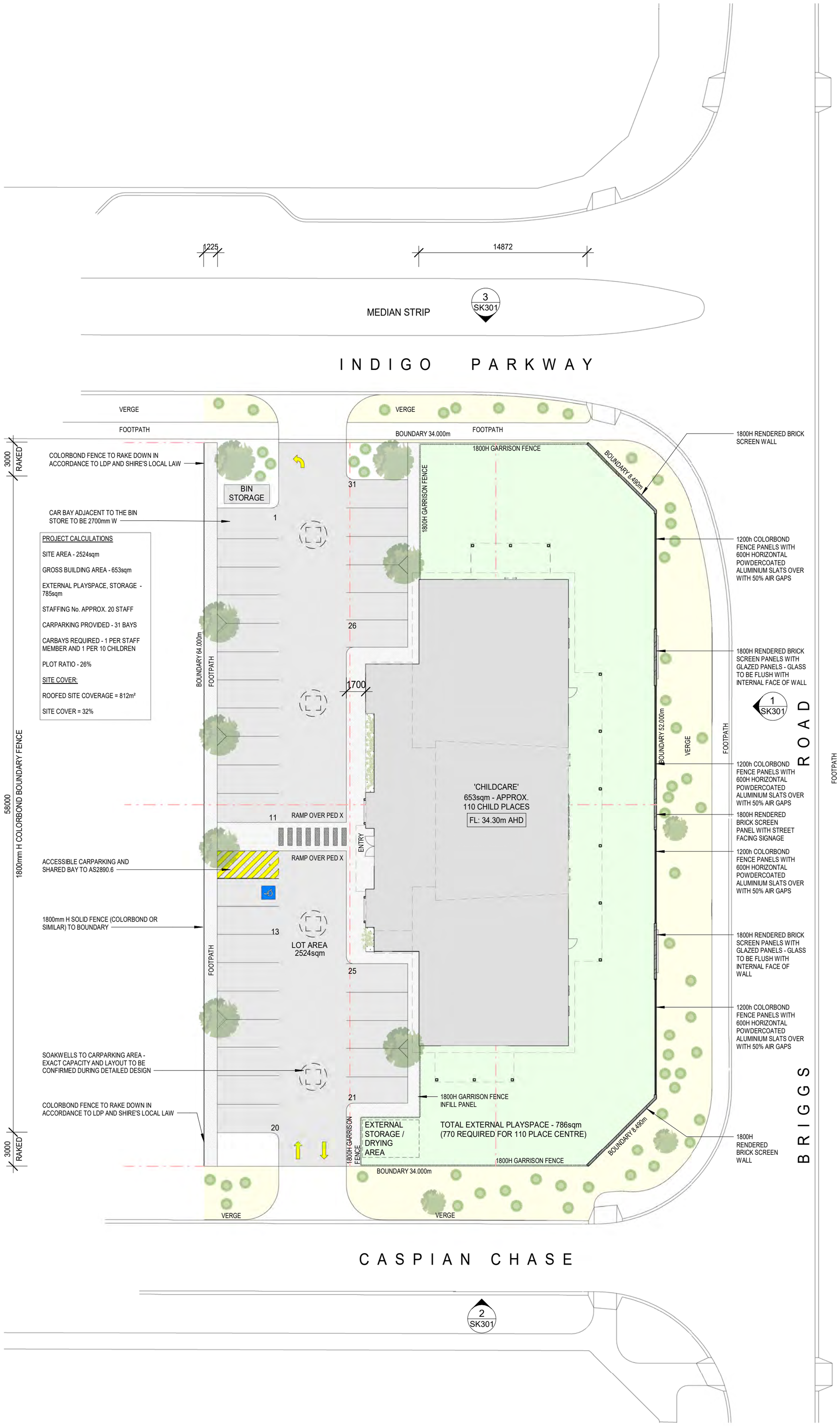

1 - PROPOSED SITE PLAN

SCALE1 : 250

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PROPOSED SITE PLAN PROPOSED CHILDCARE CENTRE BRIGGS ROAD EAST PRECINCT - LOTS 367, 368, 369, 371, 372, 373	
DESIGN	CG
DRAWN	CG
CHECKED	CG
SCALE	1 : 250
DATE	FEBRUARY 2023
A2	
MODUS PROJECT	D22-1649
REVISION	H
DWG	SK100

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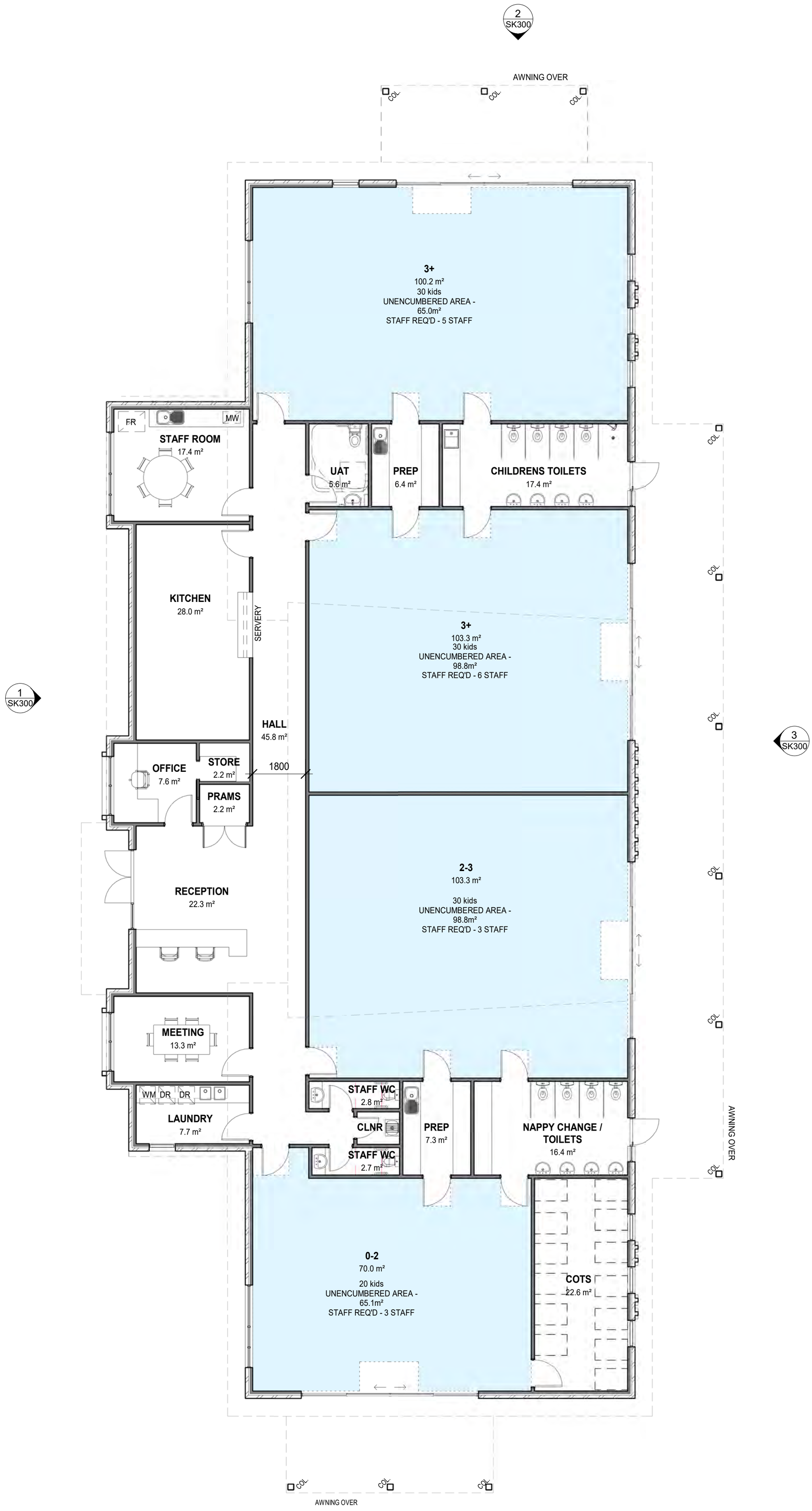

A
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PROPOSED FLOOR PLAN

SCALE 1 : 100

modus design pty ltd

FLOOR PLAN
PROPOSED CHILDCARE CENTRE
BRIGGS ROAD EAST PRECINCT - LOTS
367, 368, 369, 371, 372, 373

DESIGN	CG
DRAWN	JP
CHECKED	CG
SCALE	1 : 100
DATE	FEBRUARY 2023

A2

MODUS PROJECT	D22-1649
REVISION	F
DWG	SK200

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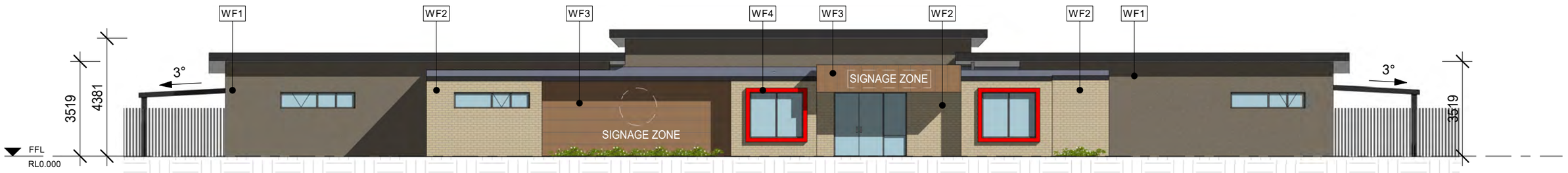
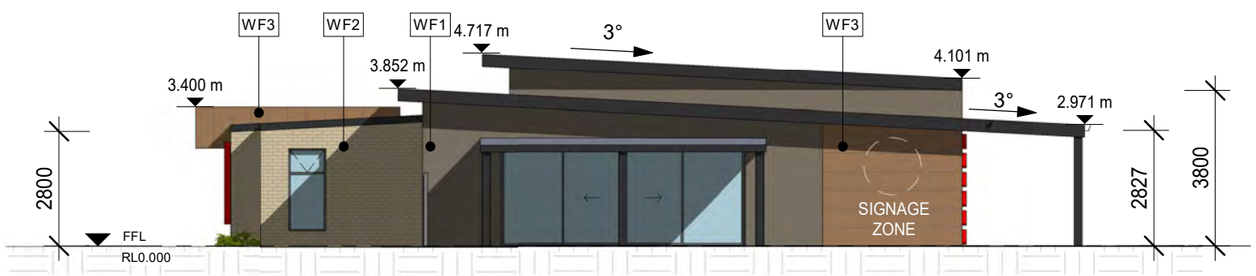
EXTERNAL FINISHES SCHEDULE

	WF01	BLOCKWORK (RENDERED) RENDER COLOUR - DULUX 'COLORBOND GULLY'
	WF02	BRICKWORK BEIGE FACE BRICK
	WF03	TIMBER LOOK CLADDING BGC 'MONTAGE' WOODGRAIN - LIGHT TEAK
	WF04	FEATURE CLADDING (RED) JAMES HARDIE 'EXOTEC' PANEL COLOUR - DULUX 'RED CLOWN' GLOSS FINISH
	WF05	FEATURE CLADDING (BLUE) JAMES HARDIE 'EXOTEC' PANEL COLOUR - DULUX 'PEPTALK' GLOSS FINISH



1 A002 WEST ELEVATION
SCALE1 : 150

2 A002 NORTH ELEVATION
SCALE1 : 150



4 A002 SOUTH ELEVATION
SCALE1 : 150

3 A002 EAST ELEVATION
SCALE1 : 150

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ELEVATIONS
PROPOSED CHILDCARE CENTRE
BRIGGS ROAD EAST PRECINCT - LOTS
367, 368, 369, 371, 372, 373

DESIGN	CG
DRAWN	CG
CHECKED	CG
SCALE	1 : 150
DATE	FEBRUARY 2023

A2

MODUS PROJECT	D22-1649
REVISION	F
DWG	SK300

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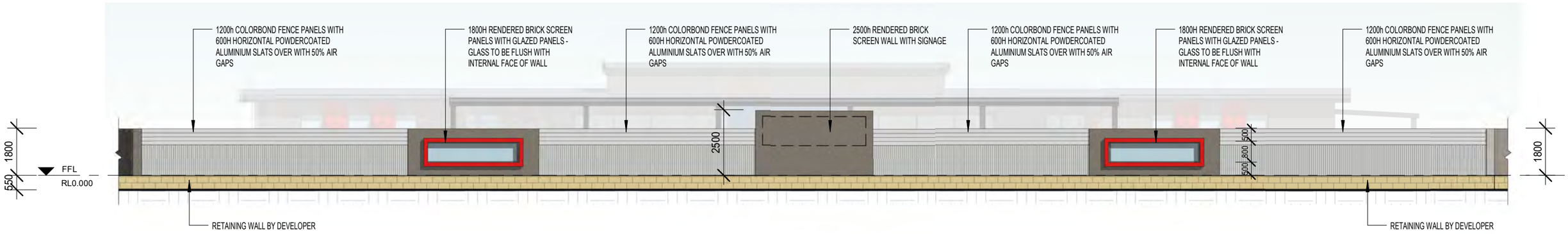
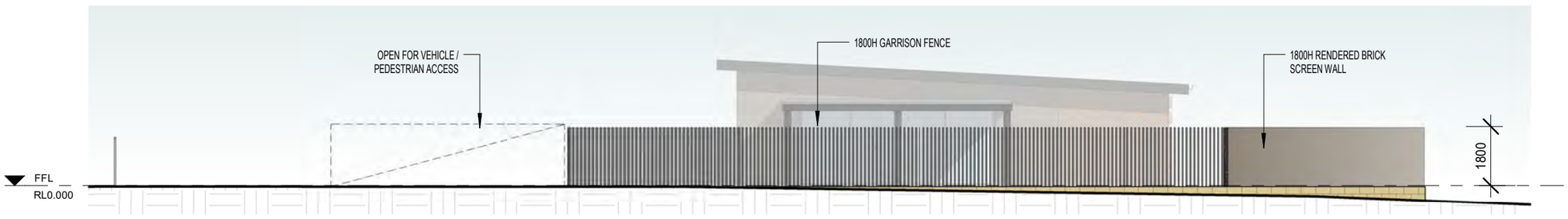


1 A002 **1 - BRIGGS ROAD SCREEN WALL ELEVATION**

SCALE1 : 150



2 A002 **2 - CASPIAN CHASE SCREEN WALL ELEVATION**

SCALE1 : 150

3 A002 **3 - INDIGO PARKWAY SCREEN WALL ELEVATION**

SCALE1 : 150

modus design pty ltd

SCREEN WALL ELEVATIONS
PROPOSED CHILDCARE CENTRE
BRIGGS ROAD EAST PRECINCT - LOTS
367, 368, 369, 371, 372, 373

DESIGN	JP
DRAWN	BF
CHECKED	CG
SCALE	1 : 150
DATE	FEBRUARY 2023

A2

MODUS PROJECT	D22-1649
REVISION	A
DWG	SK301

SUMMARY OF SUBMISSIONS

PA23/153 – Lot 9511 Briggs Road, Byford - JDAP - Child Minding Centre

Submitter	No	Submitter Comments	Applicant Comment	Officer Comments
Water Corporation		Thank you for sending through the development application proposal for Lot 9511 Briggs Road, Byford - Proposed Child Minding Centre Please be advised that the site is not currently serviced with water or wastewater. Delivery of reticulated water and wastewater infrastructure is required to satisfy conditional approval of proposed subdivision WAPC 161405. Water and wastewater reticulated infrastructure will be designed and delivered in accordance with current long term scheme planning suitable for servicing the proposed child minding centre.	Noted	Conditions have been included to ensure that issues raised will be addressed.
DPLH – Westport Division		The Transport Planning section of the Department has no formal comments to provide as the subject section of Thomas Road to the north is now under the control of Main Roads WA.	Noted	Noted - Main Roads WA had no objections.
DFES		I refer to your email dated 1 March 2023 regarding the submission of a Bushfire Management Plan (BMP) (Version 0), prepared by Linfire and dated 22 February 2023, for the above development application. This advice relates only to State Planning Policy 3.7: Planning in Bushfire Prone Areas (SPP 3.7) and the Guidelines for Planning in Bushfire Prone Areas (Guidelines). It is the responsibility of the proponent to ensure the proposal complies with relevant planning policies and building regulations where necessary. This advice does not exempt the applicant/proponent from obtaining approvals that apply to the proposal including planning, building, health or any other approvals required by a relevant authority under written laws.	Response proved from Linfire Consultancy addressing comments received from DFES on the proposed development.	Discussed in the main report. The applicant provided a response to DFES concerns.

<table>
<tr><th>Submitter</th><th>No</th><th>Submitter Comments</th><th>Applicant Comment</th><th>Officer Comments</th></tr>
<tr><td></td><td></td><td>

Assessment

1. Policy Measure 6.5 a) Preparation of a BAL assessment

<table>
<tr><th>Issue</th><th>Assessment</th><th>Action</th></tr>
<tr><td>Vegetation Classification</td><td>Evidence to support the exclusion of Plots 8 and 9 in their entirety, in particular the area to the west of the site, as managed to low threat in accordance with AS3959 is required. The BMP notes that assumptions have been made relating to these areas being excludable, however no evidence has been provided to support this.

In particular, Plots 8 and 9 appear to contain grassland, which requires ongoing management until development of residential lots.

An enforceable mechanism is required to provide certainty that the proposed management measures can be achieved in perpetuity and that they are enforceable.</td><td>Insufficient information. The decision maker to be satisfied with the vegetation exclusions proposed.</td></tr>
<tr><td>Vegetation Classification</td><td>The BMP states that Plot 6 to the north of the site has been conservatively classified as grassland, with a strip of woodland. It is noted that this area is planned to be Public Open Space but no further information is available to</td><td>Insufficient information. The decision maker to be satisfied with the vegetation</td></tr>
</table>

</td><td></td><td></td></tr>
</table>

Submitter	No	Submitter Comments	Applicant Comment	Officer Comments
		confirm the nature of the area at maturity. Evidence should be included in the BMP to qualify the future vegetation classification, for example confirmation of management of the reserve by the responsible authority. An enforceable mechanism is required to provide certainty that the proposed management measures can be achieved in perpetuity and that they are enforceable.	management proposed.	
		Issue / **Assessment** / **Action** **Bushfire Emergency Evacuation Plan (BEEP)** / The referral has included a 'Bushfire Emergency Evacuation Plan' for the purposes of addressing the policy requirements. Consideration should be given to the Guidelines Section 5.5.4 'Developing a Bushfire Emergency Evacuation Plan'. This contains detail regarding what should be included in a BEEP and will ensure the appropriate content is detailed when finalising the BEEP to the satisfaction of the Shire. / Comment Only		

Submitter	No	Submitter Comments	Applicant Comment	Officer Comments
		DFES Built Environment Branch As the proposed building is to be Class 9b and to be used for childcare, plans will need to be provided to DFES Built Environment Branch for assessment as required by Regulation 18B of the Building Regulations 2012 (as amended). As the total floor area of the proposed building exceeds 500m2, unless compliant fire separation in accordance with BCA Clause C2.7(b) is demonstrated, hydrant and hose reel coverage will need to be provided to this building. The pressure/flow requirements of these will be based upon DFES Operational Requirements (and based on the relevant specifications of AS2419.1-2005). **Recommendation – Insufficient information** Given the proposed development application has the potential to increase the threat of bushfire to people, property and infrastructure, the decision maker should ensure the bushfire risk and bushfire protection measures are established and understood before making a determination. Consequently, the decision maker should require that the BMP addresses the policy requirements of SPP3.7 and the Guidelines to inform decision making. As this planning decision is to be made by a Development Assessment Panel, please forward notification of the decision to DFES for our records.		
Main Roads		In response to correspondence received on 15 March 2023 please be advised Main Roads has no objections. Main Roads requests a copy of the Shire's final determination on this proposal to be sent to planninginfo@mainroads.wa.gov.au .	Noted	Noted
DWER		The Department has identified that the proposed child minding centre has the potential to impact water resource values and/or management. In principle the Department does not object to the proposal however key	Noted	The main report recommends that a Stormwater and

Submitter	No	Submitter Comments	Applicant Comment	Officer Comments
		issues, recommendations and advice are provided below and these matters should be addressed. **Issue** Stormwater Management **Advice** The development proposal should give due regard to https://www.sjshire.wa.gov.au/documents/30/lpp-24-water-sensitive-design (Shire of Serpentine Jarrahdale, 2018). Stormwater within the carpark area should be managed in accordance with the https://www.wa.gov.au/government/publications/decision-process-stormwater-management-western-australia (DWER 2017) and the https://www.wa.gov.au/government/publications/stormwater-management-manual-western-australia (DWER, 2022). Consistent with these documents, the Department recommends that the first 15mm of stormwater runoff passes through a water quality treatment process, such as rain gardens or tree pits, before infiltration. The Landscaping Plan attached to the Application for Development Approval indicates this may be feasible. **Issue** Noise Assessment Report **Advice** The Department's technical review of the Environmental Acoustic Assessment dated 31 January 2023 prepared by Herring Storer Acoustics will be provided as a separate document at a later date. In the event there are modifications to the proposal that may have implications on aspects of environment and/or water management, the Department should be notified to enable the implications to be assessed.		Drainage Management Plan (SMP) be submitted demonstrating how stormwater is managed and shall be provided prior to issue of a Building Permit.
Department of Education		The Department is generally supportive of childcare facilities located within proximity to public schools, however careful planning consideration needs	Noted	Noted

Submitter	No	Submitter Comments	Applicant Comment	Officer Comments
		to be given to the potential impact that these facilities may have on nearby schools in terms of safety and amenity. The subject site is located adjacent the future Byford North Central Primary School (Primary School) site. Given the minimal impact this proposal will have to the surrounding road network and parking in the area, it is anticipated that the proposed development will have no adverse impact on the future Primary School site. In view of the above, the Department has no in principle objections to the proposal.		
A398229		We have **NO** objection to Lot 9511 Briggs Road, Byford building a child minding centre	Noted	Noted
A404541		We do not object to this proposal in principle, however, we think there needs to be an upgrade to the Briggs Street and Thomas Road intersection, and Briggs Road itself to Abernethy Road for the below reasons: • The Childcare Centre proposed for the site along Briggs Road is bound to place more traffic volume through the already dangerous intersection of Briggs Road and Thomas Road, Briggs Road is also very narrow and in poor condition. • The upgrade to the above mentioned roads would hopefully also encourage traffic which currently use Eurythmic Road, Malarkey Road, Ballawara Avenue and Kardan Avenue as a "rat run" from Thomas Road through to the Abernethy Road schools and shops area to use a newly created more streamlined option. • A reduction, or at least no increase in traffic along 4 suburban streets and intersections is surely a safety positive	We note that this submission does not relate to the childcare itself, but the associated traffic implications on surrounding roads. Traffic will be increased as part of the Structure Plan development anyway, and the location of the child care will not affect the increase in traffic volumes. Main Roads WA are currently planning the upgrade of Thomas Road, including upgrade	Discussed in the traffic section of the report. The north access/egress arrangement has been modified from the plans that were advertised, to respond to concerns regarding potential localised congestion. In this regard, to avoid possible queuing and congestion at the intersection of Briggs Road/Indigo Parkway for those vehicles wanting to access the

SUMMARY OF SUBMISSIONS
PA23/153 – Lot 9511 Briggs Road, Byford - JDAP - Child Minding Centre

Submitter	No	Submitter Comments	Applicant Comment	Officer Comments
			of the Thomas Road / Briggs Road intersection which will become a left-in / left-out intersection. The indicative timing of construction is 2025-2027 (subject to approvals and other matters). Any upgrade or widening of Briggs Road should be addressed during the subdivision stage. It is likely that Briggs Road will be upgraded to an urban standard with kerbing once the adjacent land is subdivided.	site in a southbound direction on Briggs Road, the northern crossover has been modified to a left-out arrangement only. The proposed median strip as part of the design of Indigo Parkway at this section will also restrict the movement to left out only.
A398341		Will Briggs Road be widened as it is only a single lane carriageway with table trains on either side making it dangerous to overtake a turning vehicle. Our concern lies with the congestion of traffic this will cause.	As above, any upgrade or widening of Briggs Road should be addressed during the subdivision stage. It is likely that Briggs Road will be upgraded to an urban standard with kerbing once the adjacent land is subdivided. This will prevent overtaking of turning vehicles.	This matter has been discussed in the traffic section of the report. To address the concerns raised a condition of approval has been recommended to require the full upgrade to the 160m section of Very Poor Condition of Briggs

SUMMARY OF SUBMISSIONS
PA23/153 – Lot 9511 Briggs Road, Byford - JDAP - Child Minding Centre

Submitter	No	Submitter Comments	Applicant Comment	Officer Comments
				Road from Caspian Chase south, being upgraded to match the upgrades occurring north of Caspian Chase section of road between Indigo Parkway and Eurythmic Road

Deemed Provisions – Cl 67 Matters to be considered by local Government

Land Use:

a) The aims and provisions of this Scheme and any other local planning scheme operating within the area	YES ☒	NO ☐	N/A ☐

Comment: The proposed development is considered to be generally consistent with the aims and provisions of the Scheme. The proposal falls within the TPS2 definition of 'Child Minding Centre', which means:

> **"*Child Care Centre – means land and buildings used for the daily or occasional care of children in accordance with the Child Welfare (Care Centres) Regulations, 1968 (as amended) but does not include a family care centre as defined by those regulations, or an institutional home*".**

The Child-Minding Centre' land use is a 'SA' land use in the 'Residential' zone which means, "*that Council may, at its discretion, permit the use after notice of the application has been given in accordance with Clause 64 of the Deemed Provisions*."

b) The requirements of orderly and proper planning including any proposed local planning scheme or amendment to this Scheme that has been advertised under the *Planning and Development (Local Planning Schemes) Regulations 2015* or any other proposed planning instrument that the local government is seriously considering adopting of approving	YES ☒	NO ☐	N/A ☐

Comment: The proposed development is considered to be generally consistent with the Draft Local Planning Scheme No.3 and the Local Planning Strategy. The zoning of the subject site under draft Local Planning Scheme No.3 (LPS3) will remain 'Urban Development'. The proposal would still fall under the land use of 'Child Care Premises' which is defined as:

> ***"means premises where –***
>
> ***(a) an education and care service as defined in the Education and Care Services National Law (Western Australia) Section 5(1), other than a family day care service as defined in that section, is provided; or***
>
> ***(b) a child care service as defined in the Child Care Services Act 2007 section 4 is provided".***

c) any approved State planning policy	YES ☒	NO ☐	N/A ☐

Comment: Planning Bulletin 72/2009 – Child Care Centres. The proposal is generally consistent with the provisions of the bulletin. The proposal adjoins a future school site to the south and is located approximately 400metres from the Byford Meadows Neighbourhood Centre precinct within a medium density housing environment. It is serviced by Transperth bus routes on Eurythmic Boulevard west of Briggs Road, approximately 350 metres walking distance from the site.

d) any environmental protection policy approved under the *Environmental Protection Act 1986* section 31(d)	YES ☐	NO ☐	N/A ☒

Comment:

e) any policy of the Commission	YES ☐	NO ☐	N/A ☐
Comment:			

f) any policy of the State	YES ☐	NO ☐	N/A ☒
Comment:			

g) any local planning policy for the Scheme area	YES ☒	NO ☐	N/A ☐

Comment:

- **Local Planning Policy 1.6 – Public Art for Major Developments (LPP 1.6**
- **Local Planning Policy 4.11 – Advertising Policy (LPP4.11)**
- **Local Planning Policy 2.4 – Water Sensitive Design (LPP2.4**
- **Local Planning Policy 24 (LPP24) – Designing Out Crime Local Planning Policy 4.16 –**
- **Landscape and Vegetation Policy (LPP4.16);**
- **Policy 1.4 – Public Consultation on Planning Matters;**
- **Local Planning Policy 4.24 - Child Minding Centres (LPP4.24)**

The proposal has been assessed against these policies as discussed in the main report.

h) any structure plan, activity centre plan or local development plan that relates to the development	YES ☐	NO ☐	N/A ☐

Comment:

- **Byford District Structure Plan 2020**
- **Lot 9500 Thomas Road, Byford Local Structure Plan**
- **Draft Shire of Serpentine Jarrahdale Local Planning Scheme No.3;**
- **Local Planning Strategy.**

As discussed in the main report the proposal p is compatible to the future residential development as it seeks to incorporate design elements to the building which, when viewed from the street, would appear residential in form.

i) any report of the review of the local planning scheme that has been published under the P*lanning and Development (Local Planning Schemes) Regulations 2015*	YES ☐	NO ☐	N/A ☒
Comment:			

j) in the case of land reserved under this Scheme, the objectives for the reserve and the additional and permitted uses identified in this Scheme for the reserve	YES ☐	NO ☐	N/A ☒
Comment:			

Development:

k) the built heritage conservation of any place that is of cultural significance	**YES** ☐	**NO** ☐	**N/A** ☒
Comment:			

l) the effect of the proposal on the cultural heritage significance of the area in which the development is located	**YES** ☐	**NO** ☐	**N/A** ☒
Comment:			

m) the compatibility of the development with its setting including the relationship of the development to development on adjoining land or on other land in the locality including, but not limited to, the likely effect of the height, bulk, scale, orientation and appearance of the development	**YES** ☒	**NO** ☐	**N/A** ☐
Comment: As discussed in the main report Officers consider that the development, by way of scale, intensity and form of development is consistent with the current and intended future amenity of the area.			

n) the amenity of the locality including the following – I. Environmental impacts of the development II. The character of the locality III. Social impacts of the development	**YES** ☒	**NO** ☐	**N/A** ☐
Comment:			

o) the likely effect of the development on the natural environment or water resources and any means that are proposed to protect or to mitigate impacts on the natural environment or the water resource	**YES** ☒	**NO** ☐	**N/A** ☐
Comment:			

p) whether adequate provision has been made for the landscaping of the land to which the application relates and whether any trees or other vegetation on the land should be preserved	**YES** ☒	**NO** ☐	**N/A** ☐
Comment: The proposal includes areas of landscaping. A condition of approval has been included.			

q) the suitability of the land for the development taking into account the possible risk of flooding, tidal inundation, subsidence, landslip, bushfire, soil erosion, land degradation or any other risk	**YES** ☒	**NO** ☐	**N/A** ☐
Comment: The proposal is supported by a Bushfire Management Plan.			

r) the suitability of the land for the development taking into account the possible risk to human health or safety	**YES** ☐	**NO** ☐	**N/A** ☐
Comment:			

s) the adequacy of – I. The proposed means of access to and egress from the site; and II. Arrangements for the loading, unloading, manoeuvring and parking of vehicles	YES ☐	NO ☐	N/A ☐
Comment: The proposed access arrangements are generally in accordance with the current and future planning framework.			

t) the amount of traffic likely to be generated by the development, particularly in relation to the capacity of the road system in the locality and the probable effect on traffic flow and safety	YES ☐	NO ☐	N/A ☐
Comment: A Traffic Impact Statement has been provided, which demonstrated traffic generation and predicted volumes can be adequately accommodated on the existing road network. The proposed development will not increase the traffic volume on any particular section of the road by more than 100 vehicles per hour and provided the previously mention condition of upgrading the 160m section of Briggs Road occurs, the development is unlikely to have an adverse impact on the road network in the future.			

u) the availability and adequacy for the development of the following – I. Public transport services II. Public utility services III. Storage, management and collection of waste IV. Access for pedestrians and cyclists (including end of trip storage, toilet and shower facilities) V. Access by older people and people with disability	YES ☐	NO ☐	N/A ☐
Comment: The proposed development is conveniently located. The site is serviced by Transperth bus routes on Eurythmic Boulevard west of Briggs Road, approximately 350 metres walking distance from the site.			

v) the potential loss of any community service or benefit resulting from the development other than potential loss that may result from economic competition between new and existing businesses	YES ☐	NO ☐	N/A ☒
Comment:			

w) the history of the site where the development is to be located	YES ☒	NO ☐	N/A ☐
Comment: The history of the site has been detailed in the report.			

x) the impact of the development on the community as a whole notwithstanding the impact of the development on particular individuals	YES ☒	NO ☐	N/A ☐
Comment: The proposed development is intended to provide for child minding centre needs of the direct community.			

y) any submissions received on the application	YES ☒	NO ☐	N/A ☐

Comment: Submissions received have been discussed within the report.

Za) the comments or submissions received from any authority consulted under clause 66	**YES** ☒	**NO** ☐	**N/A** ☐
Comment: Department of Education (DoE), Department of Water and Environmental Regulation (DWER), Water Cooperation and Main Roads Western Australia (MRWA have no in principle objections to the proposal.			

Zb) any other planning consideration the local government considers appropriate	**YES** ☒	**NO** ☐	**N/A** ☐
Comment:			

PROPOSED CHILD CARE CENTRE
LOT 9511,
CORNER OF INDIGO PARKWAY AND BRIGGS ROAD,
BYFORD

ENVIRONMENTAL ACOUSTIC ASSESSMENT

JANUARY 2023

OUR REFERENCE: 30556-2-22374

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ENVIRONMENTAL ACOUSTIC ASSESSMENT

PROPOSED CHILD CARE CENTRE
BYFORD

Job No: 22374

Document Reference: 30556-2-22374

FOR

ROWE GROUP

DOCUMENT INFORMATION			
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Date of Issue:	30 January 2023		

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Revision	Description	Date	Author	Checked
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This report has been prepared in accordance with the scope of services and on the basis of information and documents provided to Herring Storer Acoustics by the client. To the extent that this report relies on data and measurements taken at or under the times and conditions specified within the report and any findings, conclusions or recommendations only apply to those circumstances and no greater reliance should be assumed. The client acknowledges and agrees that the reports or presentations are provided by Herring Storer Acoustics to assist the client to conduct its own independent assessment.

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APPENDICIES

A PLANS

1. INTRODUCTION

Herring Storer Acoustics were commissioned to undertake an acoustic assessment of noise emissions associated with the proposed day care centre to be located at Lot 9511, Corner of Indigo Parkway and Briggs Road, Byford.

The report considers noise received at the neighbouring premises from the proposed development for compliance with the requirements of the *Environmental Protection (Noise) Regulations 1997.* This report considers noise emissions from:

- Children playing within the outside play areas of the centre; and
- Mechanical services.

We note that from information received from DWER, the bitumised area would be considered as a road, thus noise relating to motor vehicles is exempt from the *Environmental Protection (Noise) Regulations 1997*. We note that these noise sources are rarely critical in the determination of compliance. However, as requested by council and for completeness, they have been included in the assessment, for information purposes only.

For information, a plan of the proposed development is attached in Appendix A.

2. SUMMARY

Noise received at the neighbouring residences from the outdoor play areas would comply with the requirements of the Environmental Protections (Noise) Regulations 1997, with the fencing, as shown on the plan attached in Appendix A; and provided outdoor play is limited to the day period (ie after 7am).

Noise from the mechanical services has also been assessed to comply with the relevant criteria. However, as the assessment has not been based on the mechanical services design, it is recommended that additionally, mechanical services design be reviewed for compliance with the Regulatory requirements.

It is noted that noise associated with cars movements and cars starting are exempt from complying with the Regulations. However, noise emissions from car doors is not strictly exempt from the Regulations. Noise received at the proposed and existing neighbouring residences from these noise sources would with the proposed fencing and parking restrictions, as shown on Figure 5.1 in Section 5, comply with the Regulatory requirements, at all times.

Thus, noise emissions from the proposed development, would be deemed to comply with the requirements of the *Environmental Protection (Noise) Regulations 1997* for the proposed hours of operation, with the inclusion of the following:

1 Although the proposed facility would open before 7 am (ie during the night period), the outdoor play area would not be used until after 7am. Thus, noise received at the neighbouring existing residences from the outdoor play area needs to comply with the assigned day period noise level.

2 Fencing to be as shown on the drawings attached in Appendix A.

3 Parking to be restricted, as shown on Figure 5.1 in Section 5 – Modelling.

4 For child care centres colourbond fencing is acceptable fencing material.

3. CRITERIA

The allowable noise level at the surrounding locales is prescribed by the *Environmental Protection (Noise) Regulations 1997*. Regulations 7 & 8 stipulate maximum allowable external noise levels. For highly sensitive area of a noise sensitive premises this is determined by the calculation of an influencing factor, which is then added to the base levels shown below in Table 3.1. The influencing factor is calculated for the usage of land within two circles, having radii of 100m and 450m from the premises of concern. For other areas within a noise sensitive premises, the assigned noise levels are fixed throughout the day, as listed in Table 3.1.

TABLE 3.1 - BASELINE ASSIGNED OUTDOOR NOISE LEVEL

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
Noise sensitive premises: highly sensitive area	0700 - 1900 hours Monday to Saturday (Day)	45 + IF	55 + IF	65 + IF
	0900 - 1900 hours Sunday and Public Holidays (Sunday / Public Holiday Day)	40 + IF	50 + IF	65 + IF
	1900 - 2200 hours all days (Evening)	40 + IF	50 + IF	55 + IF
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays (Night)	35 + IF	45 + IF	55 + IF
Noise sensitive premises: any area other than highly sensitive area	All hours	60	75	80

Note: L_{A10} is the noise level exceeded for 10% of the time.
L_{A1} is the noise level exceeded for 1% of the time.
L_{Amax} is the maximum noise level.
IF is the influencing factor.

Under the Regulations, a 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 m of that building or that part of the building.

It is a requirement that received noise be free of annoying characteristics (tonality, modulation and impulsiveness), defined below as per Regulation 9.

"impulsiveness" means a variation in the emission of a noise where the difference between L_{Apeak} and $L_{Amax(Slow)}$ is more than 15 dB when determined for a single representative event;

"modulation" means a variation in the emission of noise that –

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

(b) is present for more at least 10% of the representative assessment period; and

(c) is regular, cyclic and audible;

"tonality" means 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_{ASlow} levels.

Where the noise emission is not music, if the above characteristics exist and cannot be practicably removed, then any measured level is adjusted according to Table 3.2 below.

TABLE 3.2 - ADJUSTMENTS TO MEASURED LEVELS

Where **tonality** is present	Where **modulation** is present	Where **impulsiveness** is present
+5 dB(A)	+5 dB(A)	+10 dB(A)

Note: These adjustments are cumulative to a maximum of 15 dB.

An aerial showing the neighbouring premises are shown below on Figure 3.1.

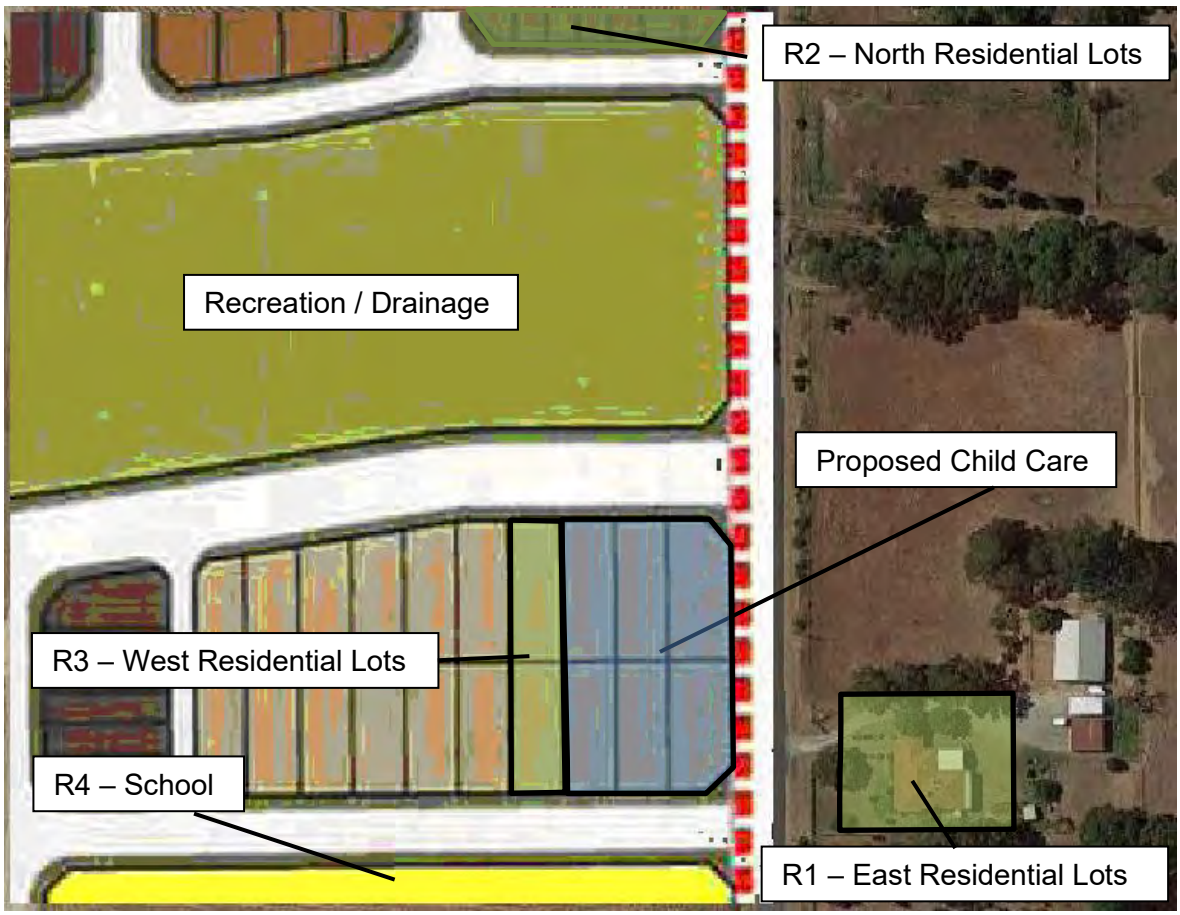

FIGURE 3.1 – NEIGHBOURING LOTS

For the neighbouring residences, the influencing factor has been determined to be +0 dB. Thus, the assigned noise levels would be as listed in Table 3.3.

TABLE 3.3 - ASSIGNED OUTDOOR NOISE LEVEL

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
Noise sensitive premises: highly sensitive area	0700 - 1900 hours Monday to Saturday (Day)	45	55	65
	0900 - 1900 hours Sunday and Public Holidays (Sunday / Public Holiday Day)	40	50	65
	1900 - 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

Note: L_{A10} is the noise level exceeded for 10% of the time.
L_{A1} is the noise level exceeded for 1% of the time.
L_{Amax} is the maximum noise level.

4. PROPOSAL

From information supplied, we understand that the child care centre normal hours of operations would be between 0700 and 1800 hours, Monday to Friday (closed on public holidays). It is understood that the proposed childcare centre will cater for a maximum of 110 children: with the following breakdown:

Infant	0 – 2 years	20 places
Pre-Kindy	2 – 3 years	30 places
Kindy	3+ years	60 places

It is noted that although the proposed child care centre would open before 7 am (ie during the night period), the outdoor play area would not be used until after 7am.

5. MODELLING

To assess the noise received at the neighbouring premises from the proposed development, noise modelling was undertaken using the noise modelling program SoundPlan.

Calculations were carried out using the DWER's weather conditions, which relate to worst case noise propagation, as stated in the Department of Environment Regulation *"Draft Guidance on Environmental Noise for Prescribed Premises"*. These conditions include winds blowing from sources to the receiver(s).

Calculations were based on the sound power levels used in the calculations are listed in Table 5.1.

TABLE 5.1 – SOUND POWER LEVELS

Item	Sound Power Level, dB(A)
Children Playing	83 (per 10 children)
Car Moving in Car Park	79
Car Starting	85
Door Closing	87
Air conditioning condensing Unit	10 @ 71
Exhausts	72 (kitchen)

Notes:

1 Acoustic modelling of outdoor play noise was made, based on:

- any age group of children within the outdoor play area (ie worst case scenario)

2 The noise level for the air conditioning has been based on the sound power levels used for previous assessment of child care centres. From other studies, we understand that the noise associated with the condensing units would be conservative.

3 For this child care centre, it is recommended that the air conditioning units be surrounded on all sides by a barrier minimum being to height of units, preferably 500mm above top of units.

4 The noise modelling has been based on fences surrounding the outdoor play area, and to the west (as shown in Appendix A).

5 To determine the restriction to the parking, a point noise source was located in each car bay.

6 Modelling shows that noise received at the neighbouring residences from car doors closing would comply with the assigned noise level for the day period. However, to achieve compliance during the night period (ie before 7am), for staff arriving, the parking needs to be restricted, as shown on Figure 5.1.

7 With only staff arriving before 07:00 am, there would be no car starts before 7am. We also note that as the school would not be occupied during the night period, compliance is only required for the day period.

8 Calculation were undertaken for the receivers at 1.5 metres above the ground level.

9 Noise modelling was undertaken to a number of different receiver locations for each of the neighbouring residences. However, to simplify the assessment, only the noise level in the worst case location (ie highest noise level), have been listed.

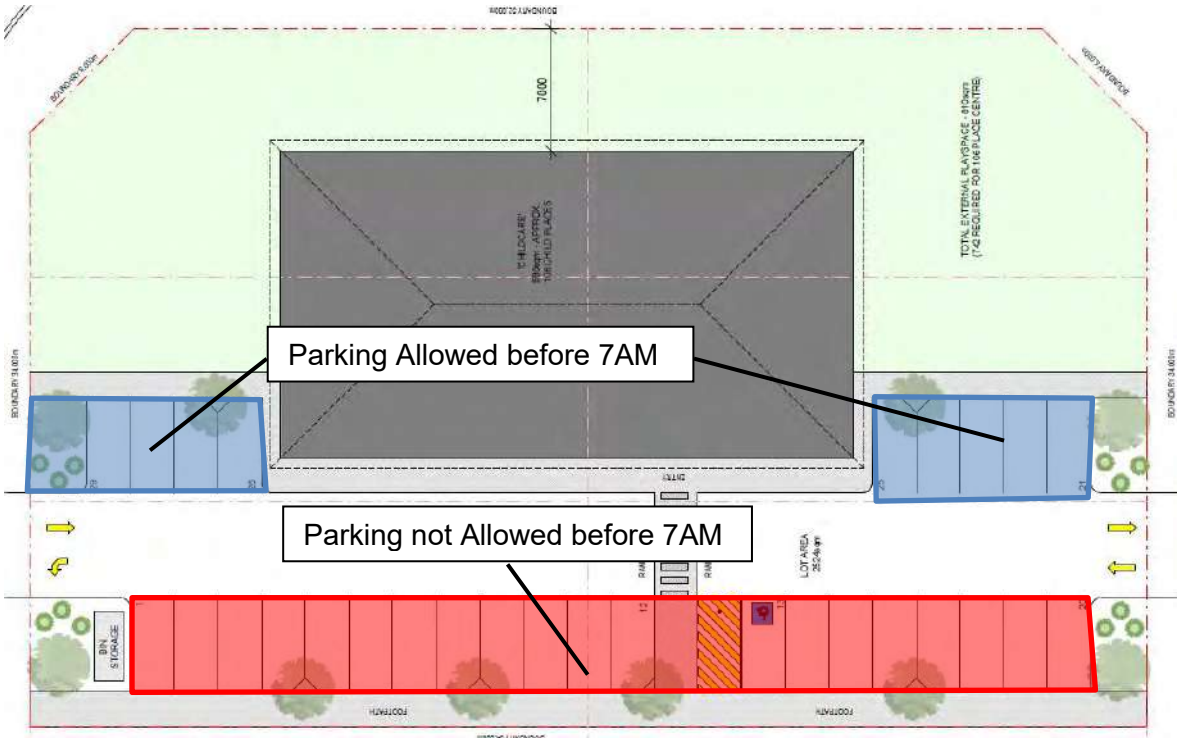

FIGURE 5.1 – PARKING RESTRICTIONS

6. ASSESSMENT

The resultant noise levels at the neighbouring residence from children playing outdoors and the mechanical services are tabulated in Table 6.1.

From previous measurements, noise emissions from children playing does not contain any annoying characteristics. Noise emissions from the mechanical services could be tonal and a +5 dB(A) penalty would be applicable, as shown in Table 6.1. Noise emissions from both outdoor play and the mechanical services needs to comply with the assigned L_{A10} noise levels.

TABLE 6.1 - ACOUSTIC MODELLING RESULTS FOR L_{A10} CRITERIA
OUTDOOR PLAY AREAS AND MECHANICAL PLANT

Neighbouring Premises	Calculated Noise Level (dB(A))	
	Children Playing	Air Conditioning
R1 – East Residential Lots	45	26 (31)
R2 – North Residential Lots	39	6 (11)
R3 – West Residential Lots	39	26 (31)
R4 – School	45	25 (30)

( ) Includes +5 dB(A) penalty for tonality

With regards to noise associated with cars within the parking area, resultant noise levels are tabulated in Tables 6.2 and 6.3. It is noted that noise emissions from a moving car being an L_{A1} noise level, with noise emissions from cars starting and doors closing being an L_{Amax} noise level.

Based on the definitions of tonality, noise emissions from car movements and car starts, being an L_{A1} and L_{AMax} respectively, being present for less than 10% of the time, would not be considered tonal. Thus, no penalties would be applicable, and the assessment would be as listed in Table 6.2 (Car Moving) and Table 6.3 (Car Starting). However, noise emissions from car doors closing could be impulsive, hence the +10dB penalty has been included in the assessment.

TABLE 6.2 - ACOUSTIC MODELLING RESULTS L_{A1} CRITERIA
CAR MOVING

Neighbouring Premises	Calculated Noise Level (dB(A))
R1 – East Residential Lots	34
R2 – North Residential Lots	33
R3 – West Residential Lots	43
R4 – School	41

TABLE 6.3 - ACOUSTIC MODELLING RESULTS L_{Amax} CRITERIA
CAR STARTING / DOOR CLOSING

Neighbouring Premises	Calculated Noise Level (dB(A))			
	Car Starting		Door Closing	
	Day Period	Night Period	Day Period	Night Period
R1 – East Residential Lots	42	N/A	42 [52]	42 [52]
R2 – North Residential Lots	35	N/A	35 [45]	35 [45]
R3 – West Residential Lots	49	N/A	49 [59]	41 [51]
R4 – School	45	N/A	45 [55]	45 [55]

[ ] Includes +10 dB(A) penalty for impulsiveness.

Tables 6.4 to 6.9 summarise the applicable Assigned Noise Levels, and assessable noise level emissions for each identified noise.

TABLE 6.4 – ASSESSMENT OF L_{A10} NOISE LEVEL EMISSIONS
OUTDOOR PLAY (DAY PERIOD)

Location	Assessable Noise Level dB(A)	Applicable Assigned Noise Level (dB(A))	Exceedance to Assigned Noise Level
R1 – East Residential Lots	45	45	Complies
R2 – North Residential Lots	39	45	Complies
R3 – West Residential Lots	39	45	Complies
R4 – School	45	45	Complies

TABLE 6.5 – ASSESSMENT OF L_{A10} NIGHT PERIOD NOISE LEVEL EMISSIONS
AIR CONDITIONING

Location	Assessable Noise Level dB(A)	Applicable Assigned Noise Level (dB(A))	Exceedance to Assigned Noise Level
R1 – East Residential Lots	31	35	Complies
R2 – North Residential Lots	11	35	Complies
R3 – West Residential Lots	31	35	Complies
R4 – School	30	35	Complies

TABLE 6.6 – ASSESSMENT OF L_{A1} NIGHT PERIOD NOISE LEVEL EMISSIONS
CAR MOVEMENTS

Location	Assessable Noise Level dB(A)	Applicable Assigned Noise Level (dB(A))	Exceedance to Assigned Noise Level
R1 – East Residential Lots	34	45	Complies
R2 – North Residential Lots	33	45	Complies
R3 – West Residential Lots	43	45	Complies
R4 – School	41	45	Complies

TABLE 6.7 – ASSESSMENT OF L_{Amax} DAY PERIOD NOISE LEVEL EMISSIONS
CAR STARTING

Location	Assessable Noise Level dB(A)	Applicable Assigned Noise Level (dB(A))	Exceedance to Assigned Noise Level
R1 – East Residential Lots	42	65	Complies
R2 – North Residential Lots	35	65	Complies
R3 – West Residential Lots	49	65	Complies
R4 – School	45	65	Complies

TABLE 6.8 – ASSESSMENT OF L_{Amax} DAY PERIOD NOISE LEVEL EMISSIONS
CAR DOOR

Location	Assessable Noise Level dB(A)	Applicable Assigned Noise Level (dB(A))	Exceedance to Assigned Noise Level
R1 – East Residential Lots	52	65	Complies
R2 – North Residential Lots	45	65	Complies
R3 – West Residential Lots	59	65	Complies
R4 – School	55	65	Complies

TABLE 6.9 – ASSESSMENT OF L_{Amax} NIGHT PERIOD NOISE LEVEL EMISSIONS
CAR DOOR

Location	Assessable Noise Level dB(A)	Applicable Assigned Noise Level (dB(A))	Exceedance to Assigned Noise Level
R1 – East Residential Lots	52	55	Complies
R2 – North Residential Lots	45	55	Complies
R3 – West Residential Lots	51	55	Complies
R4 – School	N/A	N/A	Complies

7. CONCLUSION

Noise received at the neighbouring residences from the outdoor play area would comply with day period assigned noise level, with the fencing as shown on the drawings attached in Appendix A.

The air conditioning condensing units have also been assessed to comply with the requirements of the *Environmental Protection (Noise) Regulations 1997* at all times.

It is noted that noise associated with cars movements and cars starting are exempt from complying with the Regulations. However, noise emissions from car doors are not strictly exempt from the Regulations. Noise received at the neighbouring residences from these noise sources would with the fencing, as shown on the drawings attached in Appendix A and the restrictions in parking, as shown on Figure 5.1 in Section 5 comply with the Regulatory requirements, at all times.

Thus, noise emissions from the proposed development, would be deemed to comply with the requirements of the *Environmental Protection (Noise) Regulations 1997* for the proposed hours of operation, with the inclusion of the following:

1 Although the proposed facility would open before 7 am (ie during the night period), the outdoor play area would not be used until after 7am. Thus, noise received at the neighbouring existing residences from the outdoor play area needs to comply with the assigned day period noise level.

2 Fencing to be as shown on the drawings attached in Appendix A.

3 Parking to be restricted, as shown on Figure 5.1 in Section 5 – Modelling.

4 For child care centres colourbond fencing is acceptable fencing material.

Transport Impact Statement

Project:	Proposed Child Care Centre Cnr Indigo Parkway and Briggs Road, Byford
Client:	Spagnolo Developments Pty Ltd
Author:	Paul Nguyen
Date:	20th April 2023
Shawmac Document #:	2211019-TIS-001

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1 Introduction

1.1 Proponent

Shawmac has been engaged by Spagnolo Investments Pty Ltd to prepare a Transport Impact Statement (TIS) for a child care centre in Byford.

This TIS has been prepared in accordance with the Western Australian Planning Commission (WAPC) *Transport Impact Assessment Guidelines Volume 4 – Individual Developments*. The assessment considers the following key matters:

- Details of the proposed development.
- Vehicle access and parking.
- Provision for service vehicles.
- Daily traffic volumes and vehicle types.
- Traffic management on frontage streets.
- Public transport access.
- Pedestrian access.
- Cycle access
- Site specific and safety issues.

1.2 Site Location

The site includes proposed Lots 367 to 373 of Stage 7 of the Byford Meadows development which is located on the west side of Briggs Road between Indigo Parkway and Caspian Chase. The local authority is the Shire of Serpentine-Jarrahdale.

The general site location is shown in Figure 1. An aerial view of the existing site is shown in Figure 2.

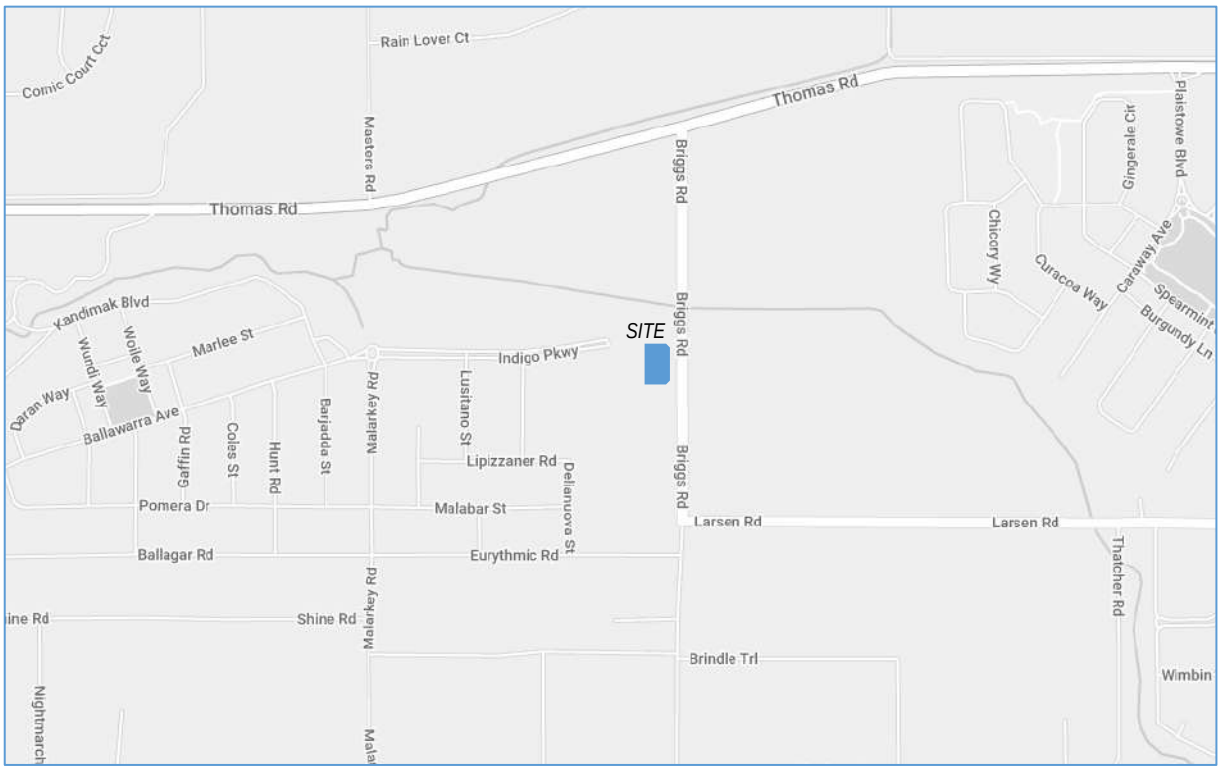


Figure 1: Site Location

Figure 2: Aerial View (December 2022)

2 Proposed Development

2.1 Land Use

The proposed development is a child care centre accommodating up to 110 children and approximately 20 staff. 31 parking spaces are proposed which includes 1 ACROD car bay.

The frontage sections of Indigo Parkway and Caspian Chase will be constructed by the developer of Byford Meadows.

The proposed site plan is shown in Figure 3.

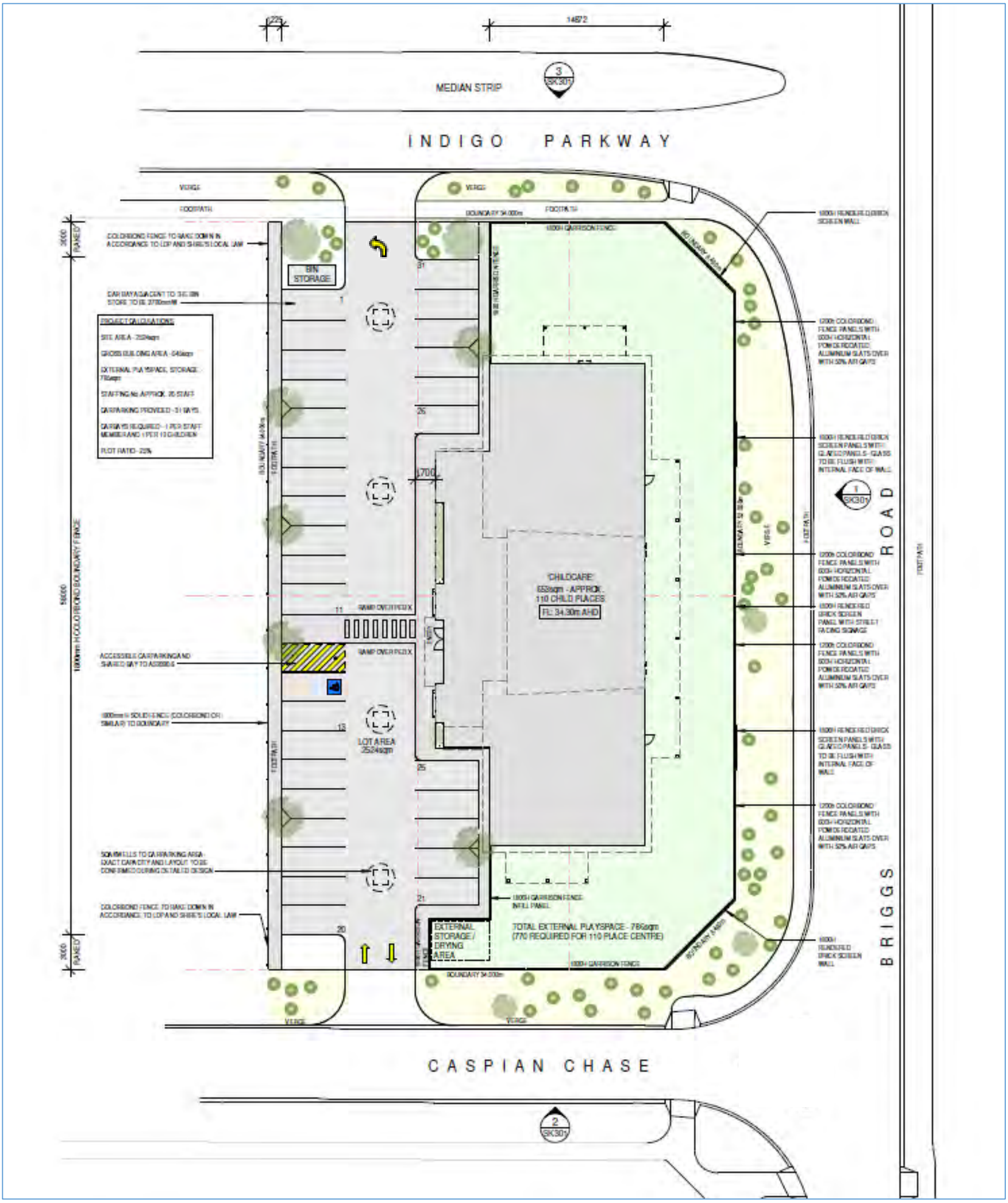


Figure 3: Site Plan

3 Traffic Management on Frontage Streets

3.1 Road Network

3.1.1 Existing Road Layout and Hierarchy

The layout and hierarchy of the existing local road network according to the Main Roads WA *Road Information Mapping System* is shown in Figure 4.

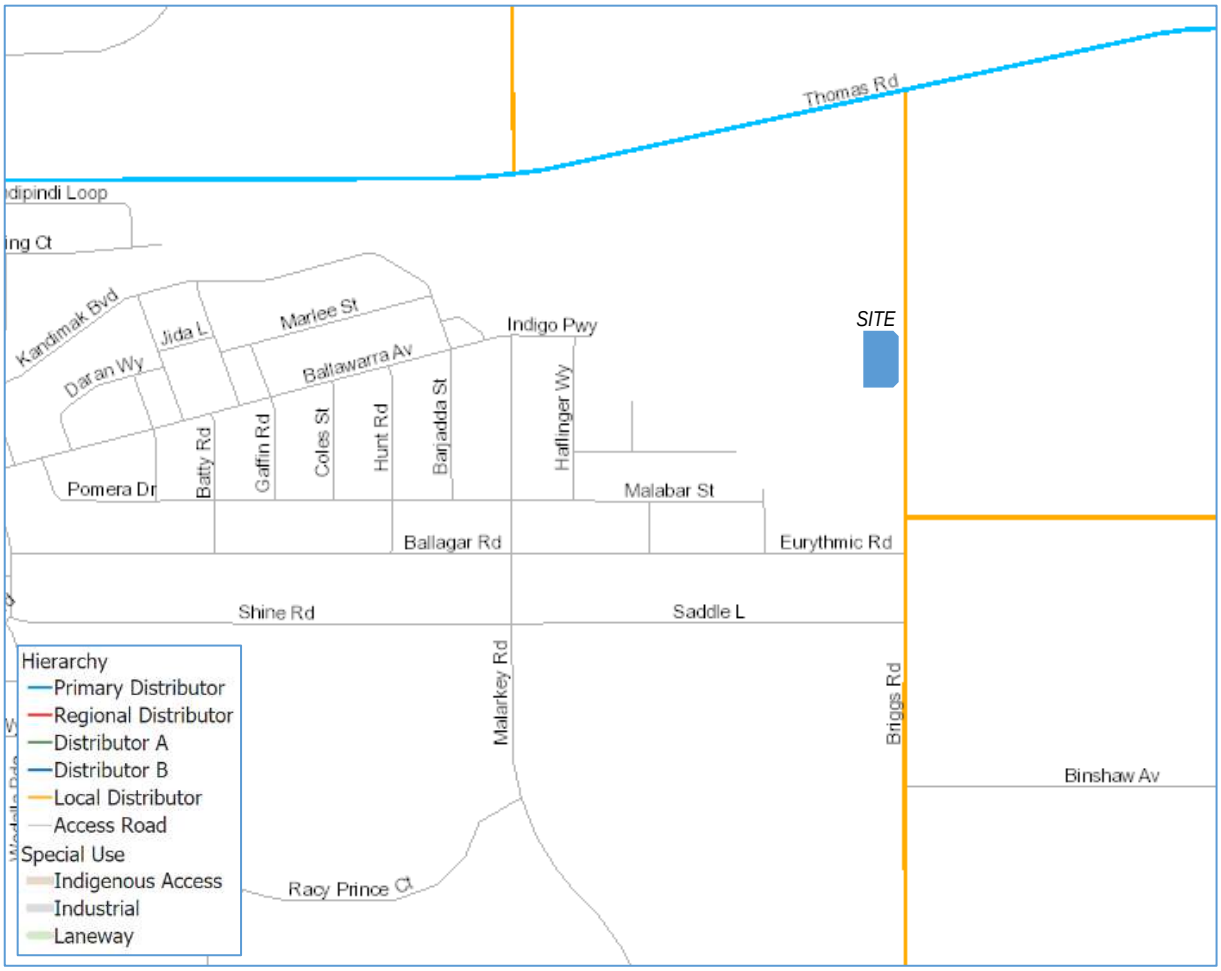


Figure 4: Existing Road Network Hierarchy

As shown, Briggs Road is a Local Distributor Road and Indigo Parkway is an Access Road. Based on the approved Local Structure Plan covering the site, Indigo Parkway will be upgraded to a Local Distributor and Caspian Chase will be an Access Road. The Local Structure plan is shown in Figure 5.

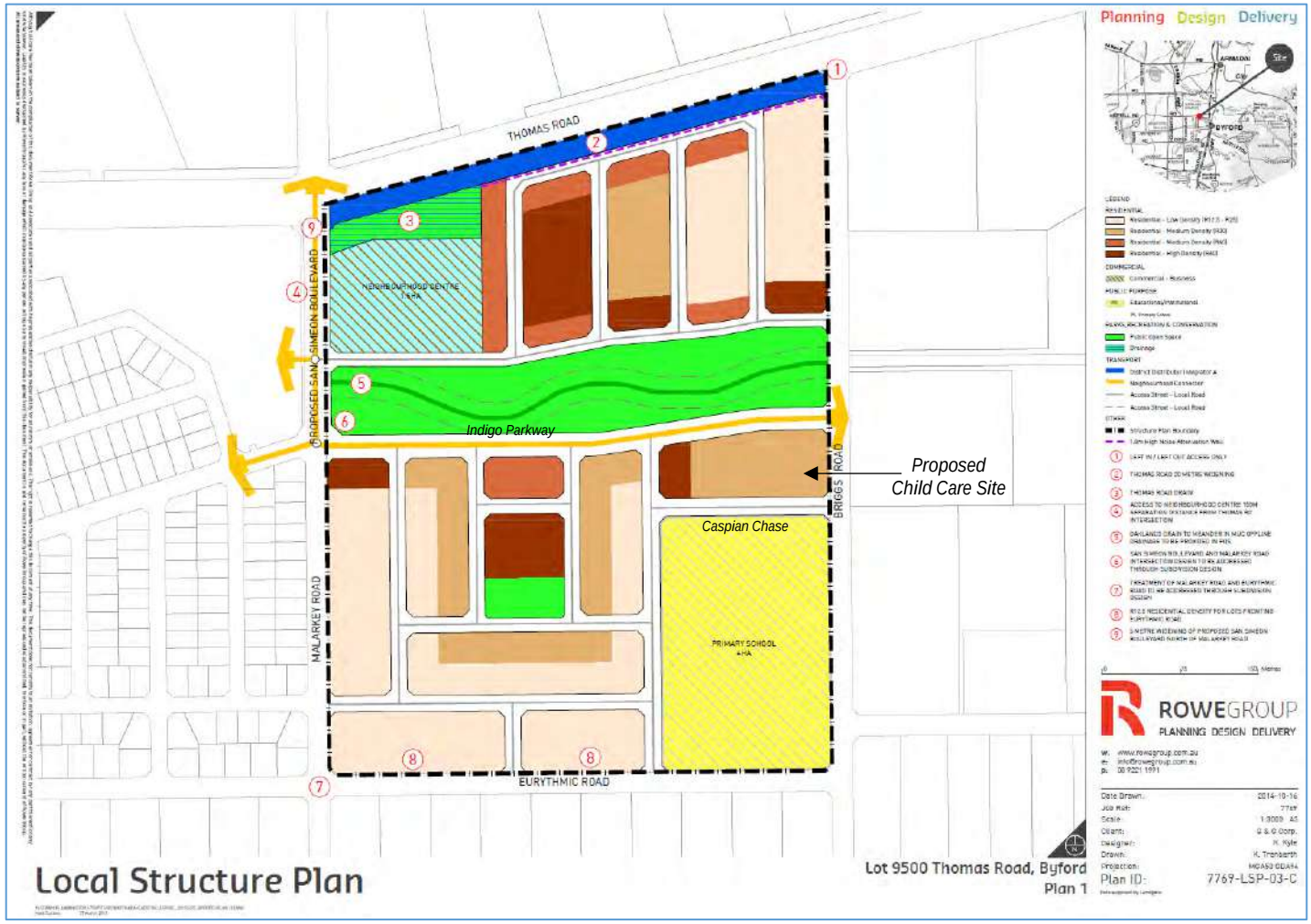


Figure 5: Local Structure Plan

3.1.2 Speed Limits

The speed limits are shown in Figure 6. It is assumed that the default 50km/h speed limit for built-up areas will apply once Indigo Parkway and Caspian Chase are completed.

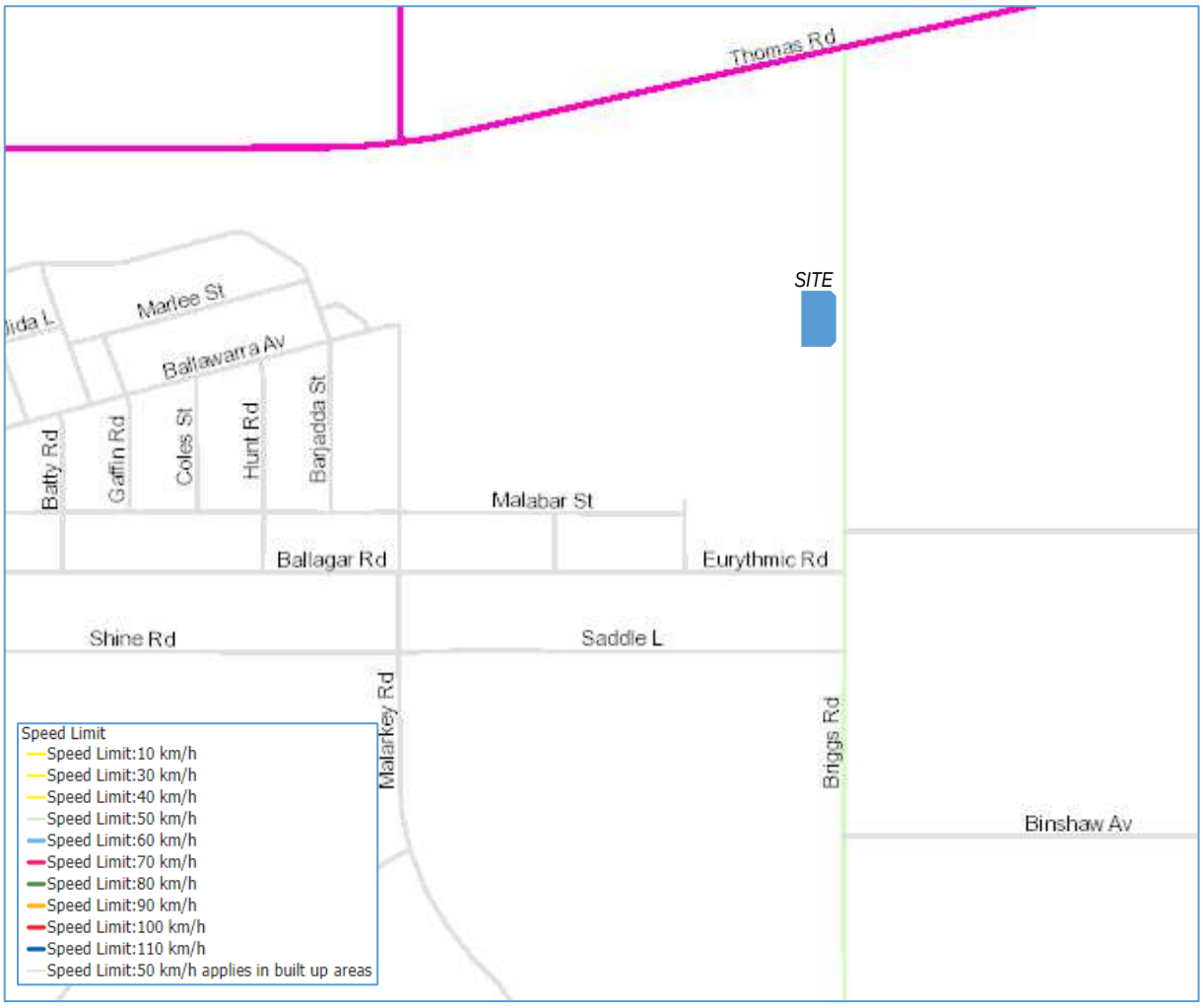


Figure 6: Speed Limits

4 Vehicle Access and Parking

4.1 Access

Vehicle access is proposed via new crossovers on Indigo Parkway and Caspian Chase as shown in Figure 7. As mentioned, the frontage sections of these roads will be constructed by the developer. Due to the proposed central median along Indigo Parkway, the crossover on this road will be restricted to left-out movements only.

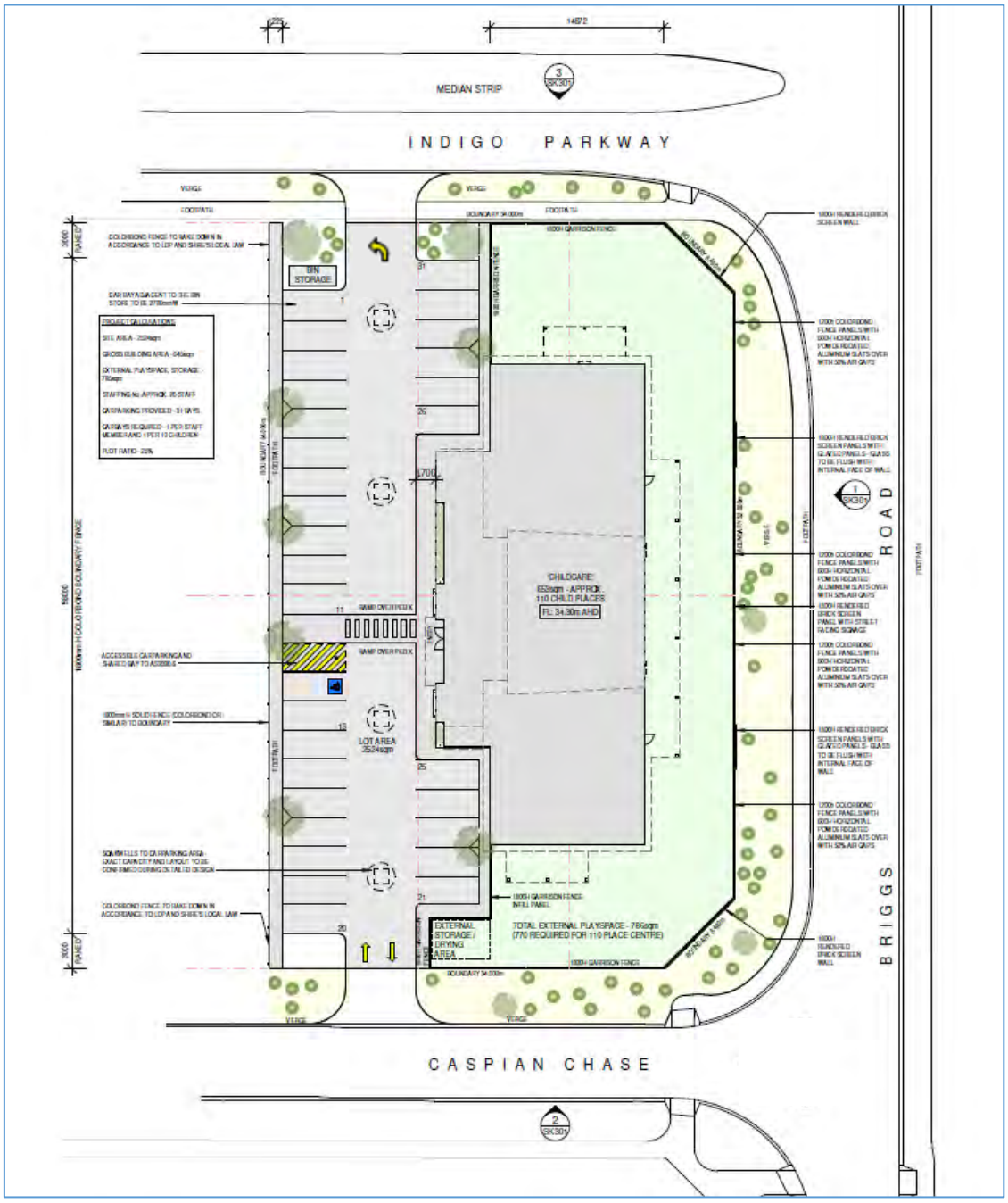


Figure 7: Vehicle Access Arrangement

According to the Shire's vehicle crossover specifications, crossovers are to be between 2.5m and 9m wide. Both proposed crossovers are 6m wide which is compliant. The layout is also compliant with the provisions of the Shire's Local Planning Policy 4.24 – Child Minding Centres which requires that internal driveways allow two-way movement.

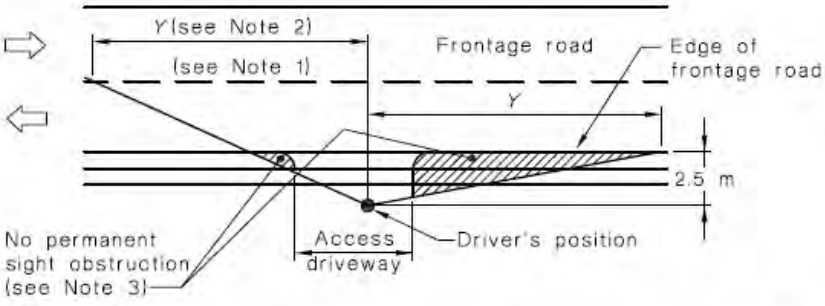
The crossovers have been located as far from the future intersections along Briggs Road as possible to minimise conflicts. According to the Local Structure Plan covering the site, the land to the south of the child care centre will be a future primary school. The proposed access configuration of the school has not yet been determined and will be subject to future review and design. The proposed child care centre crossover to Caspian Chase is unlikely to preclude the provision of suitable access to the school as the school will have four road frontages and so there are numerous options to provide access away from the child care centre crossover. By comparison, the proposed child care centre site is much smaller and has fewer options for locating vehicle access.

If the school required vehicle access to Caspian Chase, the frontage is over 150m wide and so it is unlikely that the access would coincide with the child care centre crossover.

Overall, the location and layout of the proposed vehicle access is considered to be appropriate from a traffic and safety perspective.

4.2 Sight Distance

Sight distance requirements from vehicle exit points are defined in Figure 3.2 of Australian Standard AS2890.1-2004 *Parking facilities Part 1: Off street car parking* (AS2890.1) which is shown in Figure 8.



Frontage road speed (Note 4) km/h	Distance (Y) along frontage road m		
	Access driveways other than domestic (Note 5)		Domestic property access (Note 6)
	Desirable 5 s gap	Minimum SSD	
40	55	35	30
50	69	45	40
60	83	65	55
70	97	85	70
80	111	105	95
90	125	130	Use values from 2nd and 3rd columns
100	139	160	
110	153	190	

Figure 8: AS2890.1 Sight Distance Requirements

Based on the assumed 50km/h speed limit along Indigo Parkway and Caspian Chase, the minimum required sight distance is 45m (desirable 69m). The frontage sections of these two roads have not been completed and so the actual sight distance cannot be measured. However, a preliminary review indicates that the required sight distance will be achievable. It is also noted that vehicles turning from Briggs Road will have slowed down while turning and so the approach speed and sight distance requirement in this direction will be reduced. Briggs Road is located approximately 40m from the proposed crossovers.

4.3 Car Parking

It is proposed to provide a total of 31 car parking bays on the site.

4.3.1 Current Planning Scheme Requirements

The car parking requirements calculated in accordance with the Shire's Town Planning Scheme (TPS) No. 2 are outlined in Table 1.

Table 1: Car Parking Calculation – Town Planning Scheme No. 2

Land Use	Requirement	Quantum	Bays Required
Childcare	1 space per 5 children accommodated	110 children	22

As shown, the proposed development is required to provide 22 car bays. The proposed 31 bays exceed the calculated requirement.

4.3.2 Draft Local Planning Scheme Requirements

A Draft Local Planning Scheme (LPS) No. 3 has been prepared developed to replace the existing TPS. The revised car parking requirements are outlined in Table 2.

Table 2: Car Parking Calculation – Draft Local Planning Scheme No. 3

Land Use	Requirement	Quantum	Bays Required
Childcare	1 space per 10 children accommodated and 1 space per employee	110 children 20 staff	31

Under the Draft LPS requirements, the proposed development is required to provide 31 car bays. The proposed 31 car parking bays complies with the requirements of the Draft LPS.

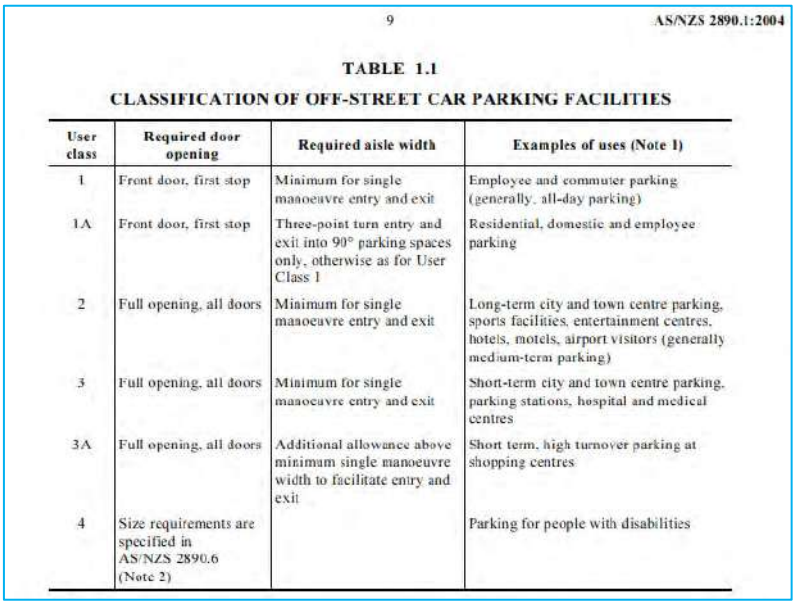
4.4 Bicycle Parking

The Shire's current TPS does not appear to specify requirements for bicycle parking. The Draft LPS does specify bicycle parking ratios but does not include child care centres. The demand for bicycle parking is expected to be low and limited to staff only.

Child care centres are typically well secured sites and so staff could potentially park within the site where there is room to do so.

4.5 Parking Design

The parking layout will need to comply with the requirements of Australian Standard AS2890.1. The user class will depend on the purpose of the bay as detailed in Figure 9.



9 AS/NZS 2890.1:2004

TABLE 1.1

CLASSIFICATION OF OFF-STREET CAR PARKING FACILITIES

User class	Required door opening	Required aisle width	Examples of uses (Note 1)
1	Front door, first stop	Minimum for single manoeuvre entry and exit	Employee and commuter parking (generally, all-day parking)
1A	Front door, first stop	Three-point turn entry and exit into 90° parking spaces only, otherwise as for User Class 1	Residential, domestic and employee parking
2	Full opening, all doors	Minimum for single manoeuvre entry and exit	Long-term city and town centre parking, sports facilities, entertainment centres, hotels, motels, airport visitors (generally medium-term parking)
3	Full opening, all doors	Minimum for single manoeuvre entry and exit	Short-term city and town centre parking, parking stations, hospital and medical centres
3A	Full opening, all doors	Additional allowance above minimum single manoeuvre width to facilitate entry and exit	Short term, high turnover parking at shopping centres
4	Size requirements are specified in AS/NZS 2890.6 (Note 2)		Parking for people with disabilities

Figure 9: Classification of Parking Facilities

Staff parking (long-term parking) would be classified as User Class 1. Pick-up and drop-off parking (short-term parking) would most likely be classified as User Class 3. A summary of the key parking requirements of AS2890.1 is detailed in Table 3.

Table 3: AS2890.1 Car Parking Compliance

Dimension	Requirement
90 degree parking – Class 1 – Long Term Parking (Staff)	
Car Bay Width	2.4m
Car Bay Length	5.4m
Parking Aisle Width	5.8m
90 degree parking – Class 3 – Short Term Parking (Pick-up / Drop-off)	
Car Bay Width	2.6m
Car Bay Length	5.4m
Parking Aisle Width	5.8m

All bays are proposed to be 2.5m wide, 5.4m long and the parking aisle is 6m wide. The design complies with the User Class 1 standards but the width of the bays are 100mm narrower than the User Class 3 standards. It is recommended to consider widening some bays to 2.6m to provide for high turnover pick-up and drop-off parking.

4.6 Provision for Service Vehicles

It is assumed that waste will be collected either from the verge or on-site and conducted outside typical business hours. Waste collection on site will involve a waste collection vehicle entering from Indigo Parkway and exiting to Caspian Chase as shown in Appendix A: Swept Path Analysis. It is expected that all service and delivery vehicles would be light vehicles and vans which can be accommodated within the on-site parking bays.

5 Traffic Impact

5.1 Traffic Generation

The volume of traffic generated by the proposed development has been estimated using trip generation rates from the Institute of Transportation Engineers (ITE) *Trip Generation*.

The traffic generation is detailed in Table 4.

Table 4: Proposed Development Vehicle Trip Generation

Land Use	Units	Quantity	Generation Rate			Number of Trips		
			Daily	AM Peak	PM Peak	Daily	AM Peak	PM Peak
Child Care / Day Care Centre	students	110	4.09	0.78	0.79	450	86	87

As shown above, the development is estimated to generate 450 daily vehicle trips including 86 (46 in / 40 out) during the AM peak hour and 87 (41 in / 46 out) vehicle trips during the PM peak hour.

According to the WAPC TIA guidelines, an increase of between 10 to 100 peak hour vehicles is considered to have a low to moderate impact and is generally deemed acceptable without requiring detailed capacity analysis. The estimated 86 to 87 vehicles per hour is at the higher end of this range and so the development traffic is considered to have a moderate impact and can be accommodated within the existing capacity of the road network.

5.2 Adjacent Child Care Centre Proposal

The Shire has recently received an application for another proposed child care centre to be located on the opposite side of Briggs Road directly adjacent to the proposed centre. The Shire has requested an assessment of the cumulative impact of both child care centre proposals and to demonstrate whether Briggs Road is capable of accommodating the additional traffic generated by both proposals.

The adjacent development is estimated to generate 452 daily vehicles trips, including 73 trips during the AM peak and 83 trips during the PM peak. The cumulative increase in traffic is therefore 902 daily vehicles trips, including 159 during the AM peak and 179 during the PM peak.

The latest (2022) traffic counts along Briggs Road (south of Thomas Road) were obtained from Main Roads WA *Traffic Map* as summarised below:

- Daily 3,829 vpd (1,898 NB / 1,931 SB)
- AM Peak 449 vph (254 NB / 195 SB)
- PM Peak 411 vph (209 NB / 202 SB)

With the addition of the traffic generated by both child care centres, the resulting traffic volumes along Briggs Road are estimated to be:

- Daily 4,731 vpd
- AM Peak 608 vph
- PM Peak 590 vph

Under Main Roads WA *Functional Road Hierarchy,* Briggs Road is classified as a Local Distributor Road with a target maximum daily traffic volume of 6,000vpd. As above, the resulting daily traffic volume is within the target threshold.

The typical hourly mid-block capacities for urban roads (per traffic lane) according to Austroads *Guide to Traffic Management Part 3: Traffic Studies and Analysis* are detailed in Figure 10.

Table 6.1: Typical mid-block capacities for urban roads with interrupted flow

Type of lane	One-way mid-block capacity (pc/h)
Median or inner lane	
Divided road	1000
Undivided road	900
Middle lane (of a 3 lane carriageway)	
Divided road	900
Undivided road	1000
Kerb lane	
Adjacent to parking lane	900
Occasional parked vehicles	600
Clearway conditions	900

Figure 10: Austroads Typical Mid-Block Capacities for Urban Roads

As there is no parking, the hourly lane capacity of Briggs Road would be approximately 900 vph or 1,800 vph for both directions.

The resulting daily and peak hour traffic volumes along Briggs Road are well below 900 vph in each direction and there appears to be spare mid-block capacity to accommodate increased traffic volumes.

It is also noted that some of the existing traffic along Briggs Road will be redistributed to Malarkey Road once Malarky Road is connected between Thomas Road and Indigo Parkway. This will be reduced further once the Thomas Road / Briggs Road intersection is upgraded and restricted to left turn movements only. The future road network upgrades are discussed in Section 5.3.2.

5.3 Traffic Distribution

5.3.1 Interim Scenario

Child care centres typically serve a relatively local catchment of traffic and so the development traffic is assumed to be distributed as follows:

- 40% north along Briggs Road split evenly in both direction along Thomas Road
- 40% south along Briggs Road / Larsen Road / Eurythmic Road
- 20% west along Indigo Parkway

The traffic generated by the proposed centre has been distributed onto the adjacent road network based on the above split as shown in Figure 11.

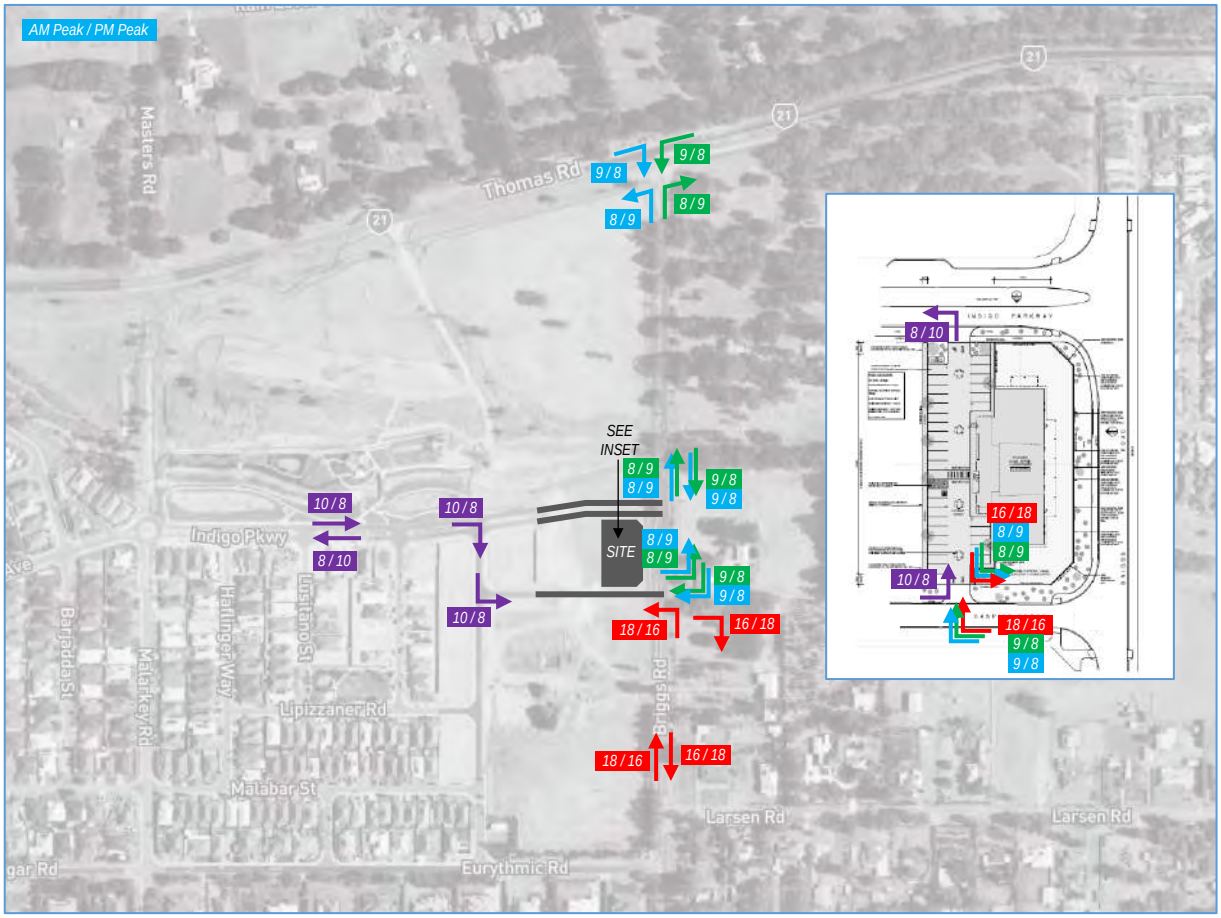


Figure 11: Peak Hour Traffic Distribution – Interim Scenario

According to the WAPC TIA guidelines, an increase of less than 10% of capacity, approximately 100 vehicles per hour, would not normally be likely to have a material impact on any particular section of road. As shown, the proposed development will not increase the traffic volume on any particular section of road by more than 100 vehicles per hour and is therefore unlikely to have a material impact on the adjacent road network.

It is understood that the proposed child care centre on the adjacent site will require a temporary access on Briggs Road, opposite Indigo Parkway which will effectively function as a four-way intersection. The Shire has also requested confirmation that the cumulative traffic generated by the two centres will not create queueing issues affecting the Indigo Parkway / Briggs Road intersection in the interim scenario.

To address these concerns, the proposed access arrangement has been modified from the original proposal by removing entry movements at the proposed crossover on Indigo Parkway. This modification will remove any right turns from the Briggs Road onto Indigo Parkway and into the development where the adjacent child care centre is proposed to have access. Therefore the development will only generate through movements along Briggs Road past this intersection and there is no risk of queuing from the Indigo Parkway crossover back towards Briggs Road and the interim access for the adjacent proposed child care centre. The impact of this change is demonstrated in Figure 12.

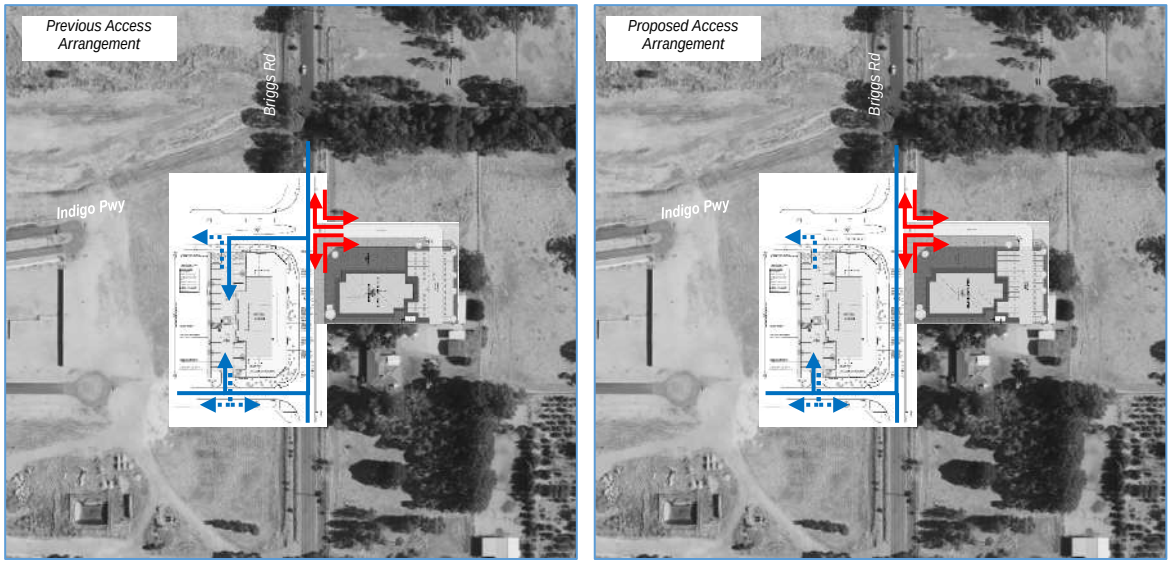


Figure 12: Access Change

5.3.2 Long-term Scenario

In the longer term, various proposed changes to the surrounding road network will redistribute the child care centre traffic as well as background traffic. The Shire has advised that the following changes are proposed which are ultimately planned to reduce the number of vehicles using Briggs Road:

- The Thomas Road / Briggs Road intersection will be modified to only allow left turns.
- Malarkey Road will be extended north Thomas Road and new roundabouts will be constructed on Thomas Road at Malarkey Road and Kardan Boulevard.
- The Thomas Road / Plaistowe Boulevard intersection will be signalised.
- The median strip along Indigo Parkway will be extended across Briggs Road to block right turns and through movements along Briggs Road.

The estimated distribution over the long term transport network is shown in Figure 13.

As shown, the proposed development will not increase the traffic volume on any particular section of road by more than 100 vehicles per hour and is therefore unlikely to have a material impact on the adjacent road network.

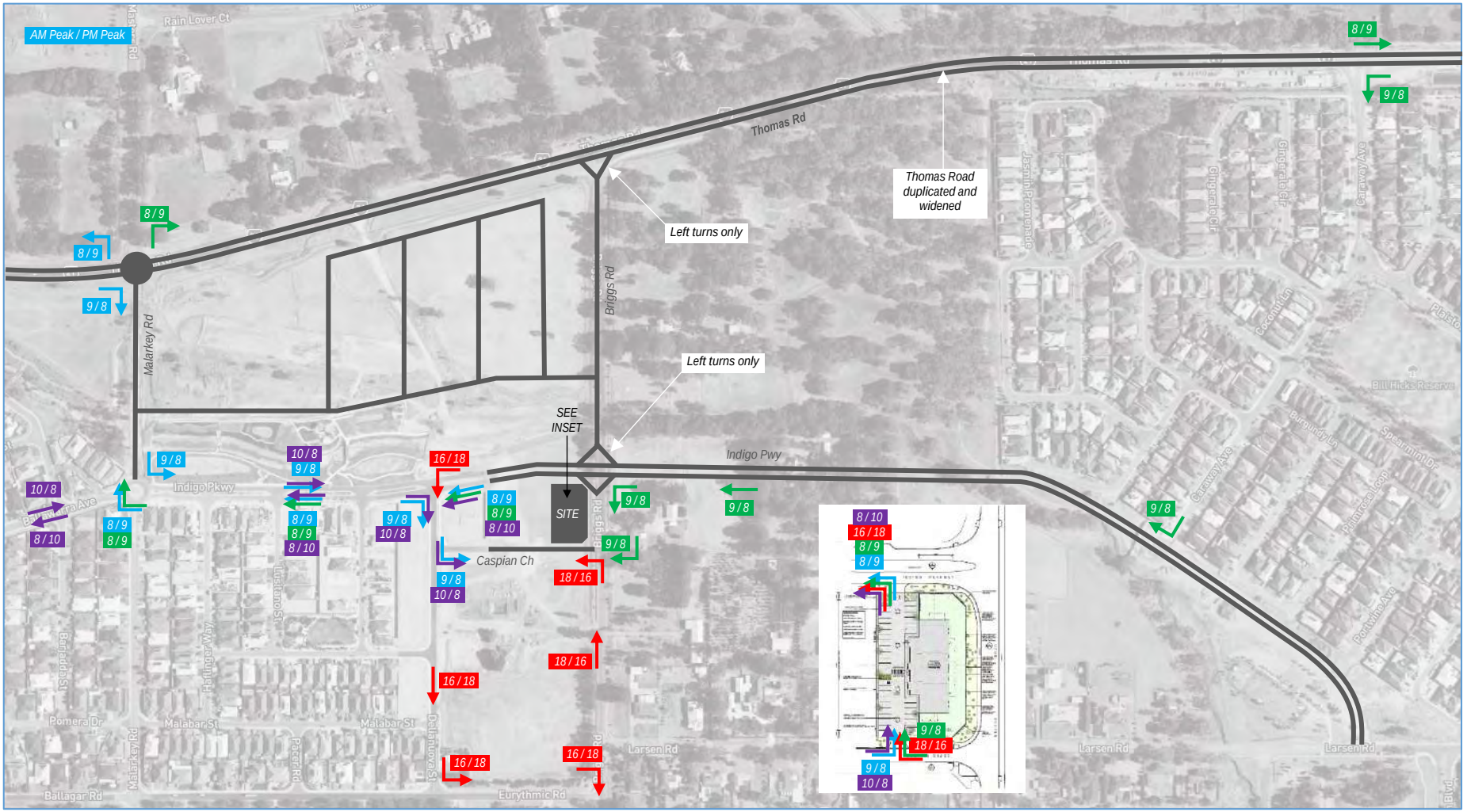


Figure 13: Traffic Distribution – Long-Term Scenario

6 Pedestrian and Cyclist Access

There are no paths along Briggs Road in the vicinity of the site. Towards the west, footpaths have been constructed along at least one side of all roads. The approved Local Structure Plan report recommends that:

- Footpaths should be provided on at least one side of all access streets except laneways.
- A footpath on Briggs Road should extend from Eurythmic Road to San Simon Boulevard (now called Indigo Parkway) on the western side of the Briggs Road.

It is assumed that the adjacent path network will be completed as the area is subdivided and developed.

Internally, a raised walkway is provided within the car park for pedestrians to cross the driveway and a footpath connection along the western perimeter of the building between Indigo Parkway and Caspian Chase is proposed.

The existing and planned path network is considered to be adequate for the movement of pedestrians and cyclists to and from the development.

7 Public Transport Access

The following public transport services currently operate within 1km walking distance of the site:

- Transperth Bus Route 254 which operates between Armadale Station and Byford via Kardan Boulevard. The closest stops are on Eurythmic Boulevard west of Briggs Road, approximately 350m walking distance from the site.

The demand for public transport is expected to be low and the existing services are considered to be adequate to meet the likely demand. It is also likely that additional services will be introduced in the area as the surrounding development progresses.

8 Site Specific Issues and Safety Issues

8.1 Crash History

The crash history of the adjacent road network was obtained from Main Roads WA's *Reporting Centre*. The search included the length of Briggs Road between Thomas Road and Larsen Road. A summary of the crashes recorded over the five-year period from January 2017 to December 2021 is shown in Figure 14.

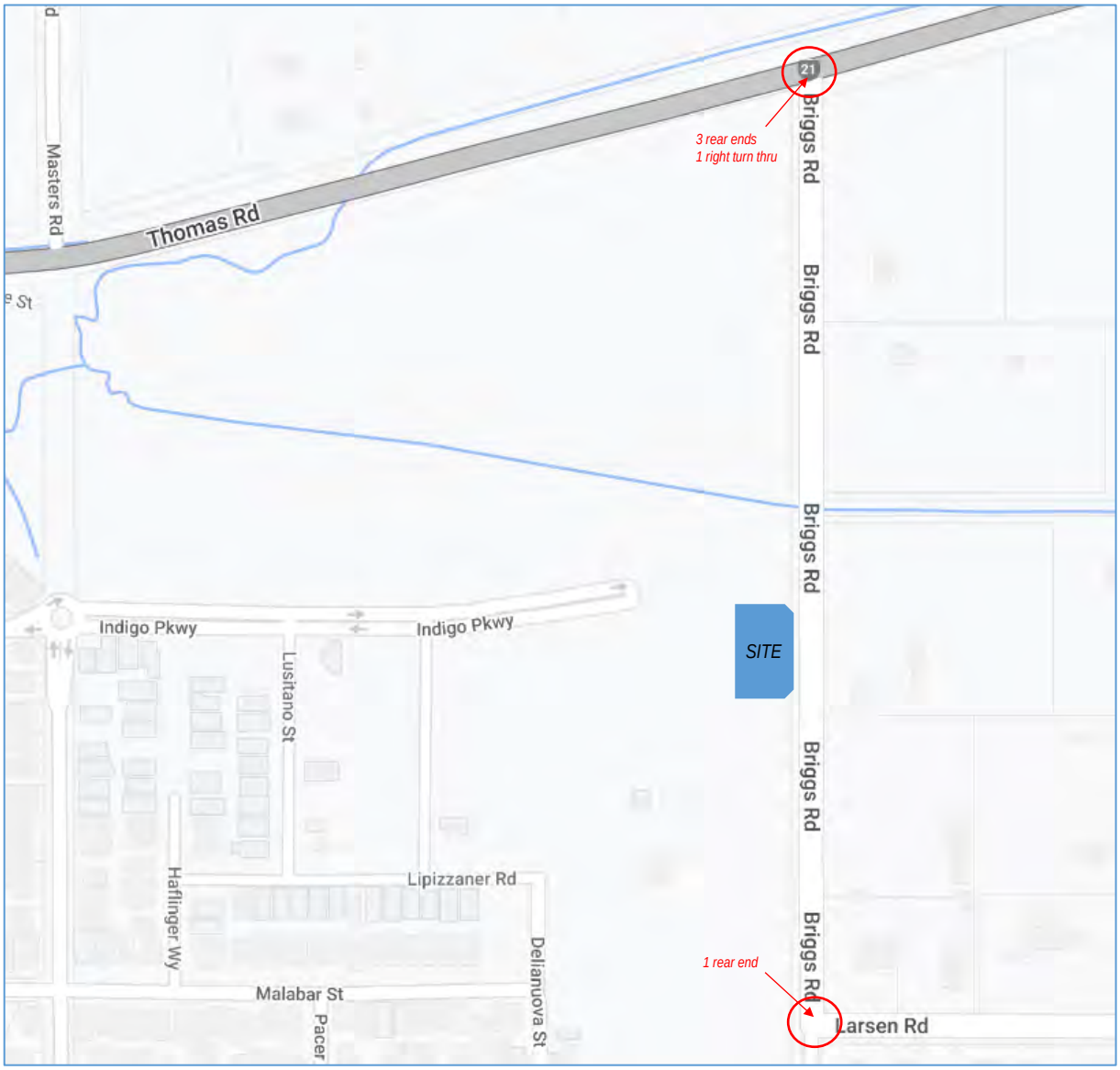


Figure 14: Crash History January 2017 to December 2021

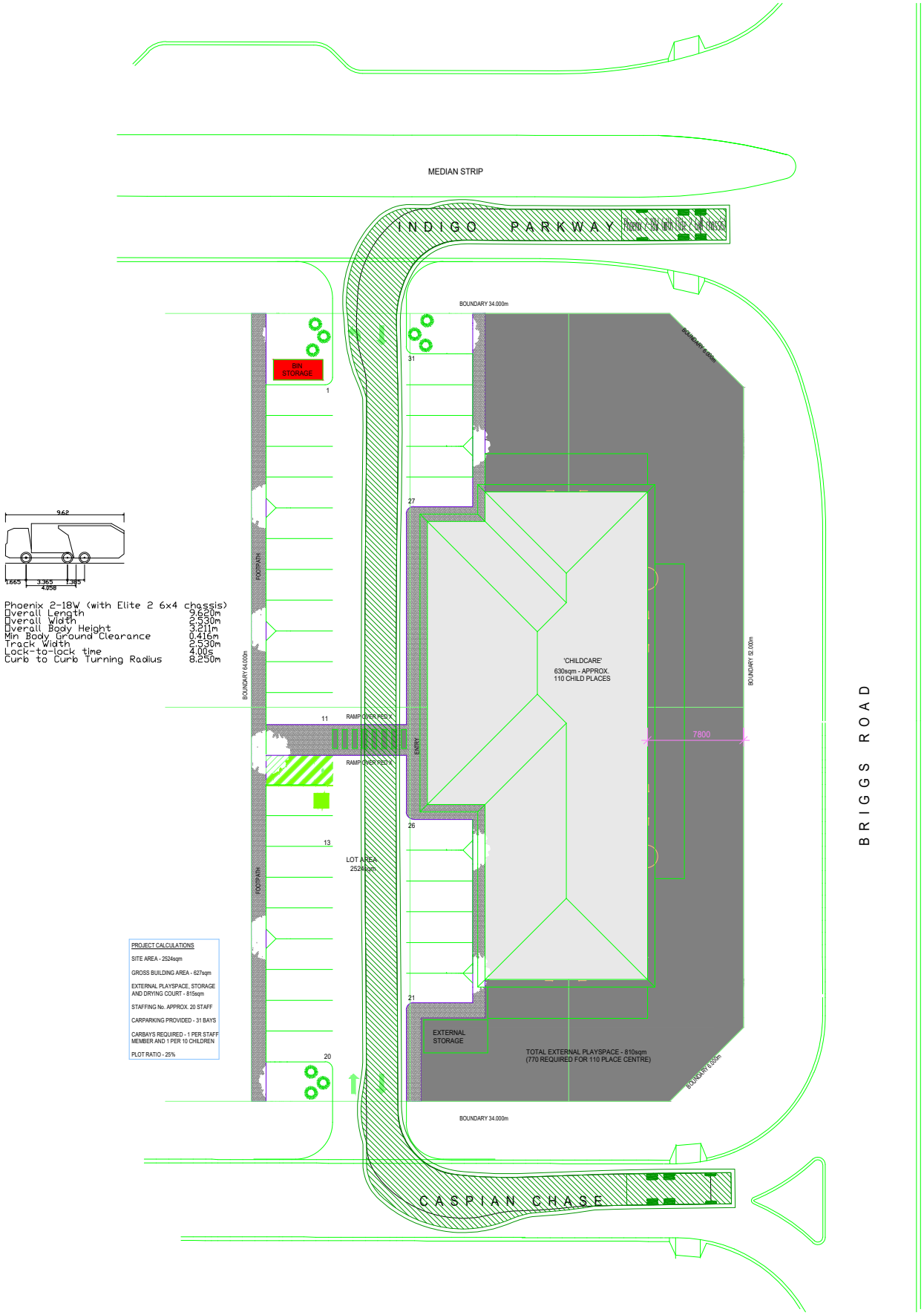
The number, type and location of the crashes appear to be typical and do not appear to indicate a major safety issue on the road network. There is also no indication that the proposed development will increase the risk of crashes to an unacceptable level.

9 Conclusion

This Transport Impact Statement for the proposed child care centre in Byford concludes the following:

- The proposed development is predicted to generate approximately 450 vehicle trips per day including 86 trips during the morning peak hour and 87 during the afternoon peak hour. This volume of traffic is moderate and can be accommodated within the existing capacity of the road network with no modifications required.
- There is sufficient capacity along Briggs Road to accommodate the increased traffic generated by the two child care centre proposals on either side of Briggs Road. It is also noted that some of the existing traffic along Briggs Road will be redistributed to Malarkey Road once Malarky Road is connected between Thomas Road and Indigo Parkway.
- The proposed access arrangement has been modified from the original proposal by removing entry movements at the proposed crossover on Indigo Parkway. Therefore the development will only generate through movements along Briggs Road past this intersection and there is no risk of queuing from the Indigo Parkway crossover back towards Briggs Road and the interim access for the adjacent proposed child care centre.
- The location and layout of the proposed vehicle access is considered to be appropriate from a traffic and safety perspective. A preliminary review indicates that the required sight distance will be achievable from both proposed vehicle accesses.
- The provision of 31 car parking bays exceeds the minimum requirements of the Shire's current Town Planning Scheme and complies with the requirements of the Draft Local Planning Scheme.
- The demand for bicycle parking is expected to be low and limited to staff only. Child care centres are typically well secured sites and so staff could potentially park within the site where there is room to do so.
- The parking layout complies with the User Class 1 standards of AS2890.1 for long term parking. However, the width of the bays are 100mm narrower than the User Class 3 standards. It is recommended to consider widening a number of bays to 2.6m to provide for higher turnover pick-up and drop-off parking.
- The existing and planned path network is considered to be adequate for the movement of pedestrians and cyclists to and from the development.
- The crash history of the adjacent road network did not indicate any safety issue on the adjacent road network and there is no indication that the development would increase the risk of crashes to an unacceptable level.
- The demand for public transport is likely to be relatively low based on the proposed uses and so the existing public transport services are considered to be adequate to meet the likely demand.

Appendix A – Swept Path Analysis


MEDIAN STRIP
INDIGO PARKWAY
Phoenix 2-18W (with Elite 2 6x4 chassis)
BOUNDARY 34.000m
BOUNDARY 6.000m
BIN STORAGE
1
31
27
FOOTPATH
BOUNDARY 64.000m
'CHILDCARE'
630sqm - APPROX.
110 CHILD PLACES
BOUNDARY 52.000m
11
RAMP OVER PED X
ENTRY
7800
RAMP OVER PED X
26
13
LOT AREA
2524sqm
FOOTPATH
21
EXTERNAL STORAGE
TOTAL EXTERNAL PLAYSPACE - 810sqm
(770 REQUIRED FOR 110 PLACE CENTRE)
20
BOUNDARY 6.000m
BOUNDARY 34.000m
CASPIAN CHASE
BRIGGS ROAD
9.62
1.665
3.365
4.058
1.385
Phoenix 2-18W (with Elite 2 6x4 chassis)
Overall Length 9.620m
Overall Width 2.530m
Overall Body Height 3.211m
Min Body Ground Clearance 0.416m
Track Width 2.530m
Lock-to-lock time 4.00s
Curb to Curb Turning Radius 8.250m
PROJECT CALCULATIONS
SITE AREA - 2524sqm
GROSS BUILDING AREA - 627sqm
EXTERNAL PLAYSPACE, STORAGE AND DRYING COURT - 815sqm
STAFFING No. APPROX. 20 STAFF
CARPARKING PROVIDED - 31 BAYS
CARBAYS REQUIRED - 1 PER STAFF MEMBER AND 1 PER 10 CHILDREN
PLOT RATIO - 25%

Proposed Childcare Facility

Lot 9511 Cnr Indigo Parkway and Briggs Road, Byford

Bushfire Management Plan

Date: 22 February 2023

Prepared For: Spagnolo Developments Pty Ltd

Linfire Ref: 20221122255ROWE-BMP-001_0

Linfire Consultancy

ABN: 577 930 47299

BPAD Bushfire Planning & Design Accredited Practitioner Level 3

Revision	Issue Date	Revision Description	Approved By
0	22 Feb 2023	Issued for Approval	Linden Wears (Level 3 BPAD 19809)

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Fire is an unpredictable force of nature. Changing climatic factors (whether predictable or otherwise) either before or at the time of a fire can also significantly affect the nature of a fire and in a bushfire prone area it is not possible to completely guard against bushfire. The mitigation strategies contained in this Bushfire Management Plan (BMP) are considered to be prudent minimum standards only, based on the standards prescribed by relevant authorities. It is expressly stated that Linfire do not guarantee that if such standards are complied with or if a property owner exercises prudence, that a building or property will not be damaged or that lives will not be lost in a bush fire.

Further, the achievement of the level of implementation of fire precautions will depend on the actions of the landowner or occupiers of the land, over which Linfire has no control. If the proponent becomes concerned about changing factors then either a review of the existing BMS/BMP, or a new BMS/BMP, should be requested. Linfire accepts no liability or responsibility whatsoever for or in respect of any use or reliance upon this report and its supporting material by any third party.

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1.0 Proposal details

1.1 Background

Spagnolo Development Pty Ltd (the Proponent) is seeking to lodge a development application for a childcare facility at part Lot 9511 Cnr Indigo Parkway and Briggs Road, Byford (the project area) in the Shire of Serpentine-Jarrahdale. The project area is formed from 6 future lots (Lots 367-369 & 371-373) to be created, and if required amalgamated, as part of Stage 7 of the Byford Meadows subdivision. Further information is provided in Section 1.2.

The proposed development (see Figure 1) will include the following:

- A childcare building
- External play space
- Internal road/driveways and pedestrian walkways
- Onsite landscaping

The development will have up to 110 children ranging in ages from 0-3+ years old, with up to 20 staff onsite in addition to parents dropping off, and picking up, their children.

1.2 Byford Meadow Subdivision

WAPC has issued approval for much of the Byford Meadows subdivision (WAPC ref: 15866, see Appendix 1), including the 6 lots that constitute the project area. Subdivisional works have been undertaken for much of the approved subdivision, with Stage 6 complete, and Stage 7 works expected to commence shortly (see Appendix 2 for Byford Meadows Stage 6 and 7 staging plans).

The subdivision application was supported by a Bushfire Management Plan (BMP) prepared by Bushfire Safety Consulting (dated April 2019) for the structure plan. It is a condition of the subdivision approval that compliance certification against this BMP is provided following completion of each stage, as part of the process to title the lots. Further information on the BMP is provided in Section 1.5.

Given the subdivisional works for Stage 7 are not yet complete, nor the project area lots titled, the following assumptions are made regarding the subdivisional works in order to inform the preparation of this BMP:

- Indigo Parkway and Caspian Chase will both be constructed, and connect from Briggs Road, to the existing temporary cul-de-sac turning heads installed as part of Stage 6 thereby providing through access from Briggs Road to existing residential land west of the project area.
- All residential lots included in Stage 7 (outside the six within the project area), will be cleared and managed in a low threat state (either by Developer or future landowner) until the lots are developed.
- Any landscaping in the POS located north of Indigo Parkway, will be non-vegetated elements and/or low threat landscaping, excludable under AS 3959 2.2.3.2 (e) and (f), and managed as such in perpetuity.
- Condition 17 of WAPC subdivision approval 158666 is satisfactorily cleared (which it is assumed it will be to enable titling of the Stage 7 lots).

While outside the current Byford Meadows subdivision, Lot 370 to the south of Caspian Chase (see Appendix 2) is under ownership of the subdivision developer, and is likely to be future primary school site however negotiations are still ongoing with the Department of Education.

It is also noted that there is residential development proposed to the east of Briggs Road as well as extension of the POS/drainage area which would eventually remove the bushfire hazard from this

interface, however the timing of this development is also unknown so is not relied upon in this BMP.

1.3 Site description

The proposed development to be on a 2524 m^2 cleared lot (see Figure 2), that forms part of the Byford Meadows subdivision site and is expected to be surrounded by the following:

- Indigo Parkway road to the north, with an area of managed POS and low threat drainage to be created as part of Stage 7 further north, and undeveloped land further north of the POS area.
- Cleared residential lots directly to the west created as part of Stage 7, with existing lots further west created in Stage 6.
- Caspian Chase road to the south, and undeveloped land within Lot 370 further south that is under negotiation for a future primary school use
- Briggs Road to the east, with an existing dwelling and low threat gardens, and unmanaged grassland, woodland and forest vegetation in existing rural residential lots.

1.4 Purpose

The project area is designated as bushfire prone on the *Map of Bush Fire Prone Areas* (DFES 2021; see Plate 1), which triggers requirements under *State Planning Policy 3.7: Planning in Bushfire Prone Areas* (SPP 3.7; WAPC 2015) and the accompanying *Guidelines for Planning in Bushfire Prone Areas* (the Guidelines).

This Bushfire Management Plan (BMP) has been prepared to address requirements under Policy Measure 6.5 of SPP 3.7 and the relevant aspects of the Guidelines.

The proposed development is considered to be a vulnerable land use which triggers additional requirements under Policy Measure 6.6 of SPP 3.7. This BMP has been prepared in accordance with Sections 5.4 and 5.5 of the Guidelines, which require development applications for vulnerable land uses to be accompanied by a Bushfire Emergency Management Plan (BEMP) which details the emergency management for the development.

Plate 1: Map of Bush Fire Prone Areas (DFES 2023)

1.5 Other plans/reports

As mentioned in Section 1.2, a BMP has previously been prepared by Bushfire Safety Consulting (dated April 2019) for the structure plan and has been conditioned as part of subdivision approval for compliance certification as part of the process to title the lots. The BMP details a variety of bushfire management measures in order to achieve compliance with SPP 3.7 and the Guidelines at the time of approval, with the following measures applicable to this BMP:

- *Ensure the central multi-purpose corridor is planted according to the landscape plans in Appendix 4 and more importantly fuel loads and fuels structure is managed as outlined in section 2.2*
- *At subdivision stage ensure water supply, vehicular access standards and internal APZs are established and maintained*
- *Install the public roads to standards outlined in Appendix 2*

Additionally, Figure 6 in the Bushfire Safety Consulting BMP states the following measures

- *The multiuse Landscape Corridor is design with several irrigated turf areas, walking and bike paths, playgrounds and BBQ facilities. All areas will be revegetated with native plants and will be fuel managed with regular pruning, removal of dead plant material and accumulated fine fuels, and pruning of branches 2m above ground level. The management regime will ensure the reserve remains classed as exclusion clause 2.2.3.2 (f).*
- *The primary school area will be managed in a low threat condition through the slashing of grass fuels and weeds whenever grass length exceeds 100mm, as will areas of the site withing 100 m of the subdivision stages, to ensure dwellings cannot be threatened by a grass fire in temporary grass fuels.*

Based on the information contained in the Bushfire Safety Consulting BMP, Linfire are assuming the following:

- The POS/drainage area north of Indigo Parkway will be modified to non-vegetated and/or low threat vegetation, to enable exclusion from classification as part of future subdivision works
- All public roads will be constructed in accordance with the specifications of the bushfire Guidelines, with street hydrants installed in accordance with Water Corporation requirements
- The school site to the south (Lot 370) is to be managed as low threat vegetation through regular slashing of grass.

Figure 1: Development Plan

Legend

- Proposed Deve opment
- Bu d ng Out ne
- Project Area

Assessment Area

- 100m
- 150m
- Cadastre

Scale 1: 1,700

0 20 40 60 Metres

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Figure 2: Site Overview

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2.0 Environmental considerations

2.1 Native vegetation - modification and clearing

The proposal will not require clearing of any remnant vegetation within the project area to accommodate the buildings or to implement the Asset Protection Zone or onsite landscaping, with all land already cleared of native vegetation.

Notwithstanding, Linfire assumes that all relevant environmental studies and clearing and environmental approvals will be obtained prior to commencing any on-site vegetation modification, if required.

2.2 Revegetation / Landscape Plans

No revegetation is proposed as part of the proposal.

Within the project area, given sufficient permanent separation already exists from classified vegetation, no Asset Protection Zones are proposed to protect the building, however where onsite landscaping is proposed, it is to consist of low threat and managed gardens in accordance with Schedule 1 of the Guidelines (refer to Appendix 4) and the requirements of AS 3959—2018 Clause 2.2.3.2 (f).

Outside the project area, the following assumptions are made:

- The POS and drainage north of Indigo Parkway, will likely be modified to non-vegetated elements or low threat vegetation as per AS 3959—2018 Clauses 2.2.3.2 (e) and (f), in accordance with the subdivision BMP as part of Stage 7 works, however for conservatism it has been assumed it could be unmanaged grassland with woodland along the Briggs Road verge.
- The vegetation within Lot 370 to the south of Caspian Chase will likely be managed as low threat vegetation until the primary school is developed, however for conservatism it has been assumed it could be unmanaged grassland.

3.0 Bushfire assessment results

3.1 Assessment inputs

3.1.1 Vegetation classification and effective slope

Linfire assessed classified vegetation and exclusions within 150 m of the project area through on-ground verification on 30 November 2022 in accordance with *AS 3959—2018 Construction of Buildings in Bushfire-Prone Areas* (AS 3959; SA 2018) and the *Visual Guide for Bushfire Risk Assessment in Western Australia* (DoP 2016). Georeferenced site photos and a description of the vegetation classifications and exclusions are contained in Appendix 3, and depicted in Figure 3 and Table 1.

3.1.2 Effective slope

Linfire assessed effective slope under classified vegetation through on-ground verification on 30 November 2022 in accordance with AS 3959. Results were cross-referenced with Landgate 10 m contour data and are depicted in Table 1 and Figure 3.

Site observations indicate there is a gentle rise in elevation from the north/north-west ascending to the south/south-east, resulting in the project area and surrounds being predominantly flat-upslope other than plots to the north and north-east having an effective slope of downslope of >0-5°.

3.1.3 Summary of inputs

Table 1 illustrates the anticipated post-development vegetation classifications and exclusions following completion of development works, including modification of existing vegetation to a non-vegetated or low threat state.

Table 1: Post-development vegetation classifications/exclusions and effective slope

Vegetation plot	Vegetation classification	Effective slope	Comments
1	Class G Grassland	Flat/upslope (0°)	Unmanaged grassland >100mm in height. The plot south of Caspian Chase appeared slashed and is required to be maintained as such under the subdivision BMP, however as it is within the future school site, and the timing of this development is unknown, this has conservatively been classified as grassland.
2	Class G Grassland	Downslope >0–5°	Unmanaged grassland >100mm in height, other than existing grassland in the future POS area to the north of Indigo Parkway.
3	Class A Forest	Flat/upslope (0°)	Forest vegetation within lots to the north-east and south-east of the development. Trees >10-30 m in height with connecting canopy cover and multi-tiered understorey fuel layers dominated by eucalyptus and banksia.
4	Class B Woodland	Flat/upslope (0°)	Woodland vegetation consisting of mature trees with grassy understorey in rural residential paddock to the east.

Vegetation plot	Vegetation classification	Effective slope	Comments
5	Class B Woodland	Flat/upslope (0°)	Woodland vegetation consisting of mature trees with grassy understorey in Briggs Rd verge to the north. This is expected this will be modified to low threat vegetation as part of Stage 7 subdivisional works in the POS corridor, but has been conservatively classified as woodland to reflect the current vegetation.
6	Class G Grassland	Downslope >0–5°	Unmanaged grassland >100mm in height within future POS to the north of Indigo Parkway. This is expected this will be modified to low threat vegetation as part of Stage 7 subdivisional works in the POS corridor, but has been conservatively classified as grassland to reflect the current vegetation.
7	Excluded – Clause 2.2.3.2 [a]	N/A	Vegetation more than 100 m from the project area
8	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])	N/A	Existing non-vegetated elements (roads, paths, buildings) and low threat vegetation (managed gardens, maintain lawn) including lots cleared for Stage 6 of the subdivision.
9	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])	N/A	Areas to be modified to non-vegetated elements and low threat vegetation as part of subdivision development for Stage 7 to be conducted prior to this development
10	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])	N/A	Areas to be modified to non-vegetated elements and low threat vegetation as part of this development.

Legend

- Photo Locat on
- Proposed Deve opment
- Contours
- Bu d ng Out ne
- Project Area

Assessment Area

- 100m
- 150m
- Cadastre
- Vegetat on P ot

C ass f ed Vegetat on

- A. Forest
- B. Wood and
- G. Grass and
- Exc uded C ause 2.2.3.2(a)
- Exc uded C ause 2.2.3.2(e&f)
- Mod f ed to non vegetated and ow threat

Scale 1: 1,700

0 20 40 60 Metres

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Figure 3: Post-development vegetation and effective slope

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3.2 Assessment outputs

3.2.1 Bushfire Attack Level (BAL) contour assessment

Linfire has undertaken a BAL contour assessment in accordance with Method 1 of AS 3959 for the project area (see Figure 4). The Method 1 procedure incorporates the following factors:

- state-adopted FDI 80 rating
- vegetation classification
- effective slope
- distance maintained between proposed development areas and the classified vegetation.

The BAL rating gives an indication of the level of bushfire attack (i.e. the radiant heat flux) that may be received by proposed future development and subsequently informs the standard of building construction and/or setbacks required for proposed habitable development to potentially withstand such impacts.

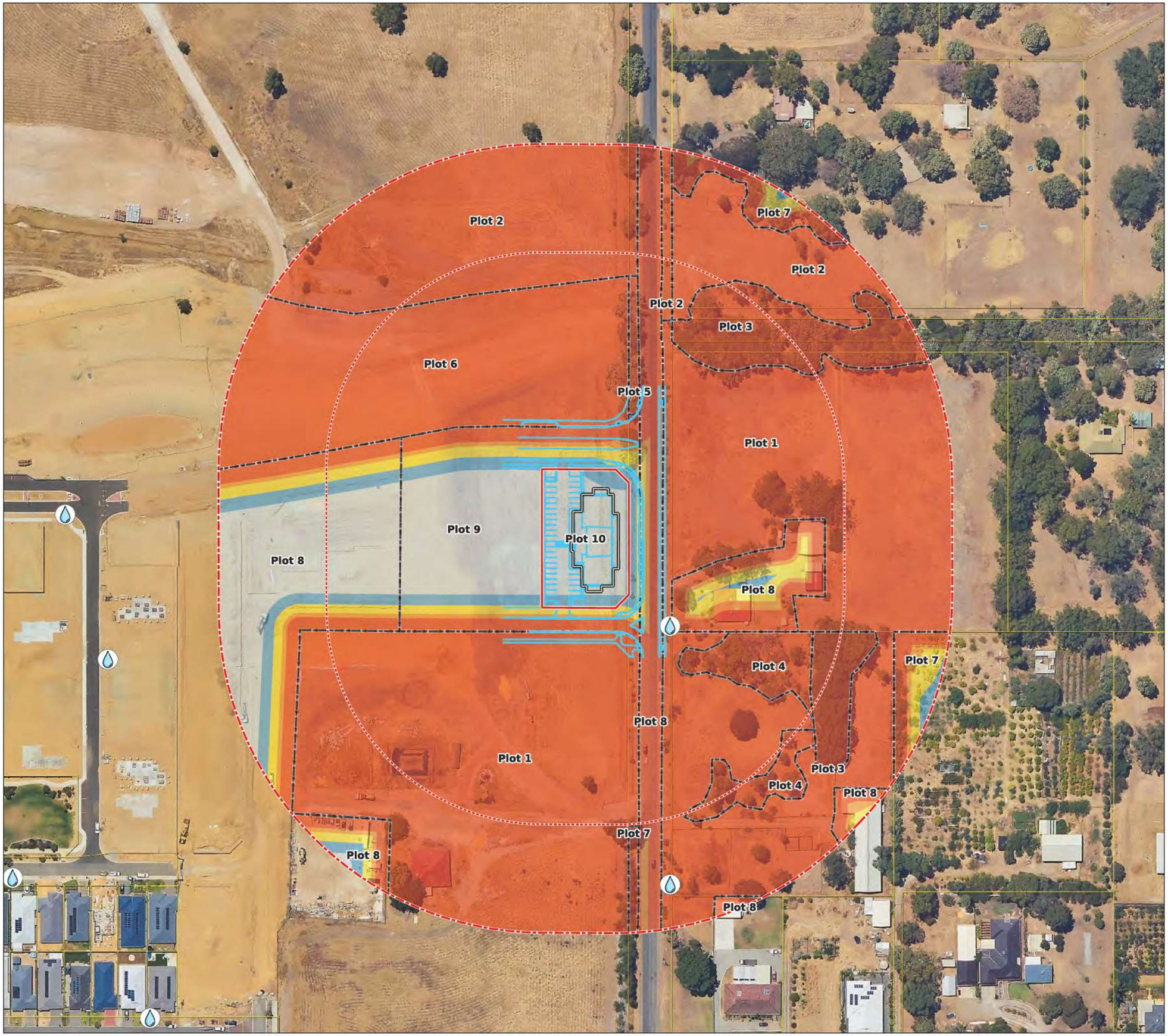
The BAL contours are based on:

- the vegetation classifications and effective slope observed at the time of inspection
- the anticipated post-development vegetation based on proposed on-site clearing extent, and resultant vegetation exclusions and separation distances, achieved to implement the proposed development (see Sections 1.2, 1.5, 2.2 and Table 1)

The results of the BAL contour assessment are detailed in Table 2 and illustrated in Figure 4. The highest BAL applicable to the proposed building is BAL–12.5.

Table 2: BAL contour assessment results (to proposed buildings)

Method 1 BAL determination					
Plot	**Vegetation classification**	**Calculation method**	**Effective slope**	**Separation (m)**	**BAL**
1	Class G Grassland	Method 1	Flat/upslope (0°)	18 m	BAL-12.5
2	Class G Grassland	Method 1	Downslope >0–5°	>50 m	BAL–Low
3	Class A Forest	Method 1	Flat/upslope (0°)	73 m	BAL–12.5
4	Class B Woodland	Method 1	Flat/upslope (0°)	46 m	BAL–12.5
5	Class B Woodland	Method 1	Flat/upslope (0°)	36 m	BAL–12.5
6	Class G Grassland	Method 1	Downslope >0–5°	30 m	BAL–12.5
7	Excluded – Clause 2.2.3.2 [a]	N/A	N/A	N/A	N/A
8	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])	N/A	N/A	N/A	N/A
9	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])	N/A	N/A	N/A	N/A
10	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])	N/A	N/A	N/A	N/A



Legend

- Water Hydrant
- Proposed Deve opment
- Bu d ng Out ne
- Project Area

Assessment Area

- 100m
- 150m
- Cadastre
- Vegetat on P ot

BAL Contours

- BAL FZ
- BAL 40
- BAL 29
- BAL 19
- BAL 12.5
- BAL Low

Scale 1: 1,700

0 20 40 60 Metres

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Figure 4: BAL contour plan and bushfire management measures

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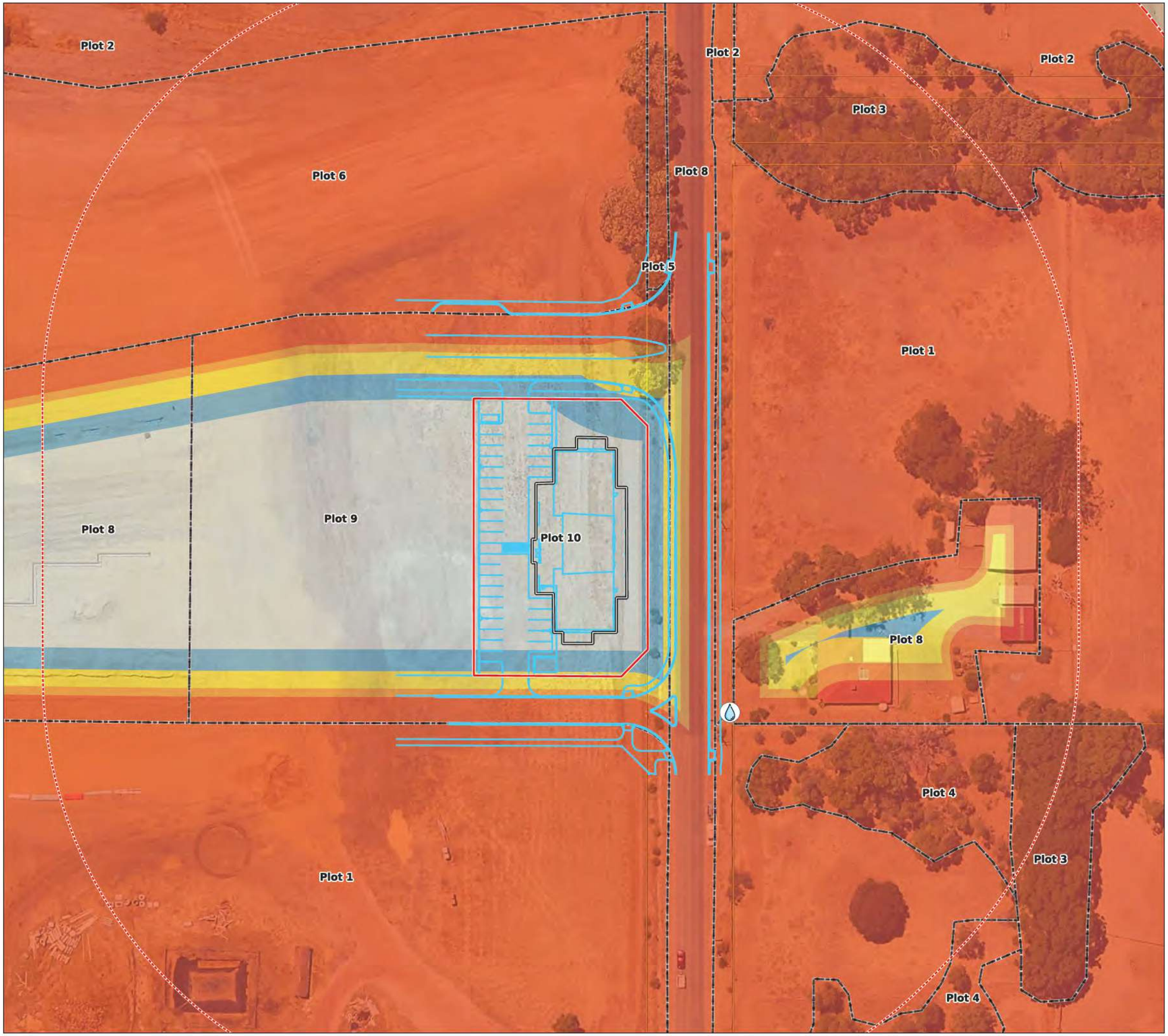

Legend

- Water Hydrant
- Proposed Deve opment
- Bu d ng Out ne
- Project Area

Assessment Area

- 100m
- 150m
- Cadastre
- Vegetat on P ot

BAL Contours

- BAL FZ
- BAL 40
- BAL 29
- BAL 19
- BAL 12.5
- BAL Low

Scale 1: 850

0 10 20 30 Metres

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Figure 4: BAL contour plan and bushfire management measures (zoom)

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4.0 Identification of bushfire hazard issues

4.1 Bushfire context

The greatest bushfire threat to the proposed development is likely from the north-east, given the potential for extended fire runs of over 600 m through fragmented forest vegetation from this direction, although this transitions to predominantly grassland vegetation within 75 m of the project area. Any bushfire approaching the development from this direction, can be expected to reach reasonable well-developed bushfire behaviour sufficient to produce elevated radiant heat and ember attack. Notwithstanding, a bushfire from this direction represents a threat to the proposed building and occupants, if not appropriately managed.

Bushfires are also possible through grassland to the north and north-west, where there are tracts of potentially unmanaged grassland that could support a fire if ignited. A plot of grassland exists to the south of the project area, however this is smaller than the plot to the north but could support a grassland bushfire given it could have a fire run up to 250 m long. It is noted that grassland in the proposed POS/drainage corridor to the north it likely to be modified as part of Stage 7 subdivision works prior to occupancy, while grassland to the south is within the future primary school lot that should be managed as a condition of the subdivision BMP.

4.2 Bushfire hazard issues

Examination of the bushfire risk assessment (Section 3.0) has identified the following bushfire hazard issues:

1. Ensuring sufficient separation between the proposed building and unmanaged vegetation will be required to limit bushfire impact.
2. Access to the facility is via an existing public road (Briggs Road) and future public roads (Indigo Parkway and Caspian Chase), with internal access limited to a driveway. Providing vehicular access appropriate to the bushfire risk and use of the buildings, will be important to ensure occupant egress is safe and fire brigade access is available.
3. Given the nearby interface with unmanaged vegetation and the potential evacuation challenge posed by occupants, a compliant bushfire fighting water supply for fire brigade to protect the proposed development will be critical.
4. Ensuring facility staff have a clear plan of how to prepare for, and manage a bushfire emergency, especially evacuation of students who will be unable to evacuate themselves, is also a vital issue to be addressed from a life safety perspective.

4.3 Bushfire safety strategy

The following bushfire safety strategy is proposed to demonstrate compliance with the Bushfire Protection Criteria of the Guidelines and address the bushfire hazards identified above:

1. Ensure appropriate separation between the proposed building and surrounding classified vegetation to achieve BAL-29 or lower, by establishing sufficient separation and onsite vegetation management within the project area.
2. Ensure the onsite vehicular access to the project area is compliant with the requirements for public roads of the Guidelines although the public road access will be provided as part of the Stage 7 subdivisional works.
3. Ensure a secure bushfire fighting water supply by ensuring the proposed building has a permanent and secure bushfire fighting water supply, using the existing street hydrants.
4. To ensure onsite staff are prepared for bushfire emergencies and are aware how best to manage evacuation of the site in a bushfire event, to prioritise protection of life. The strategy for this will be outlined within the facility BEMP.

It is acknowledged that the bushfire risk to the proposed development posed by these hazards can

be managed through a combination of standard application of Acceptable Solutions under the Guidelines.

5.0 Assessment against the bushfire protection criteria

5.1 Compliance table

An assessment against the bushfire protection criteria is provided in Table 3.

Table 3: Compliance with the bushfire protection criteria of the Guidelines

Bushfire protection criteria			Development response	
Performance Principle	**Acceptable solutions**	**Planning Stage**	**Method of compliance**	**Proposed bushfire management measures**
Element 1: Location *Intent: To ensure that strategic planning proposals, subdivision and development applications are located in areas with the least possible risk of bushfire to facilitate the protection of people, property and infrastructure*				
Performance Principle P1 The strategic planning proposal, subdivision and development application is located in an area where the bushfire hazard assessment is or will, on completion, be moderate or low, or a BAL–29 or below, and the risk can be managed. For unavoidable development in areas where BAL–40 or BAL–FZ applies, demonstrating that the risk can be managed to the satisfaction of the decision-maker.	A1.1 Development location The strategic planning proposal, subdivision and development application is located in an area that is or will, on completion, be subject to either a moderate or low bushfire hazard level, or BAL–29 or below.	**All**	**Acceptable Solution**	The BAL contour assessment (see Figure 4 and Table 2) shows that upon completion of the development and implementation of onsite low threat landscaping, the proposed building will be subject to a BAL rating of BAL–29 or lower.
Element 2: Siting and design of development ***Intent: To ensure that the siting and design of development minimises the level of bushfire impact.***				
Performance Principle P2 The siting and design of the strategic planning proposal, subdivision or development application, including roads, paths and landscaping, is appropriate to the level of bushfire threat that applies to the site. The proposal incorporates a defendable space and significantly reduces the heat intensities at the building surface thereby minimising the bushfire risk to people, property and infrastructure, including compliance with AS 3959 if appropriate.	A2.1 Asset Protection Zone (APZ) Every habitable building is surrounded by, and every proposed lot can achieve, an APZ depicted on submitted plans, which meets the following requirements: **Width**: Measured from any external wall or supporting post or column of the proposed building, and of sufficient size to ensure the potential radiant heat impact of a bushfire does not exceed 29kW/m² (BAL–29) in all circumstances. **Location:** the APZ should be contained solely within the boundaries of the lot on which the building is situated, except in instances where the neighbouring lot or lots will be managed in a low-fuel state on an ongoing basis, in perpetuity (see explanatory notes) **Management:** the APZ is managed in accordance with the requirements of 'Standards for Asset Protection Zones' (see Guidelines Schedule 1).	**All**	**Acceptable Solution**	On completion of development, the proposed childcare building is expected to be sited in a BAL-12.5 area following Stage 7 subdivisional works, and does not require an Asset Protection Zone (APZ) to reduce the bushfire risk to an acceptable level. The majority of the project area will consist of non-vegetated elements with land to the north, east and south to be public roads with future residential dwellings to the west. Notwithstanding, the proposed onsite landscaping within the project area in the external play space is to be established and maintained by the Proponent in accordance with Schedule 1 of the Guidelines (see Appendix 4) and the principles of AS 3959 Clause 2.2.3.2 (f). Similarly, landscaping of Briggs Road verge is also to be established to a low threat vegetation standard, and managed by either the Shire (or the childcare facility manager) in perpetuity, to ensure ongoing exclusion.

Bushfire protection criteria			Development response	
Performance Principle	**Acceptable solutions**	**Planning Stage**	**Method of compliance**	**Proposed bushfire management measures**
Element 3: Vehicular access ***Intent: To ensure that the vehicular access serving a subdivision/ development is available and safe***				
Performance Principle P3i The design and capacity of vehicular access and egress is to provide for the community to evacuate to a suitable destination before a bushfire arrives at the site, allowing emergency services personnel to attend the site and/or hazard vegetation.	A3.1 Public Roads *The minimum requirements under this acceptable solution are applicable to all proposed and existing public roads.* Public roads are to meet the minimum technical requirements in Table 6, Column 1. The trafficable (carriageway/pavement) width is to be in accordance with the relevant class of road in the Local Government Guidelines for Subdivisional Development (IPWEA Subdivision Guidelines), Liveable Neighbourhoods, Austroad standards and/or any applicable standards for the local government area.	**SP, Sb, Do**	**Existing compliance with Acceptable Solution (including roads constructed as part of Stage 7)**	No public roads are proposed as part of this development. Existing public road access is provided by Briggs Road to the east. New public roads to the north and south, namely Indigo Parkway and Caspian Chase, are to be constructed prior to occupancy of this development as part of the Stage 7 subdivisional works.
	A3.2a Multiple access routes Public road access is to be provided in two different directions to at least two different suitable destinations with an all-weather surface (two-way access). If the public road access to the subject site is via a no-through road which cannot be avoided due to demonstrated site constraints, the road access is to be a maximum of 200 metres from the subject lot(s) boundary to an intersection where two-way access is provided. The no-through road may exceed 200 metres if it is demonstrated that an alternative access, including an emergency access way, cannot be provided due to site constraints and the following requirements are met: • the no-through road travels towards a suitable destination; and • the balance of the no-through road, that is greater than 200 metres from the subject site, is wholly within BAL-LOW, or is within a residential built-out area – Figure 23.	**SP, Sb, Do**	**Acceptable Solution**	From the project area, Indigo Parkway and Caspian Chase will provide access to Briggs Road, from where travel can be undertaken north to Thomas Road or south to Larsen Road or Eurythmic Road. Additionally, on the basis that Indigo Parkway and Caspian Chase are connected to the existing public road network to the west, travel west will be possible into existing residential areas. On this basis, public road access is provided in different direction to different destinations, thereby providing multiple access routes.
	A3.2b Emergency access way *Where it is demonstrated that A3.2a cannot be achieved due to site constraints, or where an alternative design option does not exist, an emergency access way can be considered as an acceptable solution.* An emergency access way is to meet all the following requirements: • requirements in Table 6, Column 2; • provides a through connection to a public road; • be no more than 500 metres in length; and • must be signposted and if gated, gates must open the whole trafficable width and remain unlocked.	**SP, Sb, Do**	**Not Applicable**	No permanent emergency access ways (EAW) are proposed as part of this proposal.
	A3.3 Through roads All public roads should be through-roads. No-through roads should be avoided and should only be considered as an acceptable solution where: • it is demonstrated that no alternative road layout exists due to site constraints; and • the no-through road is a maximum length of 200 metres to an intersection providing two-way access, unless it satisfies the exempt ion provisions in A3.2a of this table. A no-through road is to meet all the following requirements: • requirements of a public road (Table 6, Column 1); and • turn-around area as shown in Figure 24	**SP, Sb**	**Existing compliance with Acceptable Solution (including roads constructed as part of Stage 7)**	No permanent no-through roads are proposed as part of this proposal. Indigo Parkway and Caspian Chase are assumed to be connected to the existing public road network to the west, as part of Stage 7 subdivisional works to be conducted prior to this development.

Bushfire protection criteria			Development response	
Performance Principle	**Acceptable solutions**	**Planning Stage**	**Method of compliance**	**Proposed bushfire management measures**
Performance Principle P3ii The internal layout, design and construction of public and private vehicular access and egress in the subdivision / development allow emergency and other vehicles to move through it safely and easily. The design of vehicular access and egress provides: • access and egress for emergency service vehicles while allowing the community to evacuate; • a defendable space for emergency services personnel on the interface between classified vegetation and development site; and • hazard separation between classified vegetation and the subject site to reduce the potential radiant heat that may impact a lot(s).	A3.4a Perimeter Roads Two different vehicular access routes are provided, both of which connect to the public road network, provide safe access and egress to two different destinations and are available to all residents/the public at all times and under all weather conditions. A perimeter road is a public road and should be provided for greenfield or infill development where 10 or more lots are being proposed (including as part of a staged subdivision) with the aim of: • separating areas of classified vegetation under AS3959, which adjoin the subject site, from the proposed lot(s); and • removing the need for battle-axe lots that back onto areas of classified vegetation. A perimeter road is to meet the requirements contained in Table 6, Column 1. A perimeter road may not be required where: • the adjoining classified vegetation is Class G Grassland; • lots are zoned for rural living or equivalent; • it is demonstrated that it cannot be provided due to site constraints; or • all lots have frontage to an existing public road	**SP, Sb**	**Not Applicable**	No public roads are proposed as part of the development.
Performance Principle P3iii Vehicular access is provided which allows: • access and egress for emergency service vehicles; • defendable space for emergency services personnel on the interface between classified vegetation and development; and • hazard separation between classified vegetation and the site to reduce the potential radiant heat that may impact a lot(s).	A3.4b Fire service access route *Where proposed lots adjoin classified vegetation under AS3959, and a perimeter road is not required in accordance with A3.4a, a fire service access route can be considered as an acceptable solution to provide firefighter access, where access is not available, to the classified vegetation.* A fire service access route is to meet all the following requirements: • requirements in Table 6, Column 3; • be through-routes with no dead-ends; • linked to the internal road system at regular intervals, every 500 metres; • must be signposted; • no further than 500 metres from a public road; • if gated, gates must open the required horizontal clearance and can be locked by the local government and/or emergency services, if keys are provided for each gate; and • turn-around areas designed to accommodate type 3.4 fire appliances and to enable them to turn around safely every 500 metres.	**SP, Sb**	**Not Applicable**	The proposed development does not require fire service access routes (FSARs).
Performance Principle P3iv Vehicular access is provided which allows emergency service vehicles to directly access all habitable buildings and water supplies and exit the lot without entrapment	A3.5 Battle-axe access legs *Where it is demonstrated that a battle-axe cannot be avoided due to site constraints, it can be considered as an acceptable solution.* There are no battle-axe technical requirements where the point the battle-axe access leg joins the effective area of the lot, is less than 50 metres from a public road in a reticulated area. In circumstances where the above condition is not met, or the battle-axe is in a non-reticulated water area, the battle-axe is to meet all the following requirements: • requirements in Table 6, Column 4; and • passing bays every 200 metres with a minimum length of 20 metres and a minimum additional trafficable width of two metres (i.e. the	**Sb**	**Not applicable**	No battle-axe legs are proposed as part of the development and the project area is not serviced by an existing battle-axe.

Bushfire protection criteria			Development response	
Performance Principle	**Acceptable solutions**	**Planning Stage**	**Method of compliance**	**Proposed bushfire management measures**
	combined trafficable width of the passing bay and constructed private driveway to be a minimum six metres)			
	A3.6 Private driveways There are no private driveway technical requirements where the private driveway is: • within a lot serviced by reticulated water; • no greater than 70 metres in length between the most distant external part of the development site and the public road measured as a hose lay; and • accessed by a public road where the road speed limit is not greater than 70 km/h. In circumstances where all of the above conditions are not met, or the private driveway is in a non-reticulated water area, the private driveway is to meet all the following requirements: • requirements in Table 6, Column 4; • passing bays every 200 metres with a minimum length of 20 metres and a minimum additional trafficable width of two metres (i.e. the combined trafficable width of the passing bay and constructed private driveway to be a minimum six metres); and • turn-around area as shown in Figure 28 and within 30 metres of the habitable building.	**Dd, Do**	**Not applicable**	As the project area is within 70 m of Indigo Parkway, Caspian Chase and Briggs Road, whose speed limit is less than 70 km/hr and with existing street hydrants (in Briggs Road) and new street hydrants proposed on the new public roads, there is no requirement to comply with the private driveway specifications.
Element 4: Water ***Intent: To ensure that water is available to enable people, property and infrastructure to be defended from bushfire***				
No Performance Principle Applies	A4.1 Identification of future water supply	**SP**	**Not applicable**	Not applicable to this planning stage
Performance Principle P4 The subdivision, development or land use is provided with a permanent and secure water supply that is sufficient for firefighting purposes. Provide a permanent water supply that is: • sufficient and available for firefighting purposes; • constructed from non-combustible materials (e.g. steel), or able to • maintain its integrity throughout a bushfire; and accessible, with legal access for maintenance and re-filling by tankers and emergency service vehicles	A4.2 Provision of water for firefighting purposes Where a reticulated water supply is existing or proposed, hydrant connection(s) should be provided in accordance with the specifications of the relevant water supply authority. Where these specifications cannot be met, then the following applies: • The provision of a water tank(s), in accordance with the requirements of Schedule 2; and • Where the provision of a strategic water tank(s) is applicable, then the following requirements apply: o land to be ceded free of cost to the local government for the placement of the tank(s); o the lot or road reserve where the tank is to be located is identified on the plan of subdivision; o tank capacity, construction, and fittings, provided in accordance with the requirements of Schedule 2; and o a strategic water tank is to be located no more than 10 minutes from the subject site (at legal road speeds). Where a subdivision includes an existing habitable building(s) that is to be retained, a water supply should be provided to this existing habitable building(s), in accordance with the requirements listed above.	**Sb, Dd, Do**	**Acceptable Solution**	The proposed development is connected to reticulated water supply from the existing town main supply complete with existing street hydrants, with the nearest approximately 25 m south-east of the project area on Briggs Road (see Figure 4).

*** *Applicable Planning Stages* (SP** - Strategic planning and structure plan where lot layout is unknown; **Sb** - Structure plan where lot layout is known and subdivision application; **Dd** – Development application for a single dwelling, ancillary dwelling or minor development; **Do** – Development application for any other development)

6.0 Bushfire management measures

Linfire makes the following additional bushfire management recommendations to inform ongoing planning stages of the development and increase the level of bushfire risk mitigation across the site.

6.1 Stage 7 subdivisional works

Given the subdivisional works for Stage 7 are not yet complete, nor the project area lots titled, the following assumptions are made regarding the subdivisional works in order to inform the preparation of this BMP:

- Indigo Parkway and Caspian Chase will both be constructed and connect from Briggs Road, to the existing temporary cul-de-sac turning heads installed as part of Stage 6. The public roads are to comply with the subdivision BMP and the specification from the bushfire Guidelines.
- All residential lots included in Stage 7 (outside the six within the project area), will be cleared and managed in a low threat state (either by Developer or future landowner) until the lots are developed.
- Any landscaping in the POS located north of Indigo Parkway, will be non-vegetated elements and/or low threat landscaping in accordance with the subdivision BMP and any relevant landscaping plans, and be excludable under AS 3959 2.2.3.2 (e) and (f), and managed as such in perpetuity.
- Condition 17 of WAPC subdivision approval 158666 is satisfactorily cleared (which it is assumed it will be to enable titling of the Stage 7 lots).

6.2 Vegetation Modification and Management

The BAL contour assessment is reliant on the following vegetation modification being implemented and maintained:

- Onsite landscaping within the project area
- Offsite landscaping within the POS/drainage corridor
- Offsite vegetation management within primary school site
- Road verge management

6.2.1 Onsite Landscaping (within project area)

Within the project area, the vegetation modification and landscaping in the external play space is to be established in accordance with AS 3959 Clause 2.2.3.2 (f) and Schedule 1 of the Guidelines (refer to Appendix 4) to enable exclusion in accordanc with AS 3959 2.2.3.2 (e) and (f).

6.2.2 Offsite landscaping (within POS/drainage corridor)

In accordance with the subdivision BMP, the POS/drainage corridor north of Indigo Parkway will be modified to non-vegetated and/or low threat vegetation in accordance with the subdivision BMP, to enable exclusion from classification as per AS 3959—2018 Clauses 2.2.3.2 (e) and (f). The implementation and ongoing management of this corridor in perpetuity, is expected to be by the Byford Meadows Developer and the Shire.

It is noted that while it is likely the corridor will be modified as part of Stage 7 works, for conservatism this BMP has assumed this corridor could be unmanaged grassland with woodland along the Briggs Road verge, should these works be delayed.

6.2.3 Offsite vegetation management (within primary school site)

In accordance with the subdivision BMP, vegetation within Lot 370 to the south of Caspian Chase will likely be managed as low threat vegetation until the primary school is developed, which is expected to be undertaken by the Byford Meadows Developer. For conservatism, this BMP assumes this plot could become unmanaged grassland.

6.2.4 Road verge fuel management

Existing and future road verges (e.g. Briggs Road) that have been excluded as low threat are to be managed to ensure the understorey and surface fuels remain in a low threat, minimal fuel condition in accordance with Clause 2.2.3.2 (f) of AS 3959. Ongoing road verge management is the responsibility of the Byford Meadows Developer until handover, and the Shire (or childcare facility manager) thereafter.

6.3 Building construction standards

Bushfire construction provisions of the National Construction Code require that Class 1, 2, 3 and associated Class 10a buildings comply with the bushfire specific construction requirements of AS 3959 or the NASH standards. As the proposed building doesn't include any of the above building classifications, there is no statutory trigger to adopt bushfire construction requirements.

While it is noted there is no statutory trigger to comply with the bushfire construction requirements, given the use by vulnerable occupants, it is recommended consideration is given to constructing the buildings to comply with the assessed BAL rating to provide resilience to bushfire attack, or comply with the BAL-12.5 specifications which are primarily aimed at resilience to ember attack.

6.4 Vulnerable land use

The proposed development constitutes a vulnerable land use. On this basis, a Bushfire Emergency Evacuation Plan (BEMP) is required to address the requirements of Policy Measure 6.6.1 of SPP 3.7.

The BEMP accompanies this BMP, and provides procedures to assist with the offsite evacuation of occupants during a bushfire emergency, or onsite shelter-in-place as a last resort if it is not safe to evacuate offsite. It is a requirement of this BMP that the BEMP is finalised and implemented by the Proponent prior to occupancy, and reviewed on an annual basis.

6.5 BAL compliance and/or BAL assessment report

A BAL compliance and/or BAL assessment report may be prepared at the discretion of the City, prior to construction, following completion of construction works or prior to issue of certificate of occupancy, to validate and confirm the accuracy of the BAL contour assessment. The Building Certifier may also require a revised BAL assessment to confirm the BAL rating to buildings, prior to submission of building licence.

6.6 Compliance with annual firebreak notice

The Proponent is to comply with the current Shire of Serpentine Jarrahdale annual firebreak notice (refer to Appendix 5), including any approved variations (should they exist).

7.0 Responsibilities for implementation and management of the bushfire measures

Implementation of the BMP applies to the Proponent and the Shire to ensure bushfire management measures are adopted and implemented on an ongoing basis. A bushfire responsibilities table is provided in Table 4 to drive implementation of all bushfire management works associated with this BMP.

Table 4: Responsibilities for implementation and management of the bushfire measures

Implementation/management table	
Byford Meadows Developer – prior to development occupation	
No.	*Implementation action*
1A	Ensure Indigo Parkway and Caspian Chase are both constructed and connect from Briggs Road, to the existing temporary cul-de-sac turning heads installed as part of Stage 6. The public roads are to comply with the subdivision BMP and the specification from the bushfire Guidelines.
1B	All residential lots included in Stage 7 (outside the six within the project area) are cleared and managed in a low threat state until the lots are sold to future landowner.
1C	Any landscaping in the POS/drainage corridor located north of Indigo Parkway, consists of non-vegetated elements and/or low threat landscaping in accordance with the subdivision BMP and any relevant landscaping plans, and be excludable under AS 3959 2.2.3.2 (e) and (f), and managed as such in perpetuity.
1D	Condition 17 of WAPC subdivision approval 158666 is satisfactorily cleared.
Proponent – prior to development occupation	
No.	*Implementation action*
2A	Establish low threat landscaping across the project area and within Briggs Road verge adjacent to the project area, in accordance with the standards and to the extent detailed in the BMP and Appendix 4.
2B	Implement all requirements of the project Bushfire Emergency Evacuation Plan.
2C	If required by the City or Building Certifier, individual BAL assessment prior to issuing of building permits.
2D	Comply with the relevant local government annual firebreak notice issued under s33 of the Bush Fires Act 1954, including any approved variations.
Proponent (or childcare facility manager)– ongoing	
No.	*Implementation action*
3A	Maintain low threat landscaping across the project area and within Briggs Road verge adjacent to the project area, in accordance with the standards and to the extent detailed in the BMP and Appendix 4.
3B	Regularly review with the BEEP requirements to ensure they remain appropriate to the facility, and ensure continual implementation including all preparedness actions and training and exercise drills.
3C	Comply with the relevant local government annual firebreak notice issued under s33 of the Bush Fires Act 1954, including any approved variations.
Byford Meadows Developer – ongoing (or until handover to the Shire or future landowner)	
No.	*Implementation action*
4A	Maintain landscaping in the POS/drainage corridor as non-vegetated elements and/or low threat landscaping in accordance with the subdivision BMP and any relevant landscaping plans in

Implementation/management table	
	perpetuity. or until successful handover to the Shire.
4B	Maintain residential lots within Stage 6 and 7, in accordance with the subdivision BMP and the Shires firebreak notice, until sale to future land owner.
Shire of Serpentine Jarrahdale– ongoing (or following handover from Byford Meadows Developer)	
No.	*Implementation action*
5A	Maintain landscaping in the POS/drainage corridor as non-vegetated elements and/or low threat landscaping in accordance with the subdivision BMP and any relevant landscaping plans following successful handover by Byford Meadows Developer.
5B	Maintain road verges in a low threat minimal fuel condition as per Clause 2.2.3.2 (f) of AS 3959.
Future landowners (Stage 7 residential lots) – ongoing (following sale)	
No.	*Implementation action*
6A	Following sale from Byford Meadows Developer, maintain undeveloped lot in a low threat state, in accordance with the subdivision BMP and the Shires firebreak notice.

8.0 References

Department of Fire and Emergency Services (DFES) 2023, *Map of Bush Fire Prone Areas*, [Online], Government of Western Australia, available from: https://maps.slip.wa.gov.au/landgate/bushfireprone/,.

Department of Planning (DoP) 2016, *Visual guide for bushfire risk assessment in Western Australia*, Department of Planning, Perth.

Standards Australia (SA) 2018, Australian Standard *AS 3959–2018 Construction of Buildings in Bushfire-prone Areas*, Standards Australia, Sydney.

Western Australian Planning Commission (WAPC) 2015, *State Planning Policy 3.7 Planning in Bushfire Prone Areas*, Western Australian Planning Commission, Perth.

Western Australian Planning Commission (WAPC) 2021, *Guidelines for Planning in Bushfire Prone Areas*, Version 1.4 December 2021, Western Australian Planning Commission, Perth.

Appendix 1: Subdivision approval and plan

Western Australian Planning Commission

Your Ref : Byford Meadows - Stage 6

G & G Projects Pty Ltd
1/219 Midland Road
HAZELMERE WA 6055

Approval Subject To Condition(s)
Freehold (Green Title) Subdivision (Amended Plan)

Application No : 158666

Planning and Development Act 2005

Applicant	:	G & G Projects Pty Ltd 1/219 Midland Road HAZELMERE WA 6055
Owner	:	Pino Gangemi Midland Road HAZELMERE WA 6055
Application Receipt	:	7 November 2019

Lot Number	:	9505
Diagram / Plan	:	415696
Location	:	-
C/T Volume/Folio	:	2969/613
Street Address	:	Lot 9505 Briggs Road, Byford
Local Government	:	Shire of Serpentine Jarrahdale

The Western Australian Planning Commission has considered the application referred to and is prepared to endorse a deposited plan in accordance with the amended plan date-stamped **13 December 2019** once the condition(s) set out have been fulfilled.

This decision is valid for **four years** from the date of this advice, which includes the lodgement of the deposited plan within this period.

The deposited plan for this approval and all required written advice confirming that the requirement(s) outlined in the condition(s) have been fulfilled must be submitted by **14 May 2024** or this approval no longer will remain valid.

140 William Street, Perth, Western Australia 6000, Locked Bag 2506 Perth, 6001
Tel: (08) 6551 8002; Fax: (08) 6551 9001; Infoline: 1800 626 477
e-mail: info@dplh.wa.gov.au; web address http://www.dplh.wa.gov.au
ABN 35 482 341 493

Western Australian Planning Commission

Reconsideration - 28 days

Under section 151(1) of the *Planning and Development Act 2005*, the applicant/owner may, within 28 days from the date of this decision, make a written request to the WAPC to reconsider any condition(s) imposed in its decision. One of the matters to which the WAPC will have regard in reconsideration of its decision is whether there is compelling evidence by way of additional information or justification from the applicant/owner to warrant a reconsideration of the decision. A request for reconsideration is to be submitted to the WAPC on a Form 3A with appropriate fees. An application for reconsideration may be submitted to the WAPC prior to submission of an application for review. Form 3A and a schedule of fees are available on the WAPC website: http://www.planning.wa.gov.au

Right to apply for a review - 28 days

Should the applicant/owner be aggrieved by this decision, there is a right to apply for a review under Part 14 section 251 of the *Planning and Development Act 2005*. The application for review must be submitted in accordance with part 2 of the *State Administrative Tribunal Rules 2004* and should be lodged within 28 days of the date of this decision to: the State Administrative Tribunal, Level 6, State Administrative Tribunal Building, 565 Hay Street, PERTH, WA 6000. It is recommended that you contact the tribunal for further details: telephone 9219 3111 or go to its website: http://www.sat.justice.wa.gov.au

Deposited plan

The deposited plan is to be submitted to the Western Australian Land Information Authority (Landgate) for certification. Once certified, Landgate will forward it to the WAPC. In addition, the applicant/owner is responsible for submission of a Form 1C with appropriate fees to the WAPC requesting endorsement of the deposited plan. A copy of the deposited plan with confirmation of submission to Landgate is to be submitted with all required written advice confirming compliance with any condition(s) from the nominated agency/authority or local government. Form 1C and a schedule of fees are available on the WAPC website: http://www.planning.wa.gov.au

Condition(s)

The WAPC is prepared to endorse a deposited plan in accordance with the plan submitted once the condition(s) set out have been fulfilled. The condition(s) of this approval are to be fulfilled to the satisfaction of the WAPC.

The condition(s) must be fulfilled before submission of a copy of the deposited plan for endorsement.

The agency/authority or local government noted in brackets at the end of the condition(s) identify the body responsible for providing written advice confirming that the WAPC's requirement(s) outlined in the condition(s) have been fulfilled. The written advice of the agency/authority or local government is to be obtained by the applicant/owner. When the written advice of each identified agency/authority or local government has been obtained, it should be submitted to the WAPC with a Form 1C and appropriate fees and a copy of the deposited plan.

140 William Street, Perth, Western Australia 6000, Locked Bag 2506 Perth, 6001
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ABN 35 482 341 493

Western Australian Planning Commission

If there is no agency/authority or local government noted in brackets at the end of the condition(s), a written request for confirmation that the requirement(s) outlined in the condition(s) have been fulfilled should be submitted to the WAPC, prior to lodgement of the deposited plan for endorsement.

Prior to the commencement of any subdivision works or the implementation of any condition(s) in any other way, the applicant/owner is to liaise with the nominated agency/authority or local government on the requirement(s) it considers necessary to fulfil the condition(s).

The applicant/owner is to make reasonable enquiry to the nominated agency/authority or local government to obtain confirmation that the requirement(s) of the condition(s) have been fulfilled. This may include the provision of supplementary information. In the event that the nominated agency/authority or local government will not provide its written confirmation following reasonable enquiry, the applicant/owner then may approach the WAPC for confirmation that the condition(s) have been fulfilled.

In approaching the WAPC, the applicant/owner is to provide all necessary information, including proof of reasonable enquiry to the nominated agency/authority or local government.

The condition(s) of this approval, with the accompanying advice, are:

CONDITION(S):

Modification

1. The plan of subdivision being modified in accordance with the attached plan date stamped 9 April 2020 (Attachment A). (Western Australian Planning Commission)

Contributions

2. Arrangements being made with the Shire of Serpentine Jarrahdale to the satisfaction of the Western Australian Planning Commission, for the landowner/applicant to contribute towards the costs of providing community and/or common infrastructure as established through Amendment No.207 (when gazetted) to the Shire of Serpentine Jarrahdale Town Planning Scheme No.2. (Local Government)

3. The landowner/applicant contributing towards development infrastructure provisions pursuant to the Shire of Serpentine-Jarrahdale Local Planning Scheme No. 2. (Local Government)

140 William Street, Perth, Western Australia 6000, Locked Bag 2506 Perth, 6001
Tel: (08) 6551 8002; Fax: (08) 6551 9001; Infoline: 1800 626 477
e-mail: info@dplh.wa.gov.au; web address http://www.dplh.wa.gov.au
ABN 35 482 341 493

Western Australian Planning Commission

Drainage and Site Works

4. Engineering drawings and specifications are to be submitted, approved, and works undertaken in accordance with the approved engineering drawings, specifications and approved plan of subdivision, for grading and/or stabilisation of the site to ensure that:

   (a) lots can accommodate their intended use; and

   (b) finished ground levels at the boundaries of the lot(s) the subject of this approval match or otherwise coordinate with the existing and/ or proposed finished ground levels of the land abutting. (Local Government)

5. Engineering drawings and specifications are to be submitted and approved, and works undertaken in accordance with the approved engineering drawings and specifications and approved plan of subdivision, for the filling and/or draining of the land, including ensuring that stormwater is contained on-site, or appropriately treated and connected to the local drainage system. Engineering drawings and specifications are to be in accordance with an approved Urban Water Management Plan (UWMP) for the site or where no UWMP exists, to the satisfaction of the Western Australian Planning Commission. (Local Government)

6. Drainage easements and reserves as may be required by the local government for drainage infrastructure being shown on the diagram or plan of survey (deposited plan) as such, granted free of cost, and vested in that local government under Sections 152 and 167 of the Planning and Development Act 2005. (Local Government)

7. Prior to the commencement of subdivisional works, the landowner/applicant is to provide a pre-works geotechnical report certifying that the land is physically capable of development or advising how the land is to be remediated and compacted to ensure it is capable of development.

   In the event that remediation works are required, the landowner/applicant is to provide a post geotechnical report certifying that all subdivisional works have been carried out in accordance with the pre-works geotechnical report. (Local Government).

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Western Australian Planning Commission

Roads and Access

8. Engineering drawings and specifications are to be submitted, approved, and subdivisional works undertaken in accordance with the approved plan of subdivision, engineering drawings and specifications, to ensure that those lots not fronting an existing road are provided with frontage to a constructed road(s) connected by a constructed road(s) to the local road system and such road(s) are constructed and drained at the landowner/applicant's cost.

   As an alternative, and subject to the agreement of the Local Government the Western Australian Planning Commission (WAPC) is prepared to accept the landowner/applicant paying to the local government the cost of such road works as estimated by the local government and the local government providing formal assurance to the WAPC confirming that the works will be completed within a reasonable period as agreed by the WAPC. (Local Government)

9. Engineering drawings and specifications are to be submitted and approved, and subdivisional works undertaken in accordance with the approved plan of subdivision, engineering drawings and specifications to ensure that:

   a) street lighting is installed on all new subdivisional roads to the standards of the relevant licensed service provider and/or
   b) roads that have been designed to connect with existing or proposed roads abutting the subject land are coordinated so the road reserve location and width connect seamlessly and/or
   c) temporary turning areas are provided to those subdivisional roads that are subject to future extension and/or
   d) embayment parking is provided abutting the proposed public open space

   to the satisfaction of the Western Australian Planning Commission. (Local Government)

10. Engineering drawings and specifications are to be submitted and approved, and satisfactory arrangements being made for subdivisional works to be undertaken in accordance with the approved plan of subdivision and engineering drawings and specifications, for the construction of full earthworks, carriageway, shared path(s) and drainage facilities required within the application area. (Local Government)

11. Satisfactory arrangements being made with the local government for the full cost of upgrading and/or construction of Briggs Road in the locations where it abuts the application area to an urban standard. (Local Government)

12. The intersection of Briggs Road/Caspian Chase shall be constructed to function as left in/left out movement only. The landowner/applicant shall be responsible for all costs involved in this intersection modification. (Local Government)

13. All local streets within the subdivision being truncated in accordance with the Western Australian Planning Commission's *Liveable Neighbourhoods* policy (Local Government)

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Western Australian Planning Commission

Reserves and Environment

14. The proposed reserve(s) shown on the approved plan of subdivision being shown on the diagram or plan of survey (deposited plan) as reserve(s) for recreation and drainage and vested in the Crown under Section 152 of the *Planning and Development Act 2005*, such land to be ceded free of cost and without any payment of compensation by the Crown. (Local Government)

15. Arrangements being made for the proposed public open space to be developed by the landowner/ applicant to a minimum standard and maintained for two summers through the implementation of an approved landscape plan providing for the development and maintenance of the proposed public open space in accordance with the requirements of Liveable Neighbourhoods and to the specifications of the local government. (Local Government)

16. Measures being taken to ensure the identification and protection of any vegetation on the site worthy of retention that is not impacted by subdivisional works, prior to commencement of subdivisional works. (Local Government).

Bushfire

17. Information is to be provided to demonstrate that the measures contained in Section 6; Table 5 of the bushfire management plan Byford Meadows Estate Version 2, dated 6 April 2019 (as amended) have been implemented during subdivisional works. This information should include a completed 'Certification by Bushfire Consultant' from the bushfire management plan. (Local Government)

18. A notification, pursuant to Section 165 of the *Planning and Development Act 2005* is to be placed on the certificate(s) of title of the proposed lot(s) with a Bushfire Attack Level(BAL) rating of 12.5 or above, advising of the existence of a hazard or other factor.

    Notice of this notification is to be included on the diagram or plan of survey (deposited plan). The notification is to state as follows:

    "This land is within a bushfire prone area as designated by an Order made by the Fire and Emergency Services Commissioner and may be subject to a Bushfire Management Plan. Additional planning and building requirements may apply to development on this land". (Western Australian Planning Commission)

Servicing

19. Arrangements being made to the satisfaction of the Western Australian Planning Commission and to the specification of Western Power for the provision of an underground electricity supply to the lot(s) shown on the approved plan of subdivision. (Western Power)

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Western Australian Planning Commission

20. The transfer of land as a Crown reserve free of cost to Western Power for the provision of electricity supply infrastructure. (Western Power)

21. Arrangements being made with the Water Corporation so that provision of a suitable water supply service will be available to the lots shown on the approved plan of subdivision. (Water Corporation)

22. Arrangements being made with the Water Corporation so that provision of a sewerage service will be available to the lots shown on the approved plan of subdivision. (Water Corporation)

Miscellaneous

23. Local development plan(s) being prepared and approved for lots shown on the plan dated 9 April 2020 (attached) that address the following:

(a) Lots 369, 371 – 380, 384 – 385, 387 – 390, 392 – 396 and 402 – 405 - access and garage location; and
(b) Lots 312 and 323 - dwelling orientation and Public Open Space interface

to the satisfaction of the Western Australian Planning Commission. (Local Government)

24. The landowner/applicant shall make arrangements to ensure that prospective purchasers of lots subject of a Local Development Plan are advised in writing that Local Development Plan provisions apply (Local Government)

ADVICE:

1. Condition 2 is in acknowledgement of proposed Amendment No.207 that is viewed by the Western Australian Planning Commission to be a seriously entertained planning proposal, which will provide for developer contributions for community infrastructure

2. With regard to Condition 15, the development is to include full earthworks, basic reticulation, grassing of key areas, and pathways that form part of the overall pedestrian and/or cycle network.

3. The landowner/applicant and the local government are advised to refer to the Institute of Public Works Engineering Australasia's Local Government Guidelines for Subdivisional Development (current edition). The guidelines set out the minimum best practice requirements recommended for subdivision construction and granting clearance of engineering conditions imposed.

4. In regard to Condition 9, the landowner/applicant is advised that the road reserves, including the constructed carriageways, laneways, truncations, footpaths/dual use paths and car embayments, are to be generally consistent with the approved plan of subdivision.

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Western Australian Planning Commission

5. In regard to Condition 19, Western Power provides only one underground point of electricity supply per freehold lot.

6. In regard to Conditions 21 and 22, the landowner/applicant shall make arrangements with the Water Corporation for the provision of the necessary services. On receipt of a request from the landowner/applicant, a Land Development Agreement under Section 83 of the *Water Services Act 2012* will be prepared by the Water Corporation to document the specific requirements for the proposed subdivision.

Ms Sam Fagan
Secretary
Western Australian Planning Commission

14 May 2020

Enquiries : Andrea Lawson (Ph 9586 4683)

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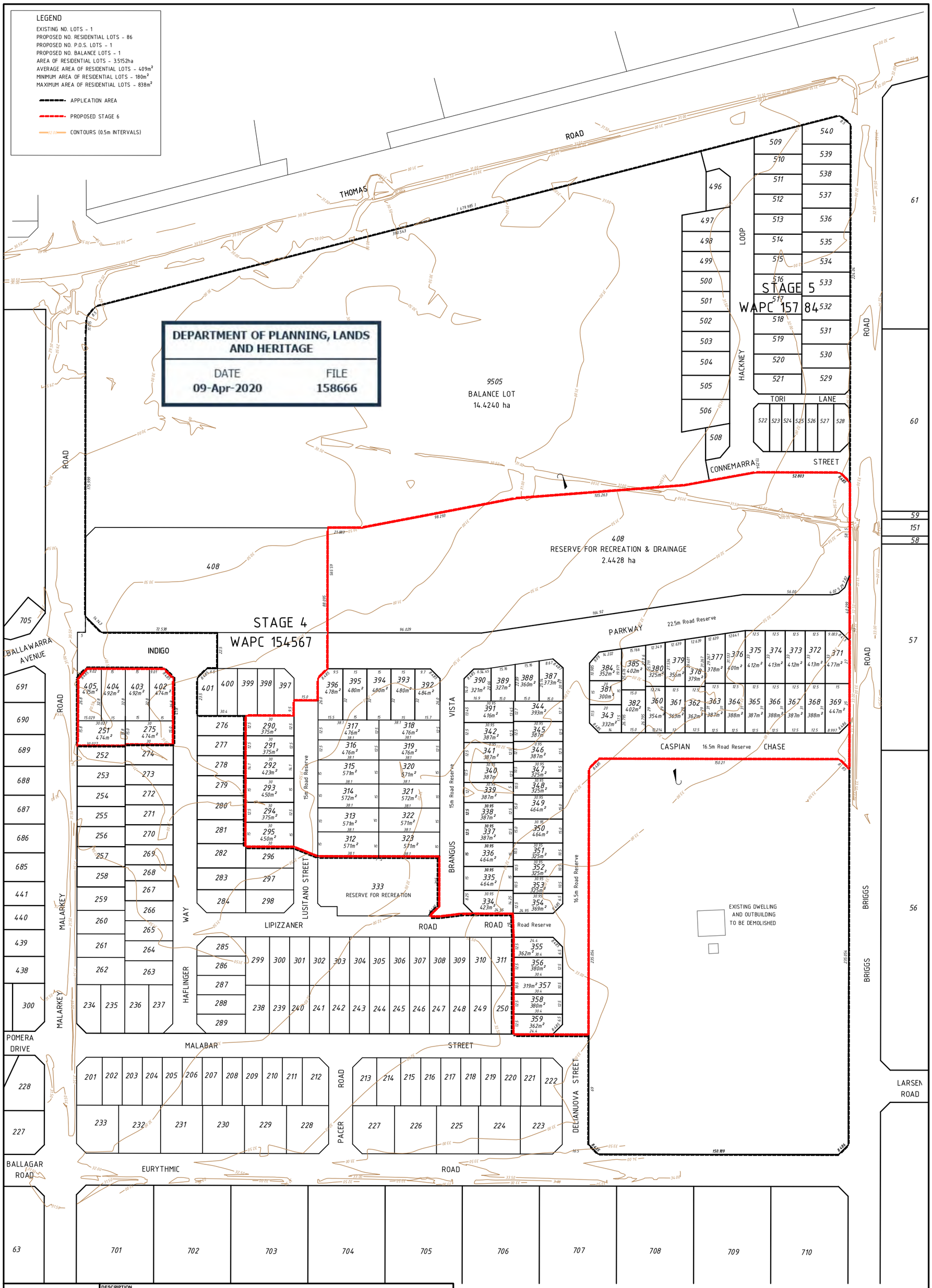
ABN 35 482 341 493


LEGEND
EXISTING NO. LOTS - 1
PROPOSED NO. RESIDENTIAL LOTS - 86
PROPOSED NO. P.O.S. LOTS - 1
PROPOSED NO. BALANCE LOTS - 1
AREA OF RESIDENTIAL LOTS - 3.5152ha
AVERAGE AREA OF RESIDENTIAL LOTS - 409m²
MINIMUM AREA OF RESIDENTIAL LOTS - 180m²
MAXIMUM AREA OF RESIDENTIAL LOTS - 838m²
APPLICATION AREA
PROPOSED STAGE 6
CONTOURS (0.5m INTERVALS)
DEPARTMENT OF PLANNING, LANDS AND HERITAGE
DATE 09-Apr-2020
FILE 158666
9505
BALANCE LOT
14.4240 ha
408
RESERVE FOR RECREATION & DRAINAGE
2.4428 ha
STAGE 5
WAPC 157 84
STAGE 4
WAPC 154567
333
RESERVE FOR RECREATION
THOMAS ROAD
CONNEMARRA STREET
HACKNEY LOOP
TORI LANE
PARKWAY
22.5m Road Reserve
CASPIAN CHASE
16.5m Road Reserve
BRANGUS VISTA
15m Road Reserve
LUSITANO STREET
LIPIZZANER ROAD
HAFLINGER WAY
MALARKEY ROAD
BALLAWARRA AVENUE
POMERA DRIVE
MALABAR STREET
PACER ROAD
DELIANUOVA STREET
EURYTHMIC ROAD
BALLAGAR ROAD
BRIGGS ROAD
LARSEN ROAD
EXISTING DWELLING AND OUTBUILDING TO BE DEMOLISHED
P G S HOPE & PARTNERS PTY LTD
LICENSED SURVEYORS
11/24 THOROGOOD STREET
VICTORIA PARK WA 6100
Ph: 9470 1229 Fax: 9470 1290
DESCRIPTION
PROPOSED SUBDIVISION OF LOT 9505 ON DEPOSITED PLAN 415696
BRIGGS ROAD, BYFORD
CONTOUR INTERVAL = 0.5m
SCALE 1 : 2000 at A3
FILE 14/2006
DATUM A.H.D.
JOB Byford Meadows WAPC applications Stage 6 Am8
LEVEL BOOK
DATE 9 April 2020

Appendix 2: Byford Meadows staging plans

Byford Meadows

FUTURE PUBLIC OPEN SPACE

INDIGO PARKWAY

VISTA

RESIDENTIAL

EXISTING

BRANGUS

STREET

DELIANUOVA

LIPIZZANER ROAD

EXISTING RESIDENTIAL

MALABAR STREET

EXISTING RESIDENTIAL

CASPIAN CHASE

FUTURE DEVELOPMENT

FUTURE PRIMARY SCHOOL SITE

370

EURYTHMIC ROAD

SOLD

DISCLAIMER:

Whilst every care has been taken with the preparation of these particulars which are believed to be correct, they are in no way warranted by the selling agent or our clients either in whole or in part and should not be construed as forming part of any contract.
This plan is indicative only and may be subject to change.
Any intending purchasers are advised to make enquiries as they deem necessary to satisfy themselves on all matters in this respect.
All areas and dimensions are subject to survey. Prices subject to change without notice.

STAGE 6

N

LEGEND

- Drainage Manhole
- Side Entry Pit
- Drainage Grate
- Western Power Dome, Connection
- Lot Level
- Sewer House Connection, Manhole
- Street Light
- Footpath
- Water Connection
- Drainage Easement
- Retaining Wall
- Stage 6
- Future Development
- Existing Residential

STAGE 7

DISCLAIMER:

Whilst every care has been taken with the preparation of these particulars which are believed to be correct, they are in no way warranted by the selling agent or our clients either in whole or in part and should not be construed as forming part of any contract.
This plan is indicative only and may be subject to change.
Any intending purchasers are advised to make enquiries as they deem necessary to satisfy themselves on all matters in this respect.
All areas and dimensions are subject to survey. Prices subject to change without notice.

LEGEND

- Drainage Manhole
- Side Entry Pit
- Drainage Grate
- Western Power Dome. Connection
- Lot Level
- Sewer House Connection, Manhole
- Street Light
- Footpath
- Water Connection
- Drainage Easement
- Retaining Wall
- Stage 7
- Future Development
- Existing Residential

N

Appendix 3: Vegetation plot photos and description

Photo ID: 1a

Photo ID: 1b

Photo ID: 1c

Photo ID: 1d

Photo ID: 1e

Plot number		Plot 1
Vegetation classification	Pre-development	Class G Grassland
	Post-development	Class G Grassland
Description / justification		Grassland greater than 100 mm in height

Photo ID: 2a

Plot number		Plot 2
Vegetation classification	Pre-development	Class G Grassland
	Post-development	Class G Grassland
Description / justification		Grassland greater than 100 mm in height

Photo ID: 3a

Plot number		Plot 3
Vegetation classification	Pre-development	Class A Forest
	Post-development	Class A Forest
Description / justification		Trees 10-30 m high at maturity, dominated by Eucalypts, multi-tiered structure comprising tall canopy layer, shrubby middle layer and grass/herb/sedge understorey

Photo ID: 4a

Plot number		Plot 4
Vegetation classification	Pre-development	Class B Woodland
	Post-development	Class B Woodland
Description / justification		Trees 2-30 m at maturity, dominated by trees with a grassy understorey (lacks shrubby middle layer and deep surface litter)

Photo ID: 5a

Plot number		Plot 5
Vegetation classification	Pre-development	Class B Woodland
	Post-development	Class B Woodland
Description / justification		Trees 2-30 m at maturity, dominated by trees with a grassy understorey (lacks shrubby middle layer and deep surface litter)

Photo ID: 6a

Photo ID: 6b

Photo ID: 6c

Plot number		Plot 5
Vegetation classification	Pre-development	Class G Grassland
	Post-development	Class G Grassland
Description / justification		Grassland greater than 100 mm in height

Photo ID: 8a

Photo ID: 8b

Photo ID: 8c

Photo ID: 8d

Plot number		Plot 8
Vegetation classification	Pre-development	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])
	Post-development	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])
Description / justification		Low threat cultivated gardens and maintained lawns within surrounding properties and non-vegetated areas including roads, footpaths, driveways and building footprints

Photo ID: 9a

Photo ID: 9b

Plot number		Plot 9
Vegetation classification	Pre-development	Modified to non-vegetated (exclusion 2.2.3.2 [e]) and/or low threat (exclusion 2.2.3.2 [f]) state
	Post-development	Modified to non-vegetated (exclusion 2.2.3.2 [e]) and/or low threat (exclusion 2.2.3.2 [f]) state
Description / justification		Vegetation outside the project area to be modified to know threat

Photo ID: 10a

Plot number		Plot 10
Vegetation classification	Pre-development	Modified to non-vegetated (exclusion 2.2.3.2 [e]) and/or low threat (exclusion 2.2.3.2 [f]) state
	Post-development	Modified to non-vegetated (exclusion 2.2.3.2 [e]) and/or low threat (exclusion 2.2.3.2 [f]) state
Description / justification		Vegetation within the project area to be modified to know threat

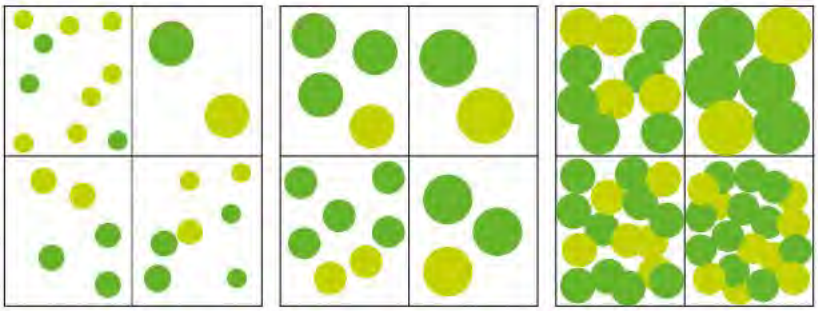
Appendix 4: APZ standards (Schedule 1 of the Guidelines)

An APZ is a low fuel area maintained around a habitable building to increase the likelihood that it will survive a bushfire, by providing a defendable space and reducing the potential for direct flame contact, radiant heat exposure and ember attack.

Vegetation management within an APZ should provide defendable space and be maintained to a low threat state, in perpetuity, in accordance with the requirements outlined in Schedule 1.

Schedule 1: Standards for Asset Protection Zones

- **Trees* (> 6 metres in height)**
  - Trunks at maturity should be a minimum distance of six metres from all elevations of the building.
  - Branches at maturity should not touch or overhang a building or powerline.
  - Lower branches and loose bark should be removed to a height of two metres above the ground and/or surface vegetation.
  - Canopy cover within the APZ should be <15 per cent of the total APZ area.
  - Tree canopies at maturity should be at least five metres apart to avoid forming a continuous canopy. Stands of existing mature trees with interlocking canopies may be treated as an individual canopy provided that the total canopy cover within the APZ will not exceed 15 per cent and are not connected to the tree canopy outside the APZ.



15% 30% 70%

- **Shrub* and Scrub* (0.5 metres to 6 metres in height)**
  - Should not be located under trees or within three metres of buildings.
  - Should not be planted in clumps >5 square metres in area.
  - Clumps should be separated from each other and any exposed window or door by at least 10 metres.
  - Shrub and scrub >6 metres in height are to be treated as trees.
- **Ground covers (<0.5 metres in height)**
  - Can be planted under trees but must be maintained to remove dead plant material, as prescribed in 'Fine fuel load' above.
  - Can be located within two metres of a structure, but three metres from windows or doors if >100 millimetres in height.
  - Ground covers >0.5 metres in height are to be treated as shrubs
- **Grass**
  - Grass should be maintained at a height of 100 millimetres or less, at all times.
  - Wherever possible, perennial grasses should be used and well-hydrated with regular application of wetting agents and efficient irrigation.
- **Fine Fuel load (combustible dead vegetation mater <6 mm in thickness)****
  - Should be managed and removed on a regular basis to maintain a low threat state.
  - Should be maintained at <2 tonnes per hectare (on average).
  - Mulches should be non-combustible such as stone, gravel or crushed mineral earth or wood mulch

Schedule 1: Standards for Asset Protection Zones

>6 millimetres in thickness.

- **Defendable Space**
  - Within three metres of each wall or supporting post of a habitable building, the area is kept free from vegetation, but can include ground covers, grass and non-combustible mulches as prescribed above.
- **Fences within the APZ**
  - Should be constructed from non-combustible materials (for example, iron, brick, limestone, metal post and wire, or bushfire-resisting timber referenced in Appendix F of AS 3959)
- **LPG Cylinders**
  - Should be located on the side of a building furthest from the likely direction of a bushfire or on the side of a building where surrounding classified vegetation is upslope, at least one metre from vulnerable parts of a building.
  - The pressure relief valve should point away from the house.
  - No flammable material within six metres from the front of the valve.
  - Must sit on a firm, level and non-combustible base and be secured to a solid structure.

** Plant flammability, landscaping design and maintenance should be considered – refer to explanatory notes*

*** Fine fuel load should be maintained to less than two tonnes per hectare, however this is often a subjective assessment.*

- *Reducing fuel load levels does not necessarily require the removal of existing vegetation. A combination of methods can be utilised to reduce fuel load such as raking, weed removal, pruning, mulching and/or the removal of plant material.*
- *A simple method to estimate fuel load is to roughly equate one tonne of fuel load per hectare as 100 grams per square metre. For example, two tonnes per hectare of leaf litter is roughly 200 grams of leaf litter per square metre and eight tonnes per hectare is roughly 800 grams.*
- *Eucalyptus leaf litter is approximately 100 grams per handful, so two handfuls of litter per square metre will roughly equate to two tonnes per hectare.*
- *Different types of fine fuel, like mulch or pine needles may be more or less than a handful, however the 100 grams per square metre rule of thumb can still be used.*

E2 Plant flammability

There are certain plant characteristics that are known to influence flammability, such as moisture or oil content and the presence and type of bark. Plants with lower flammability properties may still burn during a bushfire event, but may be more resistant to burning and some may regenerate faster post-bushfire.

There are many terms for plant flammability that should not be confused, including:

- Fire resistant – plant species that survive being burnt and will regrow after a bushfire and therefore may be highly flammable and inappropriate for a garden in areas of high bushfire risk.
- Fire retardant – plants that may not burn readily or may slow the passage of a bushfire.
- Fire wise – plants that have been identified and selected based on their flammability properties and linked to maintenance advice and planting location within a garden.

Although not a requirement of these Guidelines, local governments may develop their own list of fire wise or fire retardant plant species that suit the environmental characteristics of an area. When

developing a recommended plant species list, local governments should consult with ecologists, land care officers or environmental authorities to ensure the plants do not present a risk to endangered ecological communities, threatened, or endangered species or their habitat.

When selecting plants, private landholders and developers should aim for plants within the APZ that have the following characteristics:

- grow in a predicted structure, shape and height;
- are open and loose branching with leaves that are thinly spread;
- have a coarse texture and low surface-area-to-volume ratio;
- will not drop large amounts of leaves or limbs, that require regular maintenance;
- have wide, flat, and thick or succulent leaves;
- trees that have bark attached tightly to their trunk or have smooth bark;
- have low amounts of oils, waxes, and resins (which will often have a strong scent when crushed);
- do not produce or hold large amounts of fine dead material in their crowns; and/or
- will not become a weed in the area.

Refer to the WAPC Bushfire and Vegetation Fact Sheet for further information on clearing and vegetation management and APZ landscaping, design and plant selection reference material.

Appendix 5: Shire of Serpentine-Jarrahdale Firebreak Notice

Shire of Serpentine Jarrahdale

COMPLIANCE DUE BY:

1 December 2022

ASSESSMENTS COMMENCE FROM:

1 December 2022

Important: The works outlined below must be completed by 1 December 2022 and maintained in this state up to and including 31 May 2023.

FIRST AND FINAL NOTICE

Fire Hazard Reduction Notice

Notice to all owners of land within the Shire of Serpentine Jarrahdale

Pursuant to Section 33 of the ***Bush Fires Act 1954***, the Shire of Serpentine Jarrahdale (Shire) gives written notice to act as specified in this notice to land that you own and/or occupy, and with respect to any matter which is upon the land that you own and/or occupy within the Shire. Failure or neglect to comply with this notice is an offence and can result in a penalty of up to $5,000. The Shire advises that its officers, servants, workmen, contractors, vehicles, machinery, and appliances (as the officers deem fit) may carry out the requisitions of this notice that are not complied with by the date specified above, and any costs and expenses incurred may be recovered from you as the owner and/or occupier of the land.

All land with an area greater than 25,000m² (2.5 hectares)

☐ **Fire Breaks**
Install or upgrade a **3-metre-wide** by **4-metre-high clearance, bare mineral earth, continuous** (no dead ends) trafficable fire break as close as possible inside the entire perimeter of the land.

☐ **Dead Flammable Material (DFM)**
Reduce and/or maintain all dead flammable material below 8 tonne per hectare (see definition *Fuel Load*).

☐ **Slashing**
IF UNSTOCKED, Slash, mow, or trim grasses, to a height no greater than 50mm and remove cuttings/swath across the entire property.

☐ **Asset Protection Zone**
Maintain a fuel reduced zone around all buildings and assets which extends 20 metres from the outermost point of all buildings and assets.

- Gutters, roofs, and walls of all buildings to be free of flammable matter and maintained.
- Fuel load within the 20-metre zone is reduced and maintained to no more than 2 tonne per hectare.
- Trees over 5 metres in height within the 20-metre zone to be under pruned up to 2 metres.
- Trees or shrubs within 2 metres of a building / asset shall be pruned to a height no greater than 2 metres and/or pruned away from the building / asset to a distance greater than 2 metres.

All land with a total area greater than 4,000m² (0.4ha) but less than 25,000m² (2.5ha)

☐ **Fire Breaks**
Install or upgrade a **3-metre-wide** by **4-metre-high clearance, bare mineral earth, continuous** (no dead ends) trafficable fire break as close as possible inside the entire perimeter of the land.

☐ **Dead Flammable Material (DFM)**
Reduce and/or maintain all dead flammable material below 8 tonne per hectare (see definition *Fuel Load*).

☐ **Slashing**
Slash, mow, or trim dead grasses, dead shrubs, and dead plants to a height no greater than 50mm and remove cuttings/swath across the entire property.

☐ **Asset Protection Zone**
Maintain a fuel reduced zone around all buildings and assets which extends 20 metres from the outermost point of all buildings and assets.

- Gutters, roofs, and walls of all buildings to be free of flammable matter and maintained.
- Fuel load within the 20-metre zone is reduced and maintained to no more than 2 tonne per hectare.
- Trees over 5 metres in height within the 20-metre zone to be under pruned up to 2 metres.
- Trees or shrubs within 2 metres of a building / asset shall be pruned to a height no greater than 2 metres and/or pruned away from the building / asset to a distance greater than 2 metres.

All land with a total area less than 4,000m² (0.4ha)

☐ **Dead Flammable Material (DFM)**
Reduce and/or maintain all dead flammable material below 8 tonne per hectare (see definition FUEL LOAD).

☐ **Slashing**
Slash, mow, or trim dead grasses, dead shrubs, and dead plants to a height no greater than 50mm and remove cuttings/swath across the entire property.

☐ **Clean Gutter Debris**
Gutters, roofs, and walls of all buildings to be free of flammable matter and maintained.

Additional Works

Where a property is affected by an approved bushfire management plan, property owner and/or occupier must still comply with all requirements in this notice and with ALL additional requirements outlined within that plan.

You may be required to carry out further bushfire property preparedness works on your land to reduce any fire hazards considered necessary by a Fire Control Officer. If required, these will be outlined in a 'work order' and sent to the address of the owner.

Emergency Management Plans and Shire Approved Treatment Plans

All properties and/or land subject to a Bushfire Management Plan or an approved Bushfire Attack Level assessment (BAL), as a result of subdivision, development application or a Shire approved treatment plan, must comply with the listed requirements in their entirety. Compliance with any additional plans does not constitute compliance with this Notice.

Environmental Conditions

Any property subject to environmental value such as, but not limited to, Threatened Ecological Communities (TEC), Bush Forever sites, Declared Rare Flora and Fauna (DRF) sites should seek further information about what can or cannot be done prior to carrying out requirements under this Notice. Please contact the Shire's Emergency Services Team.

Fuel Dumps and Depots

Remove all flammable material within 10 metres of fuel dumps, fuel ramps or where fuel drums, whether containing fuel or not, are stored.

Haystacks

Clear and maintain a firebreak completely surrounding any haystack on the land, within 60 metres of the haystack.

Wood/Solid Fuel BBQs and Pizza Ovens

The use of wood/solid fuel BBQs and pizza ovens is permitted **except** for on days where the fire danger rating is HIGH or above. The use of any wood/solid fuel BBQ or pizza oven is prohibited during a TOTAL FIRE BAN.

Campfires and Firepits

Campfires and firepits are NOT permitted at any time during the PROHIBITED Burning Period or at any other time where the fire danger rating is HIGH or above. Campfires and Firepits cannot be lit before 6pm, no more fuel can be added after 11pm, must be fully extinguished by midnight, must not be left unattended, must have an available method of extinguishment with you while burning and may not be lit on public land, unless purpose built campfire pits have been provided by the owner of the land and permission to use them has been given.

Variation to the Fire Hazard Reduction Notice

If you consider it impractical to meet a requirement/s of this Notice, you may apply to the Shire for a variation no later than **1 October 2022**.

Note: A variation is not an exemption but an application to employ other methods of property preparedness to land that you own and/or occupy.

If your application is not granted you must comply with all requirements outlined in the Fire Hazard Reduction Notice 2022/2023. Variation request application forms are available before 1 October 2022 on the Shire's website at: **www.sjshire.wa.gov.au/fem**

Definitions

Fire Break:
A strip of land free of all flammable material with the intention of minimising the spread or extension of a bushfire and provide safe access on the property for emergency vehicles and other firefighting operations.

- Clearance must be no less than 3-metres wide and 4-metres in height inside and along all boundaries (including boundaries adjacent to roads, rail and drain reserves and all public open space reserves).
- Must not be more than 5-metres wide (further width extensions may be considered upon written application for approval to the Shire).
- Maintained, reticulated living lawns are lawns considered to be kept completely green. Driveways may be acceptable in conjunction with, or in lieu of, mineral earth fire breaks. Contact the Shire's Emergency Services Team for further assistance.
- Must have a corner turning radius of up to 12 metres.
- Must be a mineral earth break with a continuous trafficable surface for a 4WD vehicle, be clear of any obstructions and must not terminate in a dead end.

Fuel Load:
Can be live and dead vegetation that accumulates over time. This Notice refers only to dead vegetation.

Fine fuels include:	Heavy (coarse) fuels include:
Leaf litter, grasses, twigs (up to 6mm diameter), bark etc.	Branches, logs, stumps etc.

- A fuel load depth of 15mm (fine fuels) to the mineral earth is indicative of approximately 8 tonne per hectare. The more fuel load, the higher the flame height and increased fire intensity.
- Mulch piles, stored firewood and burn piles can contribute to fuel loading on land and must be stored safely away from assets, removed from the property, or actioned as directed by a Fire Control Officer.

If you require any further information, please contact the Shire of Serpentine Jarrahdale Emergency Services Team on **(08) 9526 1111**, email **esdepartment@sjshire.wa.gov.au** or visit **www.sjshire.wa.gov.au/fem**

Paul Martin
Chief Executive Officer

Proposed Childcare Facility

Lot 9511 Cnr Indigo Parkway and Briggs Road, Byford

Bushfire Emergency Management Plan

Date: 22 February 2023

Prepared For: Spagnolo Development Pty Ltd

Linfire Ref: 20221122255ROWE-BEMP-001_0

Linfire Consultancy

ABN: 577 930 47299

BPAD Bushfire Planning & Design Accredited Practitioner Level 3

Revision	Issue Date	Revision Description	Approved By
0	22 Feb 2023	Issued for Approval	Linden Wears (Level 3 BPAD 19809)

Disclaimer and Limitation

This report is prepared solely for the nominated client, and any future residents of the subject lot(s), and is not for the benefit of any other person and may not be relied upon by any other person.

To the maximum extent permitted by the law, Linfire Consultancy, its employees, officers, agents and the writer ("Linfire") excludes all liability whatsoever for:

1. claim, damage, loss or injury to any property and any person caused by fire or as a result of fire or indeed howsoever caused;
2. errors or omissions in this report except where grossly negligent; and the proponent expressly acknowledges that they have been made aware of this exclusion and that such exclusion of liability is reasonable in all the circumstances.

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Fire is an unpredictable force of nature. Changing climatic factors (whether predictable or otherwise) either before or at the time of a fire can also significantly affect the nature of a fire and in a bushfire prone area it is not possible to completely guard against bushfire. The strategies contained in the Bushfire Emergency Management Plan (BEMP) are considered to be prudent minimum standards only, based on the standards prescribed by relevant authorities. It is expressly stated that Linfire do not guarantee that if such standards are complied with or if a property owner exercises prudence, that a building or property will not be damaged or that lives will not be lost in a bush fire.

Further, the achievement of the level of implementation of fire precautions will depend on the actions of the landowner or occupiers of the land, over which Linfire has no control. If the proponent becomes concerned about changing factors then either a review of the existing BEMP should be requested. Linfire accepts no liability or responsibility whatsoever for or in respect of any use or reliance upon this report and its supporting material by any third party.

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1.0 Purpose and Primary Emergency Action

This Plan has been designed to assist the property owner/facility manager of the **Childcare Facility at Lot 9511 Cnr Indigo Parkway and Briggs Road, Byford** to protect life and property in the event of a bushfire.

This Plan outlines procedures for Evacuation to enhance the protection of occupants from the threat of a bushfire, as well as Sheltering-in-place (remaining on site) as a last resort measure.

The Primary Emergency Action to follow under normal bushfire conditions is to:

EVACUATE ☑ **SHELTER-IN-PLACE ☐**

- **Shelter-in-place procedures are to be carried out as a last resort only if it is unsafe to evacuate offsite.**
- **The safety and wellbeing of occupants (staff, children, parents and visitors) is, at all times, the main priority. Property protection is not considered a priority.**
- **Staff are not expected to fight bushfires.**

Information regarding the administration of the BEMP is provided in Appendix 1, including:

- Regulatory Framework and Reference Material
- BEMP Development and Implementation
- Emergency Management Team (EMT) and Emergency Response Team (ERT) roles and responsibilities
- BEMP Assumptions
- BEMP and Evacuation Plan Distribution
- Exercise Drills and Training
- Ongoing Review of BEMP

2.0 Facility details

2.1 Facility and Occupant Summary

Table 1 provides a brief summary of the facility and the anticipated occupants that could be onsite during a bushfire emergency.

Table 1: Facility and Occupant Summary

Address	Lot 9511 Cnr Indigo Parkway and Briggs Rd, Byford
Contact person	TBC prior to occupation (Site manager etc)
Position / role of contact person	TBC prior to occupation
Phone number (before hours)	TBC prior to occupation
Phone number (after hours)	TBC prior to occupation
Type of facility	Childcare facility
Number of buildings	One building (single level)
Number of employees	Approximately 20 staff
Maximum number of occupants	Up to 110 children
Vulnerable occupants	Occupants will include pre-school children with undeveloped speech and mobility capabilities
Communication Equipment	• Mobile phones • Two-way handheld radios/walkie talkies (TBC) • Mobile loudspeakers (TBC) • Battery powered radio to receive radio information • Noticeboards depicting emergency management map ○ Administration areas (TBC)
Fire fighting and other Emergency Equipment	• Nearby street hydrants • Portable fire extinguishers (TBC) • Landscaping reticulation systems • First aid kits
Vehicular Access	From the facility: • Access to Indigo Parkway or Caspian Chase provides for travel east to Briggs Road, from where travel can be either north or south • Access to Indigo Parkway or Caspian Chase provides for travel west into developed residential areas
Vegetation Management and Building Bushfire Construction	Landscaping treatment around the site are designed to reduce bushfire spread and impact on the building and people. The building is not required to incorporate any bushfire construction measures in accordance with the National Construction Code.

3.0 Emergency Contacts

3.1 Emergency Response Team (ERT)

The group of people responsible for directing and controlling the implementation of the BEMP in a bushfire emergency, with the ERT members for this facility nominated in Table 2. Further information on the ERT roles and responsibilities can be found in Appendix 1.

Table 2: Emergency Response Team members

Emergency Role	Name of person	Organisational Position	Phone number
Chief Fire Warden	TBC	e.g. Site Manager	TBC
Deputy Chief Fire Warden	TBC	TBC	TBC
First Aid Personnel	TBC	TBC	TBC
Traffic Warden	TBC	TBC	TBC
Communications Officer	TBC	TBC	TBC
Fire Warden/s	TBC	TBC	TBC
Fire Warden/s	TBC	TBC	TBC

3.2 Emergency Services and Other Organisations

Table 3 provides a summary of contacts for emergency services agencies and other organisations that may be useful in a bushfire emergency.

Table 3: Other emergency contacts

Organisation	Office /contact	Information	Contact details/website
Local Fire Brigade	DFES Communications	Report a fire/	000
Department of Fire and Emergency Services (DFES)	• Communications Centre • Website • Twitter	Emergency warnings and incidents in local area	• 13 DFES (133 337) • *www.dfes.wa.gov.au* • *twitter.com/dfes.wa*
Ambulance	Communications Centre	Report a medical emergency	000
Police	Communications Centre	Report other emergencies	000
EmergencyWA	Website	Emergency warnings and incidents in local area	*www.emergency.wa.gov.au*

Organisation	Office /contact	Information	Contact details/website
Bureau of Meteorology	Website	Forecast fire danger ratings and weather	*www.bom.gov.au/wa/forecasts*
Secondary contacts			
Shire of Serpentine Jarrahdale	Emergency Service Team		(08) 9526 1111
DFES State Emergency Service (SES)	Communications Centre	SES services for building damage and rescue	132 500
Main Roads WA	• Office • Website	Road closures	• 138 138 • *www.mainroads.wa.gov.au*
Western Power	Office	Electrical outages and damage	131 351

4.0 Bushfire Preparedness

4.1 Preparation – Ongoing year round

Tasks detailed in Table 4 are to be performed by property owner/facility manager throughout the year and specifically, prior to commencement of bushfire season **(nominated as 1 December on the Shire of Serpentine Jarrahdale firebreak notice).**

Table 4: Preparation tasks/actions – Ongoing tasks throughout year

Task/Action
1. Comply with current Shire of Serpentine Jarrahdale firebreak notice, including slashing of grass and removal of inflammable material (e.g. piles of timber, leaves, dead branches) on the property.
2. Ensure all management actions documented within the endorsed Bushfire Management Plan (supporting the development application) are undertaken, in particular ongoing maintenance of nominated onsite Asset Protection Zones and low threat landscaping.
3. Maintain and test any firefighting equipment present within the facility (e.g. fire extinguishers, fire hoses etc) to ensure it is fit for purpose and is in good working order.
4. Maintain and test any onsite communication equipment required for bushfire emergencies (e.g., occupant warning or PA systems, radios) to ensure they are fit for purpose and is in good working order.
5. Ensure any landscaping reticulation systems are in good working order and providing sufficient coverage around the property, in particular vegetation near or adjacent to the building.
6. Ensure there is sufficient first aid equipment, and that it is available and in good working order. Ensure sufficient staff are trained in Senior First Aid.
7. Maintain all AS 3959 bushfire construction elements implemented on the building (if any). 8. Clear all roofs, roof gutters and valleys of any leaf litter, debris or other combustible material.
9. Ensure nominated personnel in the Emergency Response Team are fully trained in the procedures outlined in this BEMP and conduct drills to practice evacuation procedures as outlined in Appendix 1. 10. Ensure appropriate members of the ERT know how to use any site communication systems. 11. Ensure sufficient staff are trained in first aid and first response firefighting (extinguishers, hose reels). 12. Ensure all other staff are aware of the procedures outlined within this BEMP
13. Ensure there is a clear site registering process for children and visitors, for use to account for occupants in emergency situations
14. Review and update this Bushfire Emergency Management Plan including any required bushfire preparedness tasks, training and exercises and confirm listed site contacts.
15. Ensure this BEMP and evacuation procedures are readily accessible to staff and displayed in a prominent position in the building.
16. Comply with any forecast declared Total Fire Bans as outlined in Section 4.5

4.2 Preparation – Daily actions throughout bushfire season

Tasks detailed in Table 5 are to be performed daily by property owner/facility manager throughout bushfire season, on declared Total Fire Ban Days, or when conditions may otherwise support significant bushfire behaviour.

Table 5: Preparation tasks/actions – Daily throughout bushfire season

Task/Action
1. Review forecast Fire Danger Rating, weather and Total Fire Bans and implement pre-emptive actions as required. Especially review whether planned (pre-emptive) closure of the facility is required.
2. Ensure all staff are advised of the bushfire emergency evacuation procedures and in particular the importance of evacuating early where possible, rather than sheltering in place.
3. Regularly check the Emergency WA website, DFES phone (13 3337), DFES Twitter and local ABC radio for current emergency warning status and bushfire information. 4. Regularly visually scan local area for signs of bushfire
5. Ensure all required communication equipment is available, in good working order and ready for use. Ensure all mobile phones and any radio communication devices are fully charged.
6. Ensure sufficient first aid kits and other emergency resources are available and fit-for-purpose.
7. Ensure any internal personnel egress pathways onsite and within buildings, are also clear and available. Ensure any pedestrian egress gates are in in good working order, with keys available at all times to unlock any locked gates.
8. Ensure sufficient vehicles are at the facility to conduct offsite evacuation should it be required.
9. Check exterior of buildings and any decks, and remove/relocate combustible items (rubbish, wood piles, furniture etc that can ignite) that can be stored 10m from building and decks. 10. Ensure all objects attached to the buildings are non-combustible or can be easily removed in a bushfire event 11. Clear all roofs, roof gutters and valleys of any leaf litter, debris or other combustible material.
12. Ensure nominated assembly points and onsite safer places are appropriately maintained including and are available and fit-for-purpose.
13. Record the presence of all people using or visiting the site, and when they have left.

4.3 Additional resources

A list of publications that provide additional information relating to bushfire preparedness and awareness is provided below. It is recommended that property owner/facility management review these publications prior to and during the bushfire season.

DFES	• Bushfire publications	• https://publications.dfes.wa.gov.au/
	• Bushfire Preparation	• https://publications.dfes.wa.gov.au/publications/

	Toolkit	bushfire-preparedness-toolkit
Shire of Serpentine Jarrahdale	• Fire and Emergency Services	• https://www.sjshire.wa.gov.au/community/fire-and-emergency-management

4.4 Fire Danger Ratings

Department of Fire and Emergency Services (DFES) uses the Australian Fire Danger Ratings (AFDR) to provide advice on the level of bushfire threat on a particular day. Anyone working or living in bushfire prone areas should know the AFDR is for their area, monitor local conditions and keep informed.

Understanding the AFDR categories and what they mean will assist personnel in making decisions about what to do if a bushfire starts. The AFDR is based on forecast weather conditions and local vegetation types and gives advice about the level of bushfire threat on a particular day. When the rating is high, the threat of a bushfire increases. Australian Fire Danger Ratings are explained in Plate 1.

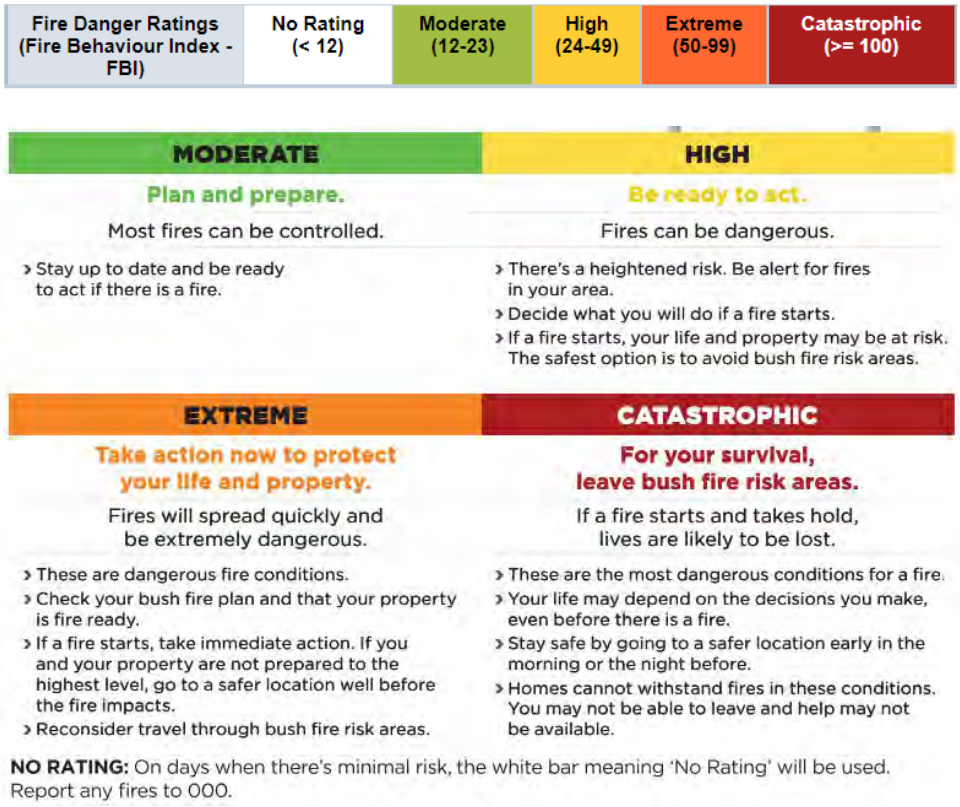


Plate 1: Australian Fire Danger Ratings

The relevant fire district for the forecast AFDR is: **SWAN COASTAL SOUTH**

Information on forecast and current AFDRs can be found on the Emergency WA website, with links to this also available from the following DFES and Bureau of Meteorology websites.

Bureau of Meteorology website (4-day forecast AFDR)	*http://www.bom.gov.au/wa/forecasts/fire-danger-ratings.shtml*
Emergency WA website (current and next day forecast AFDR)	*https://www.emergency.wa.gov.au/index.html#firedangerratings*

4.5 Total Fire Ban days

A Total Fire Ban (TFB) is declared on days when fires are most likely to threaten lives and property. This is because of predicted extreme fire weather or when there are already widespread fires and firefighting resources are stretched. TFB days are often aligned with days with an elevated FDR, however they may be declared outside of a fire season due to other factors such as higher temperatures and expected strong winds preceding a storm front.

There are restrictions on what activities can be conducted on a TFB day, such as it being illegal to light an open-air fire or conduct any activity that could start a fire.

To determine if a TFB has been declared for the next day (evening after 6pm and prior to 8.15am), the following resources can be used:

Emergency WA website (current and next day forecast FDR)	*https://www.emergency.wa.gov.au/#totalfirebans*
Total Fire Ban Hotline	1800 709 355
DFES phone	13 3337
DFES Twitter	*https://twitter.com/dfes_wa*

4.6 DFES emergency warning system

During a bushfire, emergency services will provide information through the issuing of community alerts. The alert level changes to reflect the increasing risk to life and the decreasing amount of time until the fire arrives.

DFES issues the following warnings (see Plate 2) for further information):

- **Advice**
- **Watch and Act**
- **Emergency Warning**
- **All clear**

Plate 2: Bushfire Warning Levels

The best place to determine the current alert level is from the Emergency WA website, which shows the alert level as part of the Bushfire Advice note for each bushfire.

Emergency WA website: *https://www.emergency.wa.gov.au/*

5.0 Awareness and pre-emptive procedures

This section outlines when and what monitoring actions are to be undertaken to ensure facility management maintain awareness of any forecast elevated bushfire weather days, and the associated pre-emptive procedures the facility can implement to respond to heightened risk. Property management are to undertake the following monitoring and pre-emptive actions based on the forecast Australian Fire Danger Rating (AFDR)

Maintaining a high level of situational awareness, including forecast conditions, will also assist with the rapid assessment of any bushfire emergency.

Monitoring the forecast FDR is to be conducted daily using the resources outlined in Section 4.4. The pre-emptive responses are detailed in Table 6.

Table 6: Forecast Fire Danger Rating Pre-Emptive Actions

FDR MONITORING TRIGGER (Refer Section 4.4 to determine FDR):
- **On all days during bushfire season, if the AFDR will be High or above, or any declared Total Fire Ban days**
- **On days outside bushfire season with when weather is hot, dry or windy or there has been recent bushfires in the area**

Weather District: SWAN COASTAL SOUTH

Action/Task	Australian Fire Danger Rating				
	No Rating	**Moderate**	**High**	**Extreme**	**Catastrophic**
Maintain situational awareness by monitoring the Emergency WA website, DFES phone (13 3337), DFES Twitter and local ABC radio for current emergency warning status and bushfire information.	• Conduct checks if conditions are unusually warm and windy		• Conduct regular checks throughout the day. • If a bushfire is detected initiate Offsite Evacuation response (if appropriate).	• Forecast AFDR of Extreme or Catastrophic occur infrequently in this location, and staff should treat these days with great caution with potential for worst-case bushfire behaviour. • Conduct regularly visual checks to north and east throughout the day, from sunrise to one hour after sunset • If a bushfire is detected initiate Offsite Evacuation response (if appropriate).	
Consideration of planned (pre-emptive) facility closure	• No requirement to consider facility closure			• Consideration should be given as to whether to close the facility for the day when the forecast FDR is **Extreme** ◦ advice from Emergency Services and ◦ potential risk to children, staff and parents. • The childcare facility is to be closed if the forecast FDR is Catastrophic with the following notifications provided: ◦ Relevant government agencies (e.g. Department of Education etc) ◦ Staff (email, mobile SMS, social media etc) ◦ Parents (email, mobile SMS, social media etc) ◦ Visitors to facility (e.g. contractors, cleaners etc).	
Update ERT and staff of the AFDR	• No specific requirements		• Advise ERT and relevant staff of the elevated bushfire risk. • Recommend they be ready for potential bushfire response such as Offsite Evacuation response.		
Conduct daily preparations (from Table 5)	• Recommended, but no specific requirements		• Conduct daily preparations the day prior or in early morning		
Conduct year-round preparation (from Table 4)	• Conduct preparations on ongoing basis, with focus on prior to bushfire season				

5.1 Planned (pre-emptive) facility closure

Once the decision is made to close the facility due to forecast weather, nominated staff are to attend facility from 7.30am to communicate facility closure to staff, parents and visitors who may not have received notification of planned closure. **Staff should only attend the facility is safe to do so (i.e. there is no fire and roads are open for travel). The following should be undertaken:**

- Ensure **'Notice of Planned Temporary Closure'** signs are placed at all main vehicular and personnel access points to the facility.
    - The notice should indicate that as a result of the Catastrophic Fire Danger Rating (or other conditions), and the facility is being temporarily closed for the day and will re-open on advice from DFES.
    - Indicate on the sign who can be contacted for further information and also that any queries about the threat of bushfire can be obtained from 13 DFES (13 3337) or Emergency WA website.
- Ensure staff are located at main entrances to advise of the planned closure (if safe to do so)

Upon lifting of planned closure (or if decision is reversed):

- Notify all staff, parents and visitors and advise when the site will reopen
- Notify any government agencies
- Remove all planned closure signage from entrances.

5.2 Forecast Total Fire Ban

Total Fire Ban (TFB) procedures are triggered on days when a Total Fire Ban is declared due to extreme fire weather, when widespread fires are stretching firefighting resources or even outside bushfire season due to higher temperatures or expected strong winds.

A TFD will be declared the evening before it is to take effect and the resources detailed in Section 4.5 can be used to determine the forecast and current TFB status.

There are restrictions on what activities can be conducted on a TFB day and Table 7 lists the procedures the required actions when a Total Fire Ban is declared.

Table 7: Total Fire Ban Actions

TFB MONITORING TRIGGER (Refer Section 4.5 for how to determine TFB day status): • **On all days during bushfire season** • **On days outside bushfire season with when weather is hot, dry or windy or there has been recent bushfires in the area**	
Action	**Person responsible**
If a Total Fire Ban is declared, ensure all relevant staff and occupants are notified to ensure all relevant actions are undertaken.	Chief Fire Warden (or nominated delegate)
Ensure the following actions are avoided if a Total Fire Ban is declared: • no fire or flames allowed in the open air • no open fires for the purpose of cooking or camping are not allowed	Chief Fire Warden (or nominated delegate)

TFB MONITORING TRIGGER (Refer Section 4.5 for how to determine TFB day status): • **On all days during bushfire season** • **On days outside bushfire season with when weather is hot, dry or windy or there has been recent bushfires in the area**	
• no 'hot work' such as metal work, grinding, welding, soldering, gas cutting or similar is allowed unless a formal exemption has been obtained • no use of chainsaws, plant or grass trimmers or lawn mowers in bushland areas • no other activities that may start a fire • ensure equipment or machinery is mechanically sound • ensure all reasonable precautions are taken to prevent a bushfire igniting, including postponing any activity that could result in a bushfire ignition. Further information on prohibited activities can be found on the DFES website below	
Maintain situational awareness by: • having nominated staff visually monitor land in the local area around the development for signs of bushfire (signs or smell of smoke etc) • monitoring the Emergency WA website, DFES phone (13 3337), DFES Twitter and local ABC radio for current emergency warning status and bushfire information. • If a bushfire is detected, either visually or via website/radio/social media, obtain information on the fire location and direction and speed of travel **If a bushfire is detected, refer to Table 8.**	Nominated Fire Warden

The Department of Fire and Emergency Services advice is that chainsaws, plant or grass trimmers or lawn mowers can be used during a total fire ban in suburban or built up areas which are cleared of flammable material, but not in bushland or other areas where their use is likely to cause fire. Further information on TFB days and the prohibited activities can be found on the following DFES website https://www.dfes.wa.gov.au/totalfirebans/#faqs

Individuals could be fined up to $25,000 or jailed for 12 months or both if the Total Fire Ban is ignored.

6.0 Bushfire Emergency Triggers and Decision making

The onsite ERT, in particular the Chief Fire Warden (or nominated delegate), must assume responsibility for assessing the bushfire situation, using the information available, and making a decision regarding the response occupants need to undertake to stay safe. While there are various sources of potential information available upon which to base decision making, in a bushfire emergency to timing and accuracy of the information is not always clear and if the bushfire is close to the development, onsite personnel may be the most aware of the current situation by being the closest. Additionally, when the bushfire is near the development or the evacuation routes, onsite personnel will need to exercise greater situational awareness, judgement and caution as the margin of safety is less.

There are two main response options for this facility to keep people safe:

- **Offsite Evacuation** – vehicular evacuation along the road network to an offsite location
- **Onsite Shelter-in-Place** – relocating occupants and public to an onsite location

In bushfires, people often plan to remain in place and become overwhelmed by the bushfire causing them to leave for a safer place too late. The key to a safe evacuation is leaving early, this means long before the development or evacuation roads come under bushfire attack. Driving is very dangerous during a bushfire with smoke making it hard to see, fallen trees over the road and power lines down can all trap vehicles on the road, and result in fatalities. Traffic on the roads can also hamper firefighting operations, especially when the bushfire is close.

Early detection of a bushfire's existence and location, provides the best opportunity to conduct early evacuation. Warning of a bushfire is often provided by emergency authorities (e.g. EmergencyWA, radio, SMS alert etc) however this can't be relied upon in all cases. Visual or olfactory cues or information from arriving parents or visitors may also be other sources of information.

When assessing the bushfire situation, the Chief Fire Warden, or nominated delegate, should consider the following:

- the location and behaviour of the bushfire based on the following:
    - current bushfire warnings that have been issued
    - any available local knowledge (e.g. visual signs of bushfire, relayed information from occupants/parents/visitors etc), which if the bushfire is close, can be more relevant for decision-making than the regional bushfire warnings
- the nature of the hazard between the current fire location and the development e.g. type of vegetation and slope
- the development layout and incorporated bushfire protection measures as a measure of bushfire resilience
- the evacuation network (roads, paths etc) including potential to be impacted by bushfire
- variations in the facility operational routines that can impact the amount of time required to commence and complete the evacuation procedure

Advice may be provided by emergency authorities to self-evacuate which greatly assists because it confirms the safety of evacuation routes and makes the process relatively straight forward.

While it is highly recommended that the specific direction/advice of authorised emergency services personnel is followed if they are onsite, however they may not be familiar with the development, so one should always use their judgement and all available information to balance advice and make the most informed assessment possible regarding potential impact to the occupants, the

development and evacuation routes.

Table 8 provides a summary of likely information that will be available to make decisions during a bushfire emergency, complete with actions to be considered. The main sources of information include:

- DFES Bushfire Emergency Warnings
- Decision Zones where the bushfire location is known
    - From reputable website, radio etc
    - Physical cues (visual, olfactory) of fire
    - relayed information (from occupants, arriving parent or visitors or adjacent land uses)

Table 8: Bushfire Triggers and Response Actions

Trigger	Action/Tasks
Bushfire Emergency Warnings (see Section 4.6 for where to obtain warnings)	
Advice	• Commence Offsite Evacuation procedures (depending on bushfire location and direction of spread) • Continue monitoring and re-evaluating situation
Watch and Act	• Commence or continue Offsite Evacuation procedures • Consider Onsite Shelter-in-Place response if unsafe to evacuate offsite • Continue monitoring and re-evaluating situation
Emergency	• Urgently commence or continue Offsite Evacuation procedures • Consider Onsite Shelter-in-Place response if unsafe to evacuate offsite • Continue monitoring and re-evaluating situation
All Clear	• Commence Recovery Procedures (Offsite Evacuation or Shelter-in-Place) • Continue monitoring and re-evaluating situation
Decision Zones – based on distance of bushfire from development (from reputable website, visual signs of bushfire, relayed information from occupants/parents/visitors etc). Bushfire conditions can change rapidly and evidence of a nearby fire may precede any formal bushfire warning.	
Readiness Zone • Distance from site: >6km (up to 15km)	• Consider pre-emptive use of Offsite Evacuation procedures (depending on bushfire location, direction of spread and potential impact on road network). • Continue monitoring and re-evaluating situation
Response Zone (Evacuation) • Distance from site: 2 -6 km	• Call 000 and advise DFES of the bushfire (and obtain any information) • Urgently commence or continue Offsite Evacuation procedures but only if safe to leave site • Consider Onsite Shelter-in-Place response if unsafe to evacuate offsite • Continue monitoring and re-evaluating situation

Trigger	Action/Tasks
Response Zone (Shelter-in-Place) • Distance from site: <2 km	• Call 000 and advise DFES of the bushfire (and obtain any information) • Urgently commence or continue Offsite Evacuation procedures but only if safe to leave site (depending on bushfire behaviour) • If unsafe to evacuate offsite, commence Onsite Shelter-in-Place response • Continue monitoring and re-evaluating situation

7.0 Offsite Evacuation Response – Primary Action

Where the bushfire is close enough to the facility and/or egress routes to require rapid shutdown of the development, with the intention of getting occupants to a place of relative safety. Priority shall be on ensuring occupants are evacuated offsite to safety, with a focus on egress routes, however if this unsafe to conduct, they shall be relocated to the onsite location to shelter-in-place.

The decision to evacuate occupants to the off-site location will depend on the location and behaviour of the bushfire, and where possible, should always be conducted in consultation with the Emergency Services Incident Controller or authorised DFES personnel managing the bushfire emergency.

7.1 Emergency Onsite Assembly Point and Offsite Safer Locations

In the event that offsite evacuation is to be conducted, understanding where to assemble people onsite prior to evacuation, and the offsite locations available to safely send people, will be critical to ensure its success.

7.1.1 Designated on-site assembly point

An on-site assembly point is an area within the development where occupants are to meet on becoming aware that there is a bushfire in the area, to gather all staff, children, parents and visitors and to obtain further status information and be advised of response actions. It is proposed that the designated on-site assembly point identified below in Table 9 and depicted in Appendix 2.

Table 9: Designated on-site assembly point

Designated assembly point
3+ Room Opposite Reception Area

7.1.2 Designated off-site locations

DFES and the Shire of Serpentine Jarrahdale may provide advice on the day as to the locations of the designated off-site safer location/welfare centres.

In the event that this information is not yet available, Table 10 lists potential offsite location areas that are to be considered during an evacuation. The safer location/s have been chosen based on:

- nature of the oocupants and their needs
- relative safety of evacuation route
- whether the refuge is located away from the effects of a bushfire

Table 10 nominates when the various offsite locations should be considered, while also providing primary route to the location as well as estimated travel times during normal traffic. ***Allowance needs to be made for increased travel times due to bushfire conditions (e.g. smoke) and traffic congestion on the road network.***

Table 10: Designated off-site safer location

Location and address	Route to location	Travel Distance and Time (normal travel)
Ballawara Reserve, 2 Wundi Way, Byford	Indigo Parkway (S) – Ballawarra Avenue	850 m (2 min drive)

7.2 Offsite Evacuation Procedures

Once the decision has been made conduct offsite evacuation of the facility, lists the evacuation procedures to be followed.

Table 11: Offsite Evacuation Procedures

Action	Person responsible

Chief Fire Warden to take charge and to assess the situation relating to level of bushfire threat and potential impact on the facility, occupants and the evacuation network through the following:
• Obtain the latest emergency, weather and road information
• implementing the following procedure:
  ◦ obtain aerial photo
  ◦ plot where bushfire is located and whether it is moving toward the development. Wind direction is typically an indicator of fire direction
  ◦ obtain the Fire Danger Rating for the day from EmergencyWA website
  ◦ note temperature, wind direction and speed from live BoM observations from website.
Once the decision is made to evacuate offsite, use the available information to:
• Determine the preferred offsite location (pending advice from DFES or Emergency Services Incident Controller)
• Determine the safest route to get to the offsite location that takes occupants as far from the fire as possible.
• Arrange any required emergency transportation for priority evacuation to offsite safer location:
  ◦ Contact any alternative transportation options
  ◦ Organise any vehicles that are currently onsite
	Chief Fire Warden
	Communications Officer

Contact DFES (000) if not already undertaken: • inform that the facility is operating and has vulnerable occupants and the number of occupants • seek advice about the fire location, behaviour and likelihood of impacting the facility. Alternatively provide current bushfire observations if fire is close to facility or town. • seek instructions from DFES (preferably Emergency Services Incident Controller who is managing the fire) about what actions to take • determine Emergency Services Incident Controller/DFES point of contact (if any) • Determine where offsite safer locations or Welfare Centres are being designated (open). ◦ If this information is not possible to obtain, use the offsite safer location/s nominated in this BEMP on Table 10. • If decided, advise that offsite will be conducted, including the preferred offsite location and the route to be used.	Chief Fire Warden Communications Officer
Ensure the following key actions are addressed:	Chief Fire Warden

Action	Person responsible

• Assemble ERT and relevant staff
• Update ERT and staff of the bushfire situation and the planned emergency management strategy.
• Cease all operations including any functions and activities
• Begin accounting for all occupants and staff using any registers
• If not already commenced, arrange any required emergency transportation for priority evacuation to offsite safer location/s
• Ensure all other firefighting and emergency communication equipment is available and ready for use.
• Ensure all first aid equipment is available and ready for use.
• Commence shutting down the facility buildings including:
  ◦ Close all windows and doors including roller and sliding doors
  ◦ Put away all external combustible items or put inside building/s
  ◦ Turn off air-conditioners especially evaporative cooler
  ◦ Turn on landscaping reticulation systems
• Ensure all internal access routes are unlocked, and clear and available for use by staff, parents, visitors and firefighters
• If safe to do so, organise for regular patrols of the facility (if not easily observed through regular activities) to check for any signs of bushfire ignition. Those conducting the patrols are to wear appropriate PPE
	Deputy Chief Fire Warden
	All ERT members

Strongly consider commencing offsite evacuation while evacuation routes are open and unimpacted by smoke, embers or fire or congested with traffic
Once decision is made to evacuate the site (following confirmation with the Emergency Services Incident Controller or authorised DFES personnel if possible), implement this broad process:
• Contact all staff, parents and visitors including parents (if not already undertaken) using site communication systems to organise occupants to gather at onsite assembly area:
• Inform staff, parents and visitors of the following:
  ◦ The current emergency warning and bushfire situation
  ◦ The plan to evacuate offsite
  ◦ Confirm the offsite safer location
  – if the Emergency Services Incident Controller or DFES representative do not advised of an off-site location, use the one nominated in this as per Table 10
  ◦ the evacuation route to travel to the off-site location
• Begin loading children, parents and staff into vehicles and evacuating to offsite location
• If parents arrive onsite to collect children prior to evacuation:
  ◦ Ensure they collect their children and make them aware of the bushfire emergency and the preferred egress route.
  ◦ Ensure it is noted which children they take with them
	Chief Fire Warden
	Deputy Chief Fire Warden
	Communications Officer
	Fire Wardens

• Instruct ERT to conduct the following (if not already undertaken) ◦ use children and visitor registers to monitor the evacuation as occupants leave the site and to confirm that all staff, children,	Deputy Chief Fire Warden Fire Wardens

Action	Person responsible
parents and visitors are successfully relocated to the nominated offsite location ◦ conduct a thorough check of the site, doing a walk-through of all buildings and areas, to confirm all persons have evacuated ◦ Final evacuating staff are to travel in a group of no less than 2 people. • **If safe to do so**, instruct ERT and relevant staff to shut down the facility buildings including: ◦ Close all windows and doors including roller and sliding doors ◦ Put away all external combustible items or put inside building/s ◦ Turn off air-conditioners especially evaporative cooler • **If safe to do so**, organise for regular patrols by ERT of the facility to check for any signs of bushfire ignition.	
If not previously conducted, advise Emergency Services Incident Controller or DFES if the facility is being impacted by bushfire (i.e. bushfire ignites on or adjacent to the site) and that the facility is performing an evacuation and advise number of occupants and where they are going.	Chief Fire Warden Communications Officer
Upon arrival of occupants at off-site safer location: • confirm all relocated occupants are accounted for and safe • advise Emergency Services Incident Controller of relocation to off-site location and whether anyone is missing • strictly manage any children pickup by parents to ensure that all children are accounted for and that parents are aware of bushfire situation and probable safe evacuation routes.	Chief Fire Warden First Aid Personnel Communications Officer Fire Wardens
• Continue monitoring and re-evaluating the bushfire scenario. • Maintain situational awareness by: ◦ having nominated staff visually monitor land in the local area around the development for signs of bushfire (signs or smell of smoke etc) ◦ monitoring the Emergency WA website, DFES phone (13 3337), DFES Twitter and local ABC radio for current emergency warning status and bushfire information. • If a bushfire scenario is changing, obtain information on the new warning status, fire location and direction and speed of travel • Review Table 8 with new information to determine new response actions especially a need to change to Onsite Shelter in Place Response	Chief Fire Warden and Communications Officer

7.3 Recovery procedures following Offsite Evacuation

Recovery procedures are triggered when emergency services have advised that the bushfire threat has passed and it is safe to return to the facility (DFES 'All Clear' alert).

Table 12 lists the recovery procedures to be carried out following an evacuation of the facility,

Table 12: Recovery procedures (following Offsite Evacuation)

Action	Person responsible
Following a bushfire, emergency services are required to confirm conditions within facility and local area are safe for people to return to including the vehicular access network and services (electricity, water, gas etc) If the facility has been impacted by fire, ensure no one returns or re-enters until Emergency Services have declared it as being safe. Arrange for parents to pickup children	Chief Fire Warden Fire Wardens Communications Officer
Liaise and take directions from Emergency Services Incident Controller or DFES regarding whether safe return is possible. If safe to do so, consider conducting a preliminary review of the site for obvious damaged or destroyed buildings. Based on this information make the decision whether to reopen and return to the facility or whether it shall remain closed. The first priority is to ensure the safety of all people including staff. If the decision is made to keep the facility closed, seek alternative accommodation if required for displaced persons.	Chief Fire Warden Communications Officer
Once decision is made to either reopen or relocate: • arrange for occupants to be moved back to the facility or to alternative location (nominated by Emergency Services Incident Controller or DFES): • confirm all occupants are accounted for on their return to the facility (or have been otherwise safely relocated elsewhere) using the occupant/visitor register procedure used by the facility • advise Emergency Services Incident Controller of relocation to facility or alternative location and whether anyone is missing.	Chief Fire Warden All ERT members

7.4 Transport Arrangements for Offsite Evacuation

Given the presence of children at the facility, any offsite evacuation from the development will need to be assisted. Transportation for evacuation will be the responsibility of the childcare facility and will include staff and parent vehicles (to shuttle children to the off-site location), supplemented by additional vehicles organised with a local transportation company

7.4.1 Alternative Transport Arrangements

As alternative transport arrangements will likely be required to facilitate offsite evacuation should there be insufficient staff and parent vehicles with appropriate child seats, it is recommended that the ERT negotiate with a local transport company, the necessary arrangements to use their vehicles to evacuate occupants (including children) offsite, should it be required. It is recommended this alternative (see Table 13) is at least in place prior to bushfire season, to provide the Chief Fire Warden with transport options to deal with any unforeseen circumstances.

Table 13: Alternative transport arrangements

Alternative Transportation Arrangements	
Name of organisation providing transportation	TBC (arrange with local transportation company)

Alternative Transportation Arrangements	
Contact phone number	TBC
Number of vehicles required	TBC – depends on capacity of available vehicles from company
Time required for transportation to arrive	TBC (but expect delays due to traffic, smoke etc)
Estimated travelling time to destination	TBC (but expect delays due to traffic, smoke etc)

7.4.2 Traffic Awareness and Management

Any vehicles used for offsite evacuation should be in good working order and should have sufficient fuel to travel at least 100 km, and if they are not considered appropriate for evacuation, alternative transport should be found for the occupants.

7.4.3 Potential Traffic and Congestion

Evacuation from the development to an off-site location, my occur simultaneously with occupant egress from nearby facilities and the local residential population of the area. On this basis, there is likely to be traffic congestion on the road network, that potentially worsens at time passes. On that basis, the following shall be considered:

- Initiating early evacuation will be critical to ensure all occupants are able to relocate off-site, and minimise the potential for disruption of the local road network, which could prevent timely egress or impact firefighter access.
- The Chief Fire Warden (or nominated delegate) who is managing the evacuation of the development, shall ensure they are cognisant of the traffic conditions to the off-site conditions, and react to any disruption to the road network (bushfire, congestion). Traffic congestion may be sufficient to require a change in evacuation destination to the secondary off-site location.

7.4.4 Safety considerations for evacuating by car:

While the intent of the Offsite Evacuation procedures is for early evacuation ahead of bushfire impact, including embers and smoke, or prior to any traffic congestion, there is always a chance the bushfire situation changes. Travel by vehicle through areas being impacted by bushfire, can present a significant risk to occupants, however occupants in this situation can improve their chances of survival through the following actions:

- **Before leaving**
  - Ensure there are fire blankets (or woollen blankets) and a water supply within the vehicle
  - Obtain a fire extinguisher if possible
  - Dress in protective clothing, preferably long-sleeved shirts and pants, and shoes.
  - Confirm there is sufficient fuel in the vehicle, and that it is roadworthy
    - If not, seek alternative transport or consider remaining onsite in well-prepared building
  - Ensure the vehicle headlights are on
- **If approaching bushfire on the road**

- If there is considerable smoke
  - ensure headlights and hazard lights on
  - close windows and outside vents and put air-conditioning on recirculation
  - slow down as there could be people, vehicles and livestock on the road.
  - if you can't see clearly, pull over and wait until the smoke clears.
- Carefully pull over and assess the situation.
  - It is a considerable risk to drive through smoke and flames. This is common cause of fatalities.
  - If safe, turn around and drive to safety in a different direction (if the option is available)

- **If you are trapped by bushfire**
  - Park and shelter within the vehicle.
    - Park off the road to avoid collisions with other vehicles
    - Park where there is the least vegetation (around, above and under the vehicle).
    - If possible, park behind a physical barrier (e.g. rock, earth mound) to minimise direct flame contact or radiant heat exposure
    - Face the vehicle towards the oncoming fire front as the front windscreen is generally thicker glass
    - Do not park too close to other vehicles in case a vehicle catches alight.
  - Inside the vehicle
    - As the fire front approaches, the intensity of the heat will increase along with the amount of smoke and embers. Smoke will gradually get inside the vehicle and fumes will be released from interior plastics.
    - Stay in the vehicle (unless there is a well-protected building nearby).
    - Call 000 to inform of situation (if mobile reception available)
    - Close doors, windows and outside vents, keep headlights and hazard lights on and turn the engine off.
    - stay as close to the floor as possible to minimise exposure to radiant heat, preferably in the foot wells, and shelter under the blankets.
    - Cover mouth with moist cloth to minimise inhalation of smoke and toxic fumes being released from the interior of the vehicle
    - Continue to drink water to minimise dehydration.
    - Stay in the car until the fire front has passed and do not open windows or doors.

- **As fire front passes**
  - Parts of the car may be extremely hot. Tyres and external plastic body parts may catch alight and in more extreme cases the interior may catch on fire. Fuel tanks are unlikely to explode.
  - Stay in the vehicle, with windows and doors closed, until the fire front has passed, and the outside temperature has dropped sufficiently.
  - Stay covered by blankets, continue to drink water.
  - Once the fire front has passed cautiously exit the vehicle, move to a safe area such as an area of land already burnt or rocky outcrop.

- Call 000 to inform of situation (if mobile reception available)
- Wait for assistance

8.0 Onsite Shelter-in-Place Response – Last Resort Action Only

The alternative to offsite evacuation is for occupants to shelter-in-place within the MSWA building. Triggers for on-site shelter-in-place are:

- DFES Emergency Warning to stay in place
- if there is insufficient time to conduct a safe offsite evacuation or the risk associated with offsite evacuation is otherwise considered to be greater than sheltering in place on-site.

The building has compliant bushfire construction, and while it has a significant bushfire resilience, it is not specifically constructed for onsite refuge. If onsite shelter-in-place is required, it should be undertaken on the:

- **3+ Room Opposite Reception Area**

Onsite shelter-in-place is only to be conducted as a last resort action only.

If onsite shelter-in-place is required, the actions outlined in Table 14 should be implemented.

Table 14: Onsite Shelter-in-Place Procedures

Actions	Person responsible
Chief Fire Warden to take charge and to assess the situation relating to level of bushfire threat and potential impact on the facility, occupants and the evacuation network through the following: • Obtain the latest emergency, weather and road information • implementing the following procedure: ◦ obtain aerial photo ◦ plot where bushfire is located and whether it is moving toward the development. Wind direction is typically an indicator of fire direction ◦ obtain the Fire Danger Rating for the day from EmergencyWA website ◦ note temperature, wind direction and speed from live BoM observations from website. Once the decision is made to shelter-in-place, use the available information to: • Determine the preferred onsite location (pending advice from DFES or Emergency Services Incident Controller)	Chief Fire Warden
Contact DFES (000) if not already undertaken: • inform that the facility is operating and has vulnerable occupants and the number of occupants • seek advice about the fire location, behaviour and likelihood of impacting the facility. Alternatively provide current bushfire observations if fire is close to facility or town. • seek instructions from DFES (preferably Emergency Services Incident Controller who is managing the fire) about what actions to take • determine Emergency Services Incident Controller/DFES point of contact (if any)	Chief Fire Warden Communications Officer

Actions	Person responsible
• If decided, advise that onsite shelter-in-place procedures will be conducted.	
Ensure the following key actions are addressed: • Assemble ERT and relevant staff • Update ERT and staff of the bushfire situation and the planned emergency management strategy. • Cease all operations including any functions and activities • Begin accounting for all occupants and staff using any registers • Ensure all other firefighting and emergency communication equipment is available and ready for use. • Ensure all first aid equipment is available and ready for use. • Ensure all internal access routes are unlocked, and clear and available for use by staff, parents, visitors and firefighters	Chief Fire Warden Deputy Chief Fire Warden All ERT members
Once decision is made to shelter onsite (following confirmation with the Emergency Services Incident Controller or authorised DFES personnel if possible), implement this broad process: • Contact all staff and parents (if not already undertaken) using site communication systems, to organise all occupants (including children) to gather at onsite assembly area where shelter-in-place is to be conducted • Inform staff and parents of the following: ◦ The current emergency warning and bushfire situation ◦ The plan to shelter onsite • If parents arrive onsite to collect children: ◦ If it is unsafe for them to evacuate offsite, bring them into the facility ◦ If it is safe to evacuate, ensure they collect their children and make them aware of the bushfire emergency and the preferred egress route. ◦ Ensure it is noted which children they take with them • Use children and visitor registers to monitor as occupants leave the site and to confirm that all staff, children and parents are successfully relocated to the nominated onsite shelter location • Advise Emergency Services Incident Controller of relocation to shelter-in-place locations and if anyone is missing	Chief Fire Warden Deputy Chief Fire Warden All ERT members
If onsite shelter is being conducted within a building, the following actions should be implemented to improve building resilience: • Close all doors and windows • Turn off any evaporative air-conditioners or if possible, keep the water running and turn off the fan. • Fill sinks, bath and buckets with water for putting out any fires that may start inside or soaking towels, blankets or clothes • Soak towels and rugs in water and lay them along the inside of external doorways or block any other gaps for embers or smoke	Chief Fire Warden Deputy Chief Fire Warden All ERT members

Actions	Person responsible
• Take down curtains and push furniture away from windows • Obtain any firefighting equipment e.g. fire extinguishers, hose reels, garden hoses and determine area of coverage. • Turn on any landscaping reticulation for areas surrounding the building • Immediately before the fire arrives, wet down decks and landscaping close to the building • Ensure occupants to get down low to limit exposure to smoke and drink plenty of water to avoid becoming dehydrated • Nominate teams of no less than two persons to regularly inspect the condition of the building/s including regular inspection of the inside of the building, including the roof space for sparks and embers, and extinguish where possible and safe to do so.	
Advise Incident Controller or DFES if the facility is being impacted by bushfire (i.e. bushfire ignites on the site).	Chief Fire Warden Communications Officer
Stay inside while the fire front is passing. If the building catches fire and/or conditions inside become unbearable: • leave through the door furthest from the approaching fire • relocate all staff, parents and visitors to residential area or a large open space to the east of the facility	Chief Fire Warden Deputy Chief Fire Warden All ERT members
Once the fire has passed, you will need to regularly inspect the inside and outside of the building for several hours. Go outside and extinguish any fires on the building or in adjacent landscaping.	Deputy Chief Fire Warden All ERT members
Continue monitoring and re-evaluating the bushfire scenario. Maintain situational awareness by: • having nominated staff visually monitor land in the local area around the development for signs of bushfire (signs or smell of smoke etc) • monitoring the Emergency WA website, DFES phone (13 3337), DFES Twitter and local ABC radio for current emergency warning status and bushfire information. If a bushfire scenario is changing, obtain information on the new warning status, fire location and direction and speed of travel Review Table 8 with new information to determine new response actions	Chief Fire Warden and Communications Officer

8.1 Recovery procedures following Onsite Shelter-in-Place

Recovery procedures are triggered when emergency services have advised that the bushfire threat has passed and it is safe to return to the facility (DFES 'All Clear' alert).

Table 12 lists the recovery procedures to be carried out following onsite shelter-n-place at the facility,

Table 15: Recovery procedures (following Onsite Shelter-in-Place)

Action	Person responsible
Following a bushfire and if safe to do so, relocate all occupants outside the building if it has been impacted by fire. Emergency services are required to confirm conditions within facility and local area are safe for people to remain to including the vehicular access network and services (electricity, water, gas etc) If the facility has been impacted by fire, ensure no one remains or re-enters until Emergency Services have declared it as being safe. Arrange for parents to pickup children	Chief Fire Warden Fire Wardens
Liaise and take directions from Emergency Services Incident Controller or DFES regarding whether and when safe return is possible. If safe to do so, consider conducting a preliminary review of the site for obvious damaged or destroyed buildings. Based on this information make the decision whether to reopen and return to the facility or whether it shall remain closed. The first priority is to ensure the safety of all people including staff. If the decision is made to keep the facility closed, seek alternative accommodation if required for displaced persons.	Chief Fire Warden Communications Officer
Once decision is made to either reopen or relocate: • arrange for occupants to be moved back to the facility or to a suitable alternative location • confirm all occupants are accounted for on their return to the facility (or have been otherwise safely relocated elsewhere) using the occupant/visitor register procedure used by the facility • advise Emergency Services Incident Controller of relocation to facility or alternative location and whether anyone is missing.	Chief Fire Warden All ERT members

Appendix 1: BEMP Administration Information

Regulatory Framework and Reference Material

The approved Bushfire Management Plan for the facility details the bushfire risk management measures designed to reduce the risk of bushfire impact to the site to tolerable levels, including such measures as vegetation management (Asset Protection Zones and low threat vegetation), bushfire construction and suitable vehicular access and bushfire fighting water

As the proposed development has been assessed as a "vulnerable land use" as per State Planning Policy 3.7 Planning in Bushfire-Prone Areas (SPP 3.7; WAPC 2015), this BEMP has been developed to address the requirements of Policy Measure 6.6 of SPP 3.7.

This BEMP details the emergency management procedures for proposed occupants to satisfy SPP 3.7 Policy Measure 6.6, and has been prepared to specifically consider bushfire in the context of the risk identified within the project Bushfire Management Plan (Linfire 2023) for the facility.

This BEMP was developed using reference and guidance from the following documents:

- The Guidelines for Planning in Bushfire Prone Areas (the Guidelines; WAPC 2022)
- A Guide to developing a Bushfire Emergency Evacuation Plan (WAPC 2019)
- Australian Standard 3745-2010, Planning for Emergencies in Facilities (Standards Australia 2010)
- Endorsed Bushfire Management Plan/s for the facility
    - 20221122255ROWE-BMP Rev 0 dated 22 February 2023 (prepared by Linfire)

8.2 BEMP Development and Implementation

It is expected that the development will have an overall Emergency Management Plan, which identifies various hazards that could impact the facility (e.g building fires, explosion, floods, cyclones, bomb threats, armed threat/robbery etc.), and details the required response actions. Whilst this BEMP is presented as a standalone plan, this should be reference, or otherwise incorporated, into the overall Emergency Management Plan for the development, once it is produced

The BEMP will primarily be used by two groups of people at the facility:

8.2.1 Emergency Management Team (EMT)

- ***The group of people responsible for the development, documentation, review and revision of the BEMP to enable its use in a bushfire emergency***
- Assigning appropriate personnel roles for the Emergency Response Team
- Responsible for overseeing the successful implementation of all Preparedness actions outlined in Section 4.0.
- The members of the ERT are nominated below in Table 16**Error! Reference source not found.**

Table 16: Emergency Management Team personnel

Name of person	Position/Organisation	Contact Details
TBC	TBC	TBC
TBC	TBC	TBC

Name of person	Position/Organisation	Contact Details
TBC	TBC	TBC

8.2.2 *Emergency Response Team (ERT)*

- ***The group of people responsible for directing and controlling the implementation of the BEMP in a bushfire emergency***
- Personnel should be trained and certified to conduct specific tasks in the event of a bushfire emergency including first aid, communication protocols and the operation of relevant firefighting equipment.
- The Emergency Response Team can be formed from the following positions (see Table 17 for further descriptions):
    - Chief Fire Warden
    - Deputy Chief Fire Warden
    - Fire Warden.
    - First Aid Personnel.
    - Traffic Warden.
    - Communications Officer.

Table 17: Emergency Response Team roles and responsibilities

Emergency Role	Responsibilities
Chief Fire Warden	• Reviewing the forecast FDR and ensuring the pre-emptive actions are undertaken based on the FDR. • Evaluating the available information to assess the bushfire emergency • Initiating, coordinating and supervising shutdown, offsite evacuation or onsite shelter-in-place actions. • Supervising the emergency response from the command centre. • Liaising with emergency authorities including advising when offsite evacuation or onsite shelter-in-place is underway • Re-evaluating the emergency response actions during the emergency based on situational updates during the emergency. • Supervising the recovery response and debriefing • Documenting the circumstances of the emergency, processes and outcome.
Deputy Chief Fire Warden	• Taking direction from and carrying out tasks allocated by the Chief Fire Warden. • Assume the Chief Fire Warden responsibilities if not available. • Ensuring all staff, parents and visitors have been alerted of the bushfire emergency • Once initiated, ensuring the shutdown, offsite evacuation or onsite shelter-in-place actions are being conducted correctly • Monitoring the bushfire emergency to provide situation reports of fire location or impact on buildings and potential danger to people. • Monitoring the response actions (shutdown, evacuation or shelter-in-place) and location of people to provide situation reports on any potential danger to people.

Emergency Role	Responsibilities
	• Maintaining communication with, and updating the Chief Fire Warden with situation reports. • Assisting oversee and contribute to the recovery response, debriefing and reporting.
First Aid Personnel	• Evaluating the extent of any injuries. • Administer first aid (only where safe to do so). • Assess if injured personnel can be evacuated safely.
Traffic Warden	• In collaboration with the Chief Fire Warden, arranging and coordinating additional offsite transport to come to the development to assist with offsite evacuation, if safe to do so. • Ensuring all onsite access control measures (gates, bollards etc) are unlocked and removed to enable full use of the onsite access network. • Coordinating and supervising the placement of Fire Wardens to nominated locations to coordinate vehicle movement and traffic flow oversee the orderly evacuation to offsite location, if the decision is made to evacuate the development. • Ensuring any Fire Wardens conducting traffic management have communication devices to enable them to provide and receive situation reports
Communications Officer	• Taking direction from and carrying out tasks allocated by the Chief Fire Warden. • Maintaining communication with, and updating the Chief Fire Warden and/or Deputy Chief Fire Warden with situation reports. • Providing situation updates (bushfire characteristics, emergency response update) to the Traffic Warden to enable them to update the Fire Warden conducting traffic management. • Receive traffic situation updates from the Traffic Warden and relay to the Chief Fire Warden and/or Deputy Chief Fire Warden • Liaise with external adjacent accommodation and residential properties to provide situation updates and receive information to relay to the Chief Fire Warden and/or Deputy Chief Fire Warden • Liaise with emergency agencies under the direction of the Chief Fire Warden • Assist the Chief Fire Warden collect any available information about the bushfire emergency
Fire Warden/s	• Taking direction from and carrying out tasks allocated by the Chief Fire Warden and/or Deputy Chief Fire Warden. • Assisting in alerting all staff, parents and visitors of the bushfire emergency • Assisting the initiation and implementation of shutdown, offsite evacuation or onsite shelter-in-place actions as directed by the Chief Fire Warden and/or Deputy Chief Fire Warden. • Monitoring the bushfire emergency to provide situation reports of fire location or impact on buildings and potential danger to people. • Monitoring the response actions (shutdown, evacuation or shelter-in-place) and location of people to provide situation reports on any potential danger to people.

Emergency Role	Responsibilities
	• Maintaining communication with, and updating the Chief Fire Warden, Deputy Chief Fire Warden and other relevant ERT members to provide situation reports. • Contribute to the recovery response, debriefing and reporting. • All permanent staff are to be trained in the role of Fire Warden.

8.3 BEMP Assumptions

The following are the assumptions upon which this BEMP is based:

- The facility will implement the management measures within the latest version of the approved Bushfire Management Plan, and are done so prior to occupancy (unless stated in the BMP).
- All management measures and bushfire construction measures are to be maintained for the life of the development, with a focus on compliance immediately prior to, and during, bushfire season.
- The facility will comply with all relevant requirements of the annual firebreak notice.
- Information not available at the time of preparation of this BEMP is noted as being to be confirmed "(TBC)", and it to be updated prior to occupation by the Proponent.
- The facility is manned by staff at all times the facility is open for use.
- Staff can see and smell smoke and can see a fire.
- Staff can read and understand the English language, or will be accompanied or guided by people who can.

Should any of the above assumptions no longer be accurate, the BEMP shall be reviewed, and amended as required.

8.4 BEMP and Evacuation Plan Distribution

The BEMP is an internal document, to be used by the facility to prepare for, and manage bushfire emergencies. The latest approved version of the BEMP is to be made available to all relevant occupants and also be provided at appropriate locations or communication mediums:

- Administration areas (TBC)
- Noticeboards (TBC)

The latest approved version of the Bushfire Emergency Management Map (see Appendix 2) is also to be displayed so it is readily visible and available to all occupants and also be provided on any relevant communication mediums:

- Administration areas (TBC)
- Noticeboards (TBC)

8.5 Exercise Drills and Training

Ensure nominated personnel in the facility forming the Emergency Response Team (see**Error! Reference source not found.** in Section 3.1) and any other relevant staff (preferably all staff) are fully conversant and trained in the procedures outlined in this BEMP.

Exercise drills covering evacuation and/or shelter-in-place procedures as outlined within this BEMP,

shall be practiced on an annual basis, preferably in the month prior to bushfire season.

To ensure correct implementation of the BEMP, the drills and supplementary training, should include the following:

- understanding the bushfire warning system, where to access the Fire Danger Rating and Total Fire Ban day forecasts, and where to current emergency warning and road condition information.
- how to contact DFES, local fire brigade and any other emergency services personnel
- how to use the various communication methods
- how to safely operate the fire extinguishers and hose reels (where installed) and, when it is appropriate and safe to do so, to undertake firefighting activities. This would only be considered appropriate if the bushfire is very small. Liaise with the local fire brigade regarding this training.
- have a basic understanding of bushfire behaviour and how it threatens people and property. Liaise with the local fire brigade regarding this training.
- What critical actions are required to improve building resilience to bushfire impact including, but not limited to, closing doors, window, roof vents and other openings, turning off evaporative coolers, moving flammable items away from the building etc.
- It is recommended that sufficient staff are trained in senior first aid to enable first response care in any emergency. Facility management should ensure sufficient staff holding a current senior first aid certification are rostered on each day.

Prior to all exercise drills, staff should be briefed to discuss the process and objectives of the drill. Following drills, staff shall be debriefed to discuss any issues associated with implementing the BEMP. Staff debriefing should also occur following any bushfire event, and this information used to inform improvements to the BEMP as part of the review.

Understanding the BEMP should be incorporated into the staff induction process to ensure they know the ERT members, learn how it is to be implemented and have a broad knowledge regarding its proper application.

8.6 Ongoing Review of BEMP

Like all such plans, the BEMP is considered a “live” document, that will require ongoing review and amendment as required, to reflect changes to staff, occupants, the facility, vehicular access routes or the surrounding bushfire hazard including:

- Changes to staff, or their contact details, especially for members of the EMT and/or ERT
- Changes to emergency contacts or forecast or emergency information sources
- Ensure the off-site safer locations and nominated evacuation routes are current and still represent the best options, and confirm their availability for use during a bushfire emergency.
- Incorporate any changes building construction, extent or locations that could have implications for the BEMP.
- Incorporate any changes to occupant numbers that could have implications on the BEMP, especially impacting any response actions.

As a minimum, the BEP shall be reviewed:

- annually (prior to bushfire season)
- following any actual bushfire emergency requiring the plan to be implemented
- prior to habitation of any new or renovated buildings within the site

- should there be deviation from any nominated assumptions.

Ensure that any review of the BEMP incorporates any bushfire advice received from authorised personnel from Department of Fire and Emergency Services (DFES), Local Emergency Management Committee (LEMC), Community Emergency Services Manager (CESM); or external experts.

Appendix 2: Bushfire Emergency Evacuation Map

BUSHFIRE EMERGENCY MANAGEMENT MAP

Lot 9511 Cnr Indigo Parkway and Briggs Road, Byford

Emergency Response Team Contacts

Chief Fire Warden:	TBC (0400 000 000)
Deputy Chief Fire Warden:	TBC (0400 000 000)
First Aid Personnel:	TBC (0400 000 000)

Emergency Services Contacts

DFES/Ambulance/Police:	000
DFES:	13 DFES (13 3337)

Bushfire Information and Updates:

EmergencyWA	www.emergency.wa.gov.au
DFES:	13 DFES (13 3337)
Radio Updates:	720 AM (ABC Perth)
Fire Danger Ratings:	www.emergency.wa.gov.au www.bom.gov.au

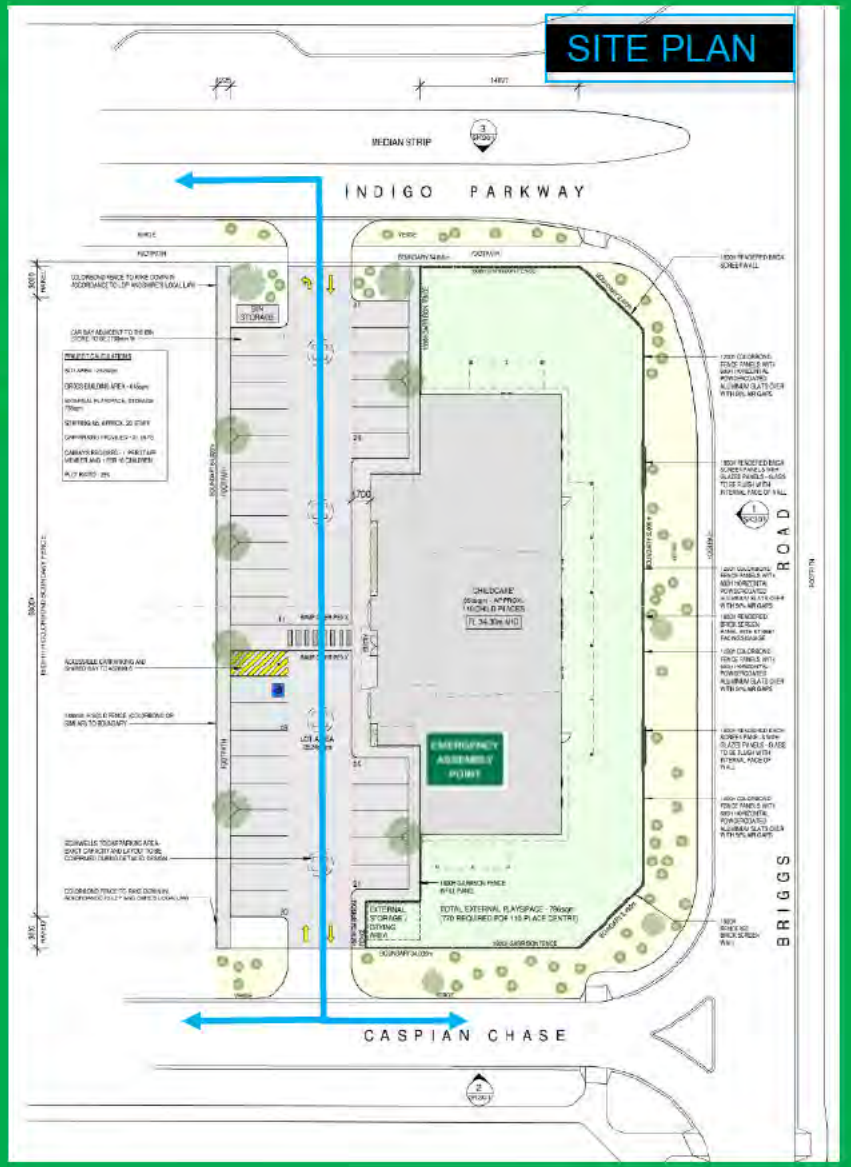
Bushfire Response Actions

- This facility has an Emergency Response Team (ERT) who are trained to deal with bushfire emergencies. Listen to their instructions
- **If safe to do so,** offsite evacuation is considered the safest response action given the development is within a residential area.
- ***Evacuation will be safest when conducted early, prior to bushfire impact and disruption to the road network.***
- The offsite location may be advised by DFES or the City, however if none are nominated, relocate **to Ballawara Reserve (2 Wundi Way, Byford)**
- If unsafe to evacuate offsite, relocate to the nominated onsite assembly area on the response table.
- Refer to response table on other side of sheet for further actions

Bushfire Awareness Actions (forecast FDR for SWAN COASTAL SOUTH)

FDR	ERT/Staff	Parents/Visitors
Catastrophic	• Rare event with potential for worst bushfire behaviour. • Conduct planned closure on **Catastrophic FDR** • Consider planned closure on **Extreme FDR** • Update ERT and staff (and guests)	• Know where onsite assembly point and offsite safer location is located • Be prepared for rapid offsite evacuation • Listen to ERT instructions
Extreme	• Monitor for bushfires regularly especially to north and east • Conduct daily preparation tasks from BEMP to prepare all staff, systems, and procedures for offsite evacuation of onsite shelter-in-place, if there is a bushfire emergency	
High	• Update ERT and staff as required • Regularly monitor for bushfires • Conduct daily preparation tasks from BEMP to prepare all staff, systems, and procedures for offsite evacuation of onsite shelter-in-place, if there is a bushfire emergency	
Moderate	• Monitor for bushfires (if conditions are unusually warm and windy)	• Be aware of bushfires • Listen to ERT instructions
No Rating		

ERT are to refer to facility Bushfire Emergency Management Plan for further detail on pre-emptive actions



Bushfire Triggers and Response Actions

Trigger	ERT/Staff	Parents/Visitors
Bushfire Emergency Warnings		
Advice	• Commence use of Offsite Evacuation procedures if safe. • Monitor & re-evaluate	• Know where onsite assembly area and offsite safer locations are and begin relocating there if instructed • Listen to ERT instructions
Watch and Act	• Commence or continue Offsite Evacuation if safe. If not, conduct Onsite Shelter-in-Place • Monitor & re-evaluate	
Emergency Warning	• Urgently commence of continue Offsite Evacuation if safe. If not, conduct Onsite Shelter-in-Place • Monitor & re-evaluate	
All Clear	• Commence Recovery Procedures • Monitor & re-evaluate	• Listen to ERT instructions
Bushfire Location (Decision Zones based on distance from site – use if no emergency services guidance)		
Monitoring Zone: >6 km away	• Consider pre-emptive use of Offsite Evacuation procedures • Monitor & re-evaluate	• Listen to ERT instructions • Monitor bushfire
Response Zone (Evacuation): 6 km – 2 km	• Urgently commence or continue Offsite Evacuation **but only if safe to do so**. • If not safe to leave site, conduct Onsite Shelter-in-Place • Monitor & re-evaluate	• Listen to ERT instructions • Know where onsite bushfire refuge is located • Be prepared for Offsite Evacuation or relocation to onsite assembly area
Response Zone (Shelter-in-Place): <2 km	• Urgently commence of continue Offsite Evacuation **but only if safe to do so**. • If not safe to leave site, conduct Onsite Shelter-in-Place • Monitor & re-evaluate	

ERT are to refer to facility Bushfire Emergency Management Plan for detail on response actions

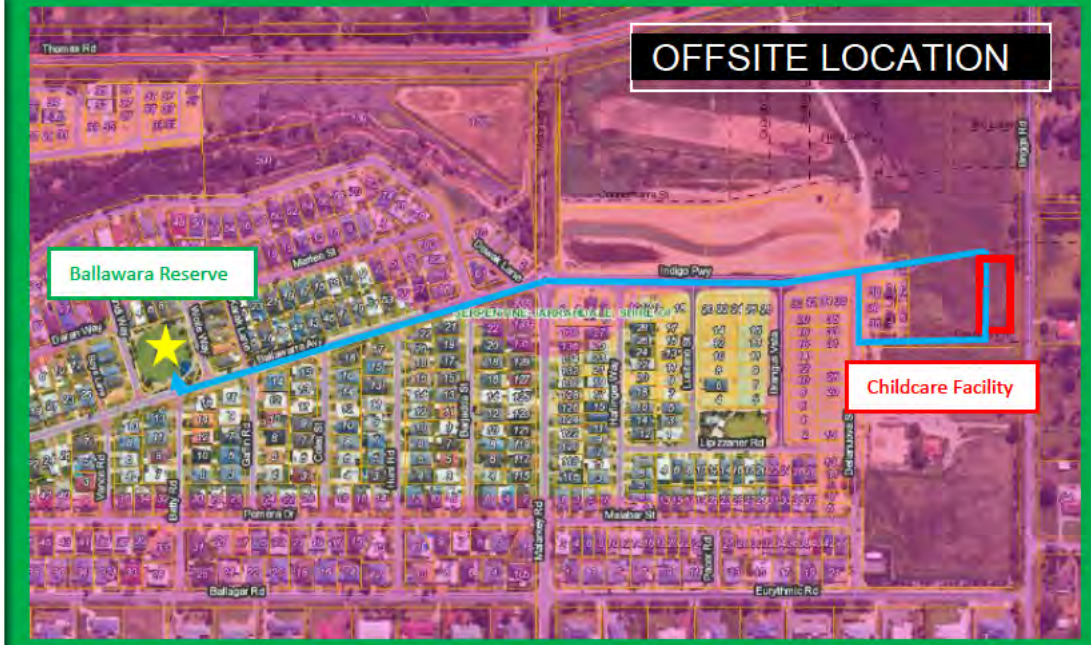
Onsite Assembly Area

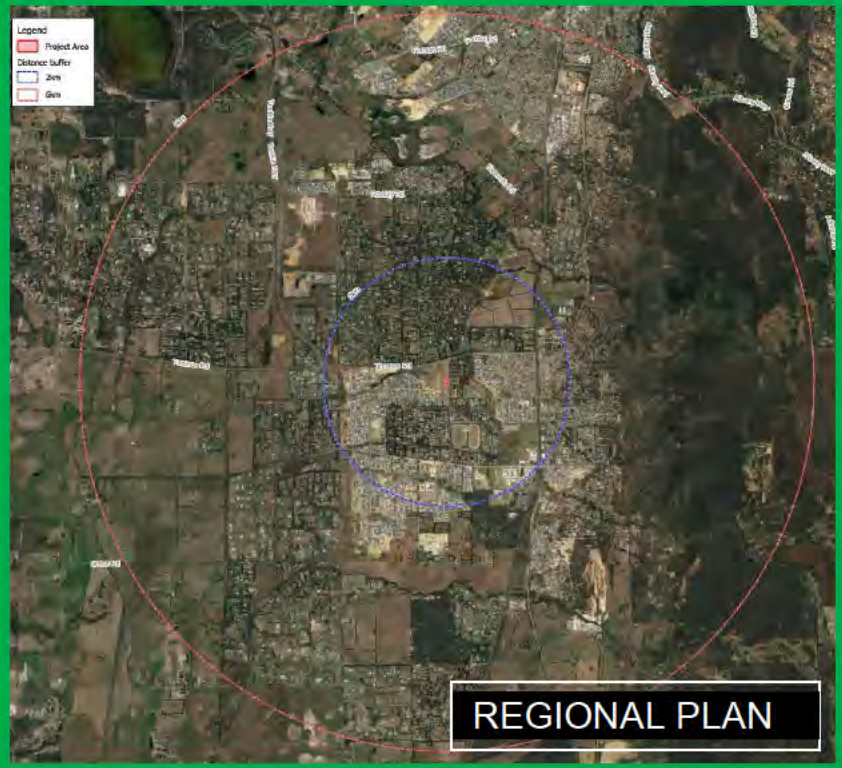
3+ Room Opposite Reception Area

Offsite Safer Location/s

- Use the designated welfare centres or nominated locations as advised by DFES
- ***If this information is not available, the offsite safer location is to be***

Ballawara Reserve





ATTACHMENT 8

ACOUSTIC REPORT

ROWE GROUP

PROPOSED CHILD CARE CENTRE
LOT 9511,
CORNER OF INDIGO PARKWAY AND BRIGGS ROAD,
BYFORD

ENVIRONMENTAL ACOUSTIC ASSESSMENT

JANUARY 2023

OUR REFERENCE: 30556-2-22374

Rochdale Holdings Pty Ltd A.B.N. 85 009 049 067 trading as:
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DOCUMENT CONTROL PAGE

ENVIRONMENTAL ACOUSTIC ASSESSMENT

PROPOSED CHILD CARE CENTRE
BYFORD

Job No: 22374

Document Reference: 30556-2-22374

FOR

ROWE GROUP

DOCUMENT INFORMATION			
Author:	Geoff Harris	**Checked By:**	Tim Reynolds
Date of Issue:	30 January 2023		

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1	1	Rowe Group Attn: Kieran McGovern Email: kieran.mcgovern@rowegroup.com.au		✓
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This report has been prepared in accordance with the scope of services and on the basis of information and documents provided to Herring Storer Acoustics by the client. To the extent that this report relies on data and measurements taken at or under the times and conditions specified within the report and any findings, conclusions or recommendations only apply to those circumstances and no greater reliance should be assumed. The client acknowledges and agrees that the reports or presentations are provided by Herring Storer Acoustics to assist the client to conduct its own independent assessment.

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APPENDICIES

A PLANS

1. INTRODUCTION

Herring Storer Acoustics were commissioned to undertake an acoustic assessment of noise emissions associated with the proposed day care centre to be located at Lot 9511, Corner of Indigo Parkway and Briggs Road, Byford.

The report considers noise received at the neighbouring premises from the proposed development for compliance with the requirements of the *Environmental Protection (Noise) Regulations 1997.* This report considers noise emissions from:

- Children playing within the outside play areas of the centre; and
- Mechanical services.

We note that from information received from DWER, the bitumised area would be considered as a road, thus noise relating to motor vehicles is exempt from the *Environmental Protection (Noise) Regulations 1997*. We note that these noise sources are rarely critical in the determination of compliance. However, as requested by council and for completeness, they have been included in the assessment, for information purposes only.

For information, a plan of the proposed development is attached in Appendix A.

2. SUMMARY

Noise received at the neighbouring residences from the outdoor play areas would comply with the requirements of the Environmental Protections (Noise) Regulations 1997, with the fencing, as shown on the plan attached in Appendix A; and provided outdoor play is limited to the day period (ie after 7am).

Noise from the mechanical services has also been assessed to comply with the relevant criteria. However, as the assessment has not been based on the mechanical services design, it is recommended that additionally, mechanical services design be reviewed for compliance with the Regulatory requirements.

It is noted that noise associated with cars movements and cars starting are exempt from complying with the Regulations. However, noise emissions from car doors is not strictly exempt from the Regulations. Noise received at the proposed and existing neighbouring residences from these noise sources would with the proposed fencing and parking restrictions, as shown on Figure 5.1 in Section 5, comply with the Regulatory requirements, at all times.

Thus, noise emissions from the proposed development, would be deemed to comply with the requirements of the *Environmental Protection (Noise) Regulations 1997* for the proposed hours of operation, with the inclusion of the following:

1 Although the proposed facility would open before 7 am (ie during the night period), the outdoor play area would not be used until after 7am. Thus, noise received at the neighbouring existing residences from the outdoor play area needs to comply with the assigned day period noise level.

2 Fencing to be as shown on the drawings attached in Appendix A.

3 Parking to be restricted, as shown on Figure 5.1 in Section 5 – Modelling.

4 For child care centres colourbond fencing is acceptable fencing material.

3. CRITERIA

The allowable noise level at the surrounding locales is prescribed by the *Environmental Protection (Noise) Regulations 1997*. Regulations 7 & 8 stipulate maximum allowable external noise levels. For highly sensitive area of a noise sensitive premises this is determined by the calculation of an influencing factor, which is then added to the base levels shown below in Table 3.1. The influencing factor is calculated for the usage of land within two circles, having radii of 100m and 450m from the premises of concern. For other areas within a noise sensitive premises, the assigned noise levels are fixed throughout the day, as listed in Table 3.1.

TABLE 3.1 - BASELINE ASSIGNED OUTDOOR NOISE LEVEL

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
Noise sensitive premises: highly sensitive area	0700 - 1900 hours Monday to Saturday (Day)	45 + IF	55 + IF	65 + IF
	0900 - 1900 hours Sunday and Public Holidays (Sunday / Public Holiday Day)	40 + IF	50 + IF	65 + IF
	1900 - 2200 hours all days (Evening)	40 + IF	50 + IF	55 + IF
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays (Night)	35 + IF	45 + IF	55 + IF
Noise sensitive premises: any area other than highly sensitive area	All hours	60	75	80

Note: L_{A10} is the noise level exceeded for 10% of the time.
L_{A1} is the noise level exceeded for 1% of the time.
L_{Amax} is the maximum noise level.
IF is the influencing factor.

Under the Regulations, a 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 m of that building or that part of the building.

It is a requirement that received noise be free of annoying characteristics (tonality, modulation and impulsiveness), defined below as per Regulation 9.

"impulsiveness" means a variation in the emission of a noise where the difference between L_{Apeak} and $L_{Amax(Slow)}$ is more than 15 dB when determined for a single representative event;

"modulation" means a variation in the emission of noise that –

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

(b) is present for more at least 10% of the representative assessment period; and

(c) is regular, cyclic and audible;

"tonality" means 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_{ASlow} levels.

Where the noise emission is not music, if the above characteristics exist and cannot be practicably removed, then any measured level is adjusted according to Table 3.2 below.

TABLE 3.2 - ADJUSTMENTS TO MEASURED LEVELS

Where **tonality** is present	Where **modulation** is present	Where **impulsiveness** is present
+5 dB(A)	+5 dB(A)	+10 dB(A)

Note: These adjustments are cumulative to a maximum of 15 dB.

An aerial showing the neighbouring premises are shown below on Figure 3.1.

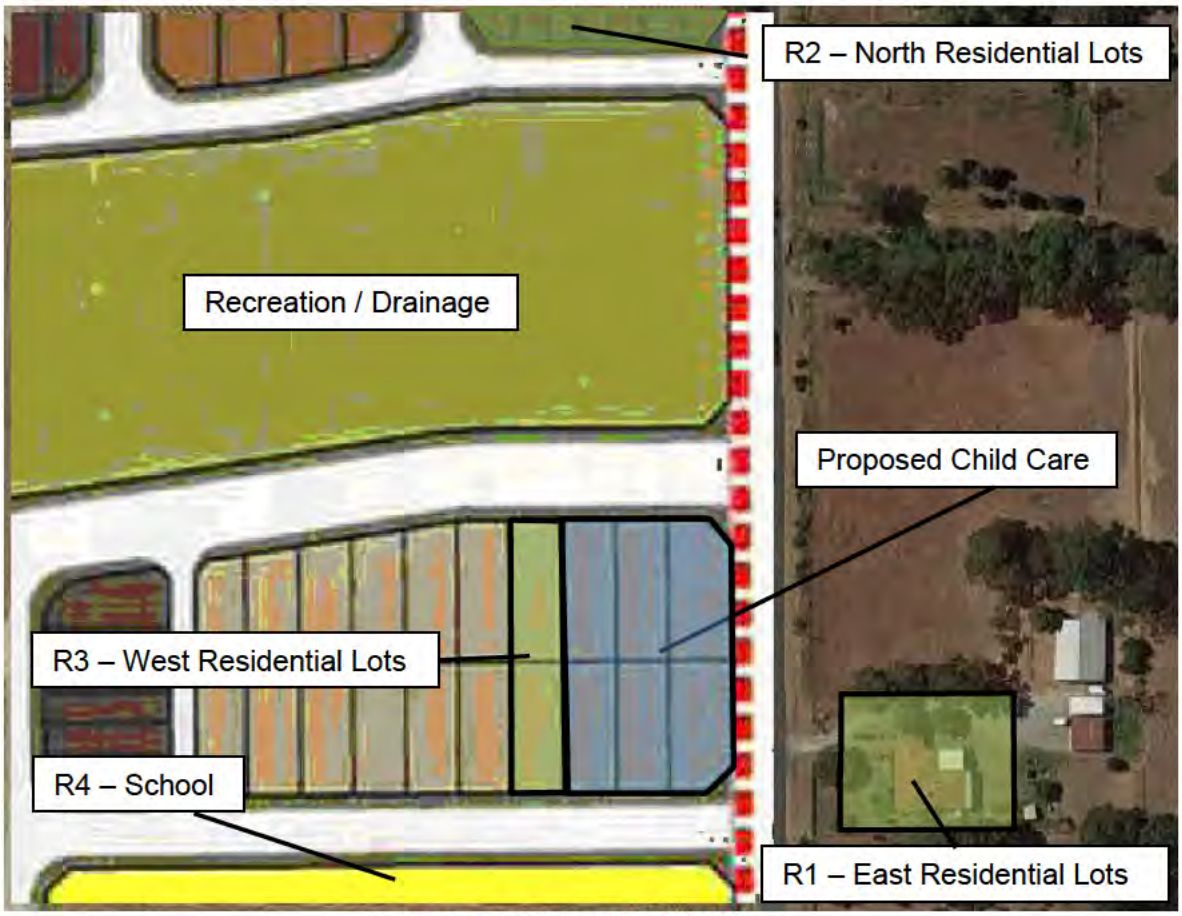

FIGURE 3.1 – NEIGHBOURING LOTS

For the neighbouring residences, the influencing factor has been determined to be +0 dB. Thus, the assigned noise levels would be as listed in Table 3.3.

TABLE 3.3 - ASSIGNED OUTDOOR NOISE LEVEL

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
Noise sensitive premises: highly sensitive area	0700 - 1900 hours Monday to Saturday (Day)	45	55	65
	0900 - 1900 hours Sunday and Public Holidays (Sunday / Public Holiday Day)	40	50	65
	1900 - 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

Note: L_{A10} is the noise level exceeded for 10% of the time.
L_{A1} is the noise level exceeded for 1% of the time.
L_{Amax} is the maximum noise level.

4. PROPOSAL

From information supplied, we understand that the child care centre normal hours of operations would be between 0700 and 1800 hours, Monday to Friday (closed on public holidays). It is understood that the proposed childcare centre will cater for a maximum of 110 children: with the following breakdown:

Infant	0 – 2 years	20 places
Pre-Kindy	2 – 3 years	30 places
Kindy	3+ years	60 places

It is noted that although the proposed child care centre would open before 7 am (ie during the night period), the outdoor play area would not be used until after 7am.

5. MODELLING

To assess the noise received at the neighbouring premises from the proposed development, noise modelling was undertaken using the noise modelling program SoundPlan.

Calculations were carried out using the DWER's weather conditions, which relate to worst case noise propagation, as stated in the Department of Environment Regulation *"Draft Guidance on Environmental Noise for Prescribed Premises"*. These conditions include winds blowing from sources to the receiver(s).

Calculations were based on the sound power levels used in the calculations are listed in Table 5.1.

TABLE 5.1 – SOUND POWER LEVELS

Item	Sound Power Level, dB(A)
Children Playing	83 (per 10 children)
Car Moving in Car Park	79
Car Starting	85
Door Closing	87
Air conditioning condensing Unit	10 @ 71
Exhausts	72 (kitchen)

Notes:

1 Acoustic modelling of outdoor play noise was made, based on:

- any age group of children within the outdoor play area (ie worst case scenario)

2 The noise level for the air conditioning has been based on the sound power levels used for previous assessment of child care centres. From other studies, we understand that the noise associated with the condensing units would be conservative.

3 For this child care centre, it is recommended that the air conditioning units be surrounded on all sides by a barrier minimum being to height of units, preferably 500mm above top of units.

4 The noise modelling has been based on fences surrounding the outdoor play area, and to the west (as shown in Appendix A).

5 To determine the restriction to the parking, a point noise source was located in each car bay.

6 Modelling shows that noise received at the neighbouring residences from car doors closing would comply with the assigned noise level for the day period. However, to achieve compliance during the night period (ie before 7am), for staff arriving, the parking needs to be restricted, as shown on Figure 5.1.

7 With only staff arriving before 07:00 am, there would be no car starts before 7am. We also note that as the school would not be occupied during the night period, compliance is only required for the day period.

8 Calculation were undertaken for the receivers at 1.5 metres above the ground level.

9 Noise modelling was undertaken to a number of different receiver locations for each of the neighbouring residences. However, to simplify the assessment, only the noise level in the worst case location (ie highest noise level), have been listed.

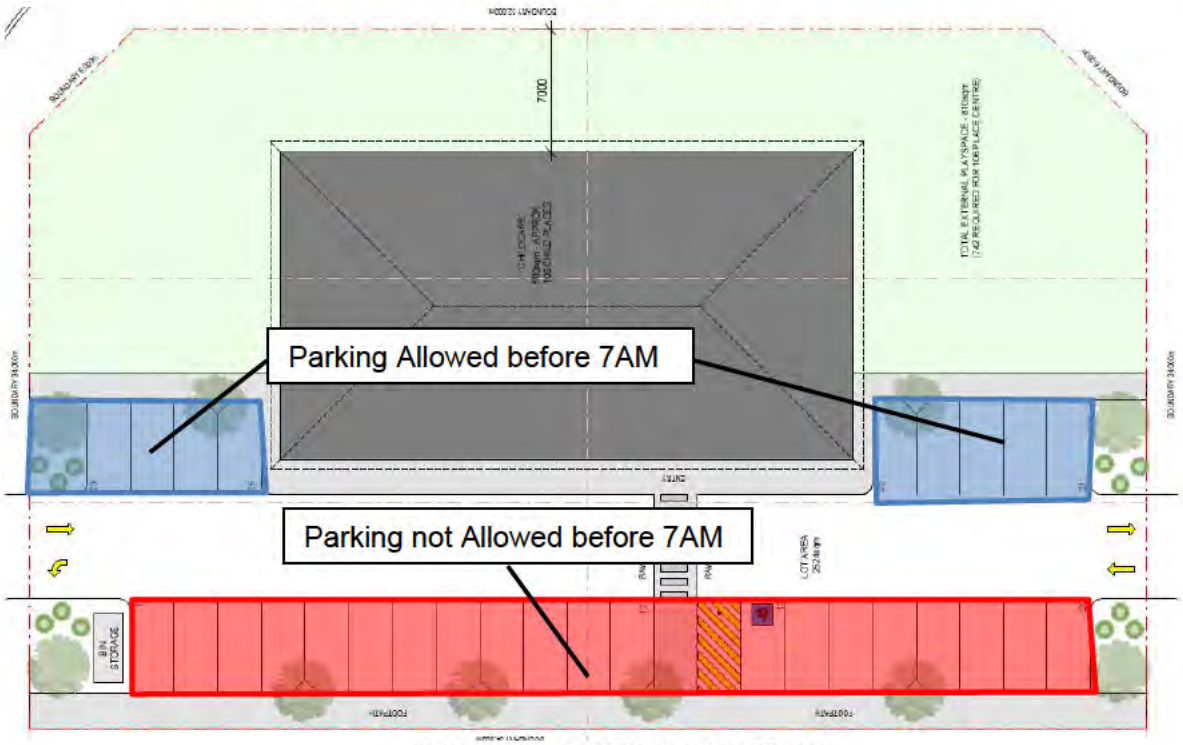

FIGURE 5.1 – PARKING RESTRICTIONS

6. ASSESSMENT

The resultant noise levels at the neighbouring residence from children playing outdoors and the mechanical services are tabulated in Table 6.1.

From previous measurements, noise emissions from children playing does not contain any annoying characteristics. Noise emissions from the mechanical services could be tonal and a +5 dB(A) penalty would be applicable, as shown in Table 6.1. Noise emissions from both outdoor play and the mechanical services needs to comply with the assigned L_{A10} noise levels.

TABLE 6.1 - ACOUSTIC MODELLING RESULTS FOR L_{A10} CRITERIA
OUTDOOR PLAY AREAS AND MECHANICAL PLANT

Neighbouring Premises	Calculated Noise Level (dB(A))	
	Children Playing	Air Conditioning
R1 – East Residential Lots	45	26 (31)
R2 – North Residential Lots	39	6 (11)
R3 – West Residential Lots	39	26 (31)
R4 – School	45	25 (30)

( ) Includes +5 dB(A) penalty for tonality

With regards to noise associated with cars within the parking area, resultant noise levels are tabulated in Tables 6.2 and 6.3. It is noted that noise emissions from a moving car being an L_{A1} noise level, with noise emissions from cars starting and doors closing being an L_{Amax} noise level.

Based on the definitions of tonality, noise emissions from car movements and car starts, being an L_{A1} and L_{AMax} respectively, being present for less than 10% of the time, would not be considered tonal. Thus, no penalties would be applicable, and the assessment would be as listed in Table 6.2 (Car Moving) and Table 6.3 (Car Starting). However, noise emissions from car doors closing could be impulsive, hence the +10dB penalty has been included in the assessment.

TABLE 6.2 - ACOUSTIC MODELLING RESULTS L_{A1} CRITERIA
CAR MOVING

Neighbouring Premises	Calculated Noise Level (dB(A))
R1 – East Residential Lots	34
R2 – North Residential Lots	33
R3 – West Residential Lots	43
R4 – School	41

TABLE 6.3 - ACOUSTIC MODELLING RESULTS L_{Amax} CRITERIA
CAR STARTING / DOOR CLOSING

Neighbouring Premises	Calculated Noise Level (dB(A))			
	Car Starting		Door Closing	
	Day Period	Night Period	Day Period	Night Period
R1 – East Residential Lots	42	N/A	42 [52]	42 [52]
R2 – North Residential Lots	35	N/A	35 [45]	35 [45]
R3 – West Residential Lots	49	N/A	49 [59]	41 [51]
R4 – School	45	N/A	45 [55]	45 [55]

[ ] Includes +10 dB(A) penalty for impulsiveness.

Tables 6.4 to 6.9 summarise the applicable Assigned Noise Levels, and assessable noise level emissions for each identified noise.

TABLE 6.4 – ASSESSMENT OF L_{A10} NOISE LEVEL EMISSIONS OUTDOOR PLAY (DAY PERIOD)

Location	Assessable Noise Level dB(A)	Applicable Assigned Noise Level (dB(A))	Exceedance to Assigned Noise Level
R1 – East Residential Lots	45	45	Complies
R2 – North Residential Lots	39	45	Complies
R3 – West Residential Lots	39	45	Complies
R4 – School	45	45	Complies

TABLE 6.5 – ASSESSMENT OF L_{A10} NIGHT PERIOD NOISE LEVEL EMISSIONS AIR CONDITIONING

Location	Assessable Noise Level dB(A)	Applicable Assigned Noise Level (dB(A))	Exceedance to Assigned Noise Level
R1 – East Residential Lots	31	35	Complies
R2 – North Residential Lots	11	35	Complies
R3 – West Residential Lots	31	35	Complies
R4 – School	30	35	Complies

TABLE 6.6 – ASSESSMENT OF L_{A1} NIGHT PERIOD NOISE LEVEL EMISSIONS CAR MOVEMENTS

Location	Assessable Noise Level dB(A)	Applicable Assigned Noise Level (dB(A))	Exceedance to Assigned Noise Level
R1 – East Residential Lots	34	45	Complies
R2 – North Residential Lots	33	45	Complies
R3 – West Residential Lots	43	45	Complies
R4 – School	41	45	Complies

TABLE 6.7 – ASSESSMENT OF L_{Amax} DAY PERIOD NOISE LEVEL EMISSIONS CAR STARTING

Location	Assessable Noise Level dB(A)	Applicable Assigned Noise Level (dB(A))	Exceedance to Assigned Noise Level
R1 – East Residential Lots	42	65	Complies
R2 – North Residential Lots	35	65	Complies
R3 – West Residential Lots	49	65	Complies
R4 – School	45	65	Complies

TABLE 6.8 – ASSESSMENT OF L_{Amax} DAY PERIOD NOISE LEVEL EMISSIONS CAR DOOR

Location	Assessable Noise Level dB(A)	Applicable Assigned Noise Level (dB(A))	Exceedance to Assigned Noise Level
R1 – East Residential Lots	52	65	Complies
R2 – North Residential Lots	45	65	Complies
R3 – West Residential Lots	59	65	Complies
R4 – School	55	65	Complies

TABLE 6.9 – ASSESSMENT OF L_{Amax} NIGHT PERIOD NOISE LEVEL EMISSIONS CAR DOOR

Location	Assessable Noise Level dB(A)	Applicable Assigned Noise Level (dB(A))	Exceedance to Assigned Noise Level
R1 – East Residential Lots	52	55	Complies
R2 – North Residential Lots	45	55	Complies
R3 – West Residential Lots	51	55	Complies
R4 – School	N/A	N/A	Complies

7. CONCLUSION

Noise received at the neighbouring residences from the outdoor play area would comply with day period assigned noise level, with the fencing as shown on the drawings attached in Appendix A.

The air conditioning condensing units have also been assessed to comply with the requirements of the *Environmental Protection (Noise) Regulations 1997* at all times.

It is noted that noise associated with cars movements and cars starting are exempt from complying with the Regulations. However, noise emissions from car doors are not strictly exempt from the Regulations. Noise received at the neighbouring residences from these noise sources would with the fencing, as shown on the drawings attached in Appendix A and the restrictions in parking, as shown on Figure 5.1 in Section 5 comply with the Regulatory requirements, at all times.

Thus, noise emissions from the proposed development, would be deemed to comply with the requirements of the *Environmental Protection (Noise) Regulations 1997* for the proposed hours of operation, with the inclusion of the following:

1 Although the proposed facility would open before 7 am (ie during the night period), the outdoor play area would not be used until after 7am. Thus, noise received at the neighbouring existing residences from the outdoor play area needs to comply with the assigned day period noise level.

2 Fencing to be as shown on the drawings attached in Appendix A.

3 Parking to be restricted, as shown on Figure 5.1 in Section 5 – Modelling.

4 For child care centres colourbond fencing is acceptable fencing material.

APPENDIX A

PLANS

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1 PROPOSED SITE PLAN
SCALE1 : 250

modus design pty ltd

PROPOSED SITE PLAN PROPOSED CHILDCARE CENTRE BRIGGS ROAD EAST PRECINCT - LOTS 367, 368, 369, 371, 372, 373	DESIGN CG DRAWN CG CHECKED CG SCALE 1 : 250 DATE FEBRUARY 2023	A2	MODUS PROJECT D22-1649 REVISION G DWG SK100

Linfire Consultancy
ABN: 577 930 47299

Linfire ref: 20221122255ROWE-LT-001_A

20 April 2023

PROPOSED CHILCARE FACILITY - LOT 9511 CNR INDIGO PARKWAY AND BRIGGS ROAD, BYFORD
RESPONSE TO DFES COMMENTS

Table 1 below provides a response to the written comments received from the Department of Fire and Emergency Services (DFES), relating to the Bushfire Management Plan (Revision 0 dated 22 February 2023), prepared to support proposed childcare facility in the Shire of Serpentine-Jarrahdale.

Table 1: Response to DFES Comments

Issue	Comment	Applicant response
Policy Measure 6.5 a) Preparation of BAL Assessment		
Vegetation Classification	Evidence to support the exclusion of Plots 8 and 9 in their entirety, in particular the area to the west of the site, as managed to low threat in accordance with AS3959 is required. The BMP notes that assumptions have been made relating to these areas being excludable, however no evidence has been provided to support this. In particular, Plots 8 and 9 appear to contain grassland, which requires ongoing management until development of residential lots. An enforceable mechanism is required to provide certainty that the proposed management measures can be achieved in perpetuity and that they are enforceable. **Action: Insufficient information. The decision maker to be satisfied with the vegetation exclusions proposed**	**No changes required to BMP** Section 1.2 of the BMP details the following with relation to Plots 8 and 9: • WAPC has issued approval for much of the Byford Meadows subdivision (WAPC ref: 15866, see Appendix 1 in BMP), including the 6 proposed lots that constitute the project area, and which are to be amalgamated. • Subdivisional works have been undertaken for much of the approved subdivision, with: o Stage 6 now completed and titled (which is the portion of Plot 8 referred to by DFES comment), and o Stage 7 works (Plot 9 and 10) have been commenced with lots expected to be titled in August. • The subdivision application was supported by a Bushfire Management Plan (BMP) prepared by Bushfire Safety Consulting (dated April 2019) for the structure plan. It is a condition of the subdivision approval that compliance certification against this BMP is provided following completion of each stage, as part of the process to title the lots, which has been provided for Stage 6 lots. • Given the subdivisional works for Stage 7 are not yet complete, nor the project area lots titled, the childcare BMP assumes that:

Issue	Comment	Applicant response
Policy Measure 6.5 a) Preparation of BAL Assessment		
		o Indigo Parkway and Caspian Chase will both be constructed, and connect from Briggs Road, to the existing temporary cul-de-sac turning heads installed as part of Stage 6 thereby providing through access from Briggs Road to existing residential land west of the project area. o all Stage 7 residential lots will be cleared and managed in a low threat state, the o Condition 17 of WAPC subdivision approval 158666 is satisfactorily cleared (which it is assumed it will be to enable titling of the Stage 7 lots) Stage 6 is completed and the lots titled, with most of the lots sold to prospective owners. It is considered reasonable to assume that these lots will be developed in the near future and that the existing cleared lots will be replaced with residential dwellings and managed gardens. The only other land use in Stage 6, are the portions of several public roads, which are to be managed by the Developer until handover to the Shire, and then the Shire thereafter. There is small amounts of grass on some of these vacant lots but nothing sufficient to be classified vegetation, but it is noted that these lots will need to be maintained in accordance with the Shires firebreak notice, which requires lots <4000 m^2 have any grass slashed to <50mm in height during bushfire season. Stage 7 is still under construction, however the childcare BMP assumes that all lots within this stage will need to be titled to enable the 6 lots forming the childcare site to be amalgamated, and for the DA to be able to progress. Ongoing management of these lots would be by the Developer until sold to future landowners, at which time they will be required to manage these lots in accordance with the Shire firebreak notice. o Based on the above, the exclusion of vegetation on Stages 6 and 7 is considered appropriate, Indigo Parkway and Caspian Chase will both be constructed, and connect from Briggs Road, to the existing temporary cul-de-sac turning heads installed as part of Stage 6 thereby providing through access from Briggs Road to existing residential land west of the project area. o all Stage 7 residential lots will be cleared and managed in a low threat state, the o Condition 17 of WAPC subdivision approval 158666 is satisfactorily cleared (which it is assumed it will be to enable titling of the Stage 7 lots)

Issue	Comment	Applicant response
		It is understood that Stage 6 is completed and titled, with most of the lots sold to prospective owners. It is considered reasonable to assume that these lots will be developed in the near future and that the existing cleared lots will be replaced with residential dwellings and managed gardens. The only other land use in Stage 6, are the portions of several public roads, which are to be managed by the Developer until handover to the Shire, and then the Shire thereafter. There is small amounts of grass on some of these lots, however these lots will need to be maintained in accordance with the Shires firebreak notice, which requires lots <4000 m^2 have any grass slashed to <50mm in height. Stage 7 under construction, however the childcare BMP assumes that all lots within this stage will need to be titled to enable the 6 lots forming the childcare site to be amalgamated, and for the DA to be able to progress. Ongoing management of these lots would be by the Developer until sold to future landowners, at which time they will be required to manage these lots in accordance with the Shire firebreak notice. Based on the above, the exclusion of vegetation on Stages 6 and 7 is considered appropriate on the basis that Stage 6 is approved, cleared and residential development is progressing, while Stage 7 will need to be completed to enable titling of the childcare lot.
Vegetation Classification	The BMP states that Plot 6 to the north of the site has been conservatively classified as grassland, with a strip of woodland. It is noted that this area is planned to be Public Open Space but no further information is available to confirm the nature of the area at maturity. Evidence should be included in the BMP to qualify the future vegetation classification, for example confirmation of management of the reserve by the responsible authority. An enforceable mechanism is required to provide certainty that the proposed management measures can be achieved in perpetuity and that they are enforceable.	**No changes required to BMP** The subdivision application for the Byford Meadows subdivision was supported by a Bushfire Management Plan (BMP) prepared by Bushfire Safety Consulting (dated April 2019) for the structure plan. It was an implementation measure of that structure plan BMP, that the POS located north of Indigo Parkway, will be landscaped such that it could be excluded under AS 3959 2.2.3.2 (e) and (f) as either non-vegetated elements and/or low threat landscaping, and would be managed as such in perpetuity. A Landscape Concept Plan (Attachment 1) was generated by Emerge Associates (September 2020) for the POS corridor, and was considered to be a compliant low threat landscaping approach. Recent subdivision clearance reporting for Stage 6 (Attachment 2) have also excluded this POS land as being non-vegetated and low threat landscaping, and titles issued on this basis. Based on the above, while Plots 5 and 6 are expected to be modified to a non-vegetated or low threat state, however given those works have not yet been completed, it was

Issue	Comment	Applicant response
	Action: Insufficient information. The decision maker to be satisfied with the vegetation management proposed.	considered by Linfire more conservative to demonstrate that sufficient separation could be provided to achieve a compliant BAL-29 or lower outcome, under the vegetated scenario observed at the site inspection.
Policy Measure 6.6.2 Vulnerable land uses		
Bushfire Emergency Evacuation Plan (BEEP)	The referral has included a 'Bushfire Emergency Evacuation Plan' for the purposes of addressing the policy requirements. Consideration should be given to the Guidelines Section 5.5.4 'Developing a Bushfire Emergency Evacuation Plan'. This contains detail regarding what should be included in a BEEP and will ensure the appropriate content is detailed when finalising the BEEP to the satisfaction of the Shire. **Action: Comment Only**	**No changes required to existing BEEP** Linfire considers the BEEP is compliant with the requirements of Section 5.5.4 of the Guidelines.
DFES Built Environment Branch		
DFES Built Environment Branch	As the proposed building is to be Class 9b and to be used for childcare, plans will need to be provided to DFES Built Environment Branch for assessment as required by Regulation 18B of the Building Regulations 2012 (as amended). As the total floor area of the proposed building exceeds 500m^2, unless compliant fire separation in accordance with BCA Clause C2.7(b) is demonstrated, hydrant and hose reel coverage will need to be provided to this building. The pressure/flow requirements of these will be based upon DFES Operational Requirements (and based on the relevant specifications of AS2419.1-2005).	**No changes required to BMP or BEEP. Early review of fire hydrant compliance to be conducted following DA approval, including liaison with DFES BEB.** Linfire note that while this comment is not directly related to the childcare BMP or bushfire compliance, the Proponent is aware of this BCA compliance requirement and acknowledged it will be addressed following DA approval, and as part of the Building Licence submission. It is expected that the fire hydrant coverage will be reviewed as a priority, and will include engagement with DFES Built Environment Branch.

Yours sincerely,

LINDEN WEARS
Bushfire Consultant/Fire Engineer
BSc, GradDip (Fire Safety Eng.), GradDip (Bushfire Protection)

Attachments:

- Attachment 1: POS Landscaping Plan
- Attachment 2: Stage 6 bushfire subdivision clearance report

Attachment 1: POS Landscaping Plan

LEGEND

- extent of landscape works
- pedestrian connections
- proposed path
- existing path
- proposed play area
- informal compacted gravel trail
- informal mulch trail
- proposed walls
- existing basin walls
- basin walls
- proposed turf
- sedge and shrub planting to drainage basins
- shrub and groundcover planting
- proposed trees
- existing trees
- proposed shelter and picnic settings
- informal crossing points
- section lines - refer BM-MUC-02

informal seating nodes to garden bed areas create a shaded break areas.

gabion walls to tie into the works in the stage 1 POS

shelters provided to picnic areas.

gravel used to define informal trails and seating nodes

inclusion of seating boulders to garden bed edges to allow for respite along walking trails.

low block retaining walls

informal trails through garden beds

through the placement of boulders and logs coupled with breaks in the planting there is an opportunity to include informal crossing points to central stream.

formal boardwalk crossing central to MUC

Serpentine Jarrahdale Shire

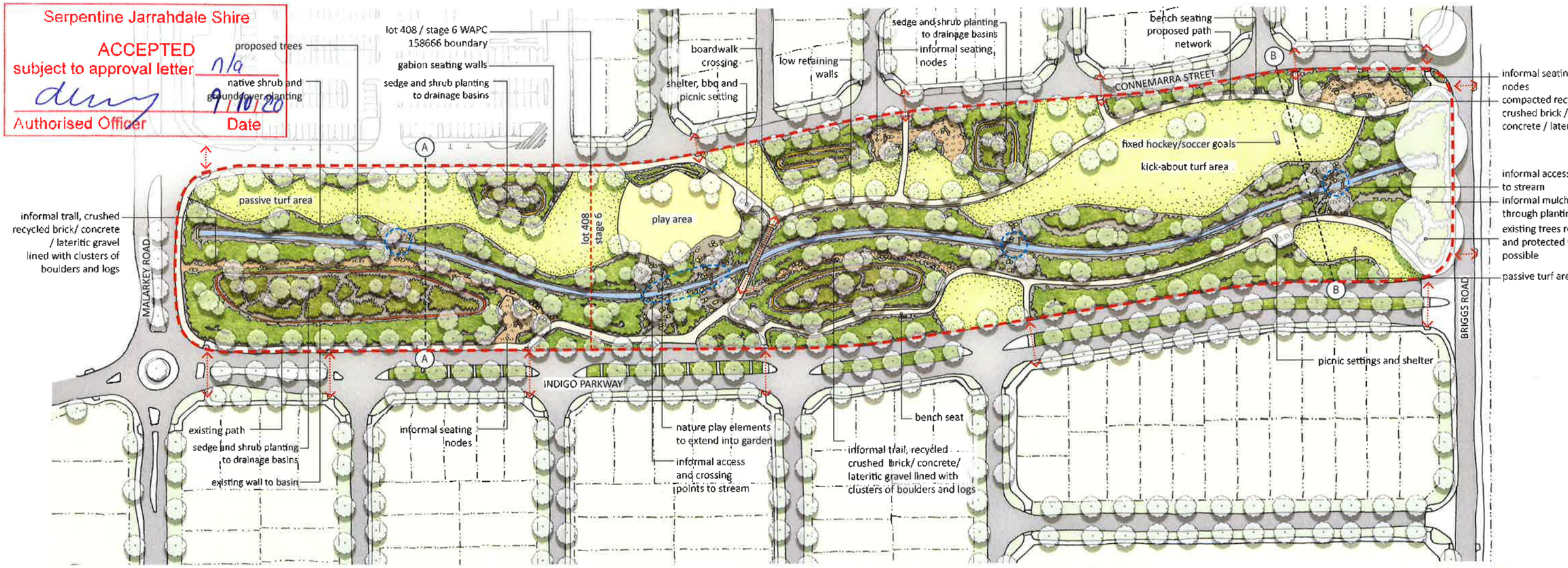
ACCEPTED
subject to approval letter

proposed trees n/a

native shrub and groundcover planting

Authorised Officer

Date 9/10/20



indicative nature play elements for play space. opportunity to extend elements into the garden bed adjacent stream

passive turf with opportunities for kick-about

BYFORD MEADOWS - MULTIUSE CORRIDOR

LANDSCAPE CONCEPT PLAN

DWG BU-MUC01
REV C
DATE 09.09.2020
SCALE 1 : 1500 @ A3

0 7.5 15 22.5 30 37.5 m

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emerge ASSOCIATES

sample planting list

Anigozanthos bush diamond
Anigozanthos Bush Elegance
Anigozanthos Bush inferno
Banksia nivea
Banksia sessilis
Baumea juncea
Baumea rubiginosa
Beaufortia elegans
Beaufortia squarrosa
Callistemon phoeniceus 'Flat Fred'
Callistemon spotfire
Calothamnus quadrifidus
Carex appressa
Conostylis aculeata
Conostylis candicans
Corymbia calophylla
Corymbia ficifolia
Dianella australiana
Dianella caerulea breeze
Dichelachne crinita
Eremophila glabra 'prostrate'
Eremophila glabra 'Kalbari Carpet'
Eremophila nivea
Eucalyptus erythrocorys
Eucalyptus kruseana
Eucalyptus macrocarpa
Eucalyptus marginata
Eucalyptus rhodantha
Eucalyptus rudis
Eucalyptus torquata
Eucalyptus victrix
Grevillea jenkinsii
Grevillea preissi mini
Hakea burrendong beauty
Hakea laurina
Hakea prostrata
Hemiandra pungens
Hibbertia stellaris 'orange stars'
Juncus kraussii
Juncus pallidus
Kennedia prostrata
Kunzea baxteri
Lechenaultia biloba
Lepidosperma calcicola
Lepidosperma twilight green
Leucophyta brownii
Lomandra lime tuff
Lomandra tanika
Meeboldina scariosa
Melaleuca fulgens
Melaleuca pentagona 'little penta'
Melaleuca preissiana
Melaleuca rhaphiophylla
Pennisetum alopecuroides
Poa eskdale
Themeda triandra
Thryptomene baeckeace 'Prostrate'
Westringia damperi
Westringia Jervis gem
Westringia Morning Light
Westringia Mundi
Westringia Smokie
Xanthorrhoea preissii

Anigozanthos Sp.

Anigozanthos Sp.

Conostylis candicans

Dianella breeze

Lomandra Sp.

Ficinia nodisa

Lepidosperma calcicola

Hemiandra pungens

Hakea burrendong beauty

Westringia "mundi"

Leucophyta brownii

Eremophila nivea

Calothamnus quadrifidus

Lechenaultia biloba

Eremophila glabra

Kenedia prostrata

Eucalyptus macrocarpa

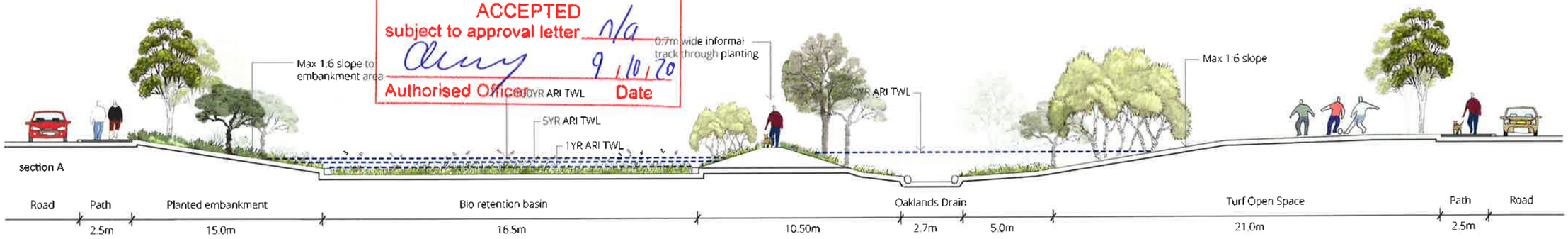
Corymbia ficifolia

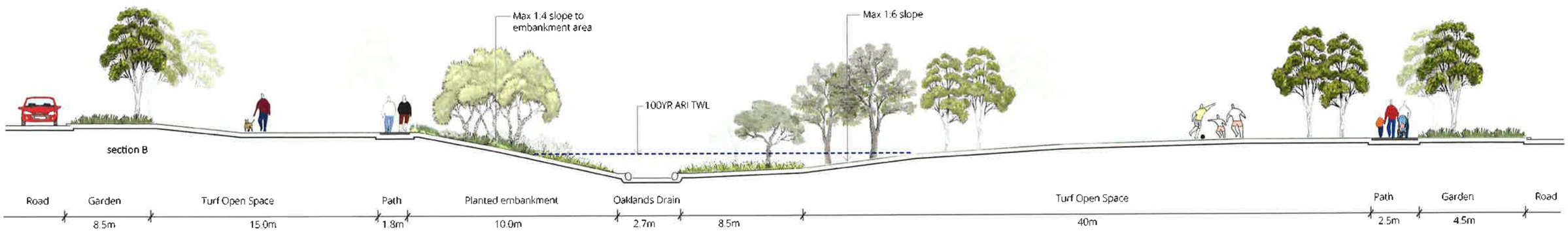
Eucalyptus torquata

Eucalyptus victrix

Melaleuca rhaphiophylla

Serpentine Jarrahdale Shire
ACCEPTED
subject to approval letter n/a
9/10/20
Authorised Officer Date





BYFORD MEADOWS - MULTIUSE CORRIDOR
LANDSCAPE CHARACTER

DWG BU-MUC02
REV C
DATE 09.09.2020
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emerge ASSOCIATES

Attachment 2: Stage 6 Bushfire Subdivision Condition Clearance Report

bushfire safety CONSULTING
Science. Culture. Solutions.

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ACN: 143 414 117 | ABN: 58 143 414 117
bushfiresafetyconsulting.com.au

June 1, 2022
David Richer
Coordinator Emergency Services
Shire of Serpentine Jarrahdale

6 Paterson Street, Mundijong WA 6123

Re: Subdivision Clearance – Subdivision Stage 6 (WAPC 158666)

Dear David,

I have assessed this site on May 27, 2022 and the area around the subdivision stage has been fully managed and maintained of all grass vegetation as per requirements in the Bushfire Management Plan. Roads and hydrants are completed according to standards.

To clear condition 17 of WAPC 158666 and, regarding Developer Responsibilities

DEVELOPER – PRIOR TO ISSUE OF TITLES		
No.	**Implementation Action**	**Subdivision Clearance**
1	Ensure the central multi-purpose corridor is planted according to the landscape plans in Appendix 4 and more importantly fuel loads and fuels structure is managed as outlined in section 2.2- **Landscaping has not commenced and landscape plans remain unchanged.**	✓
2	At subdivision stage ensure water supply, vehicular access standards and internal APZs are established and maintained. **Hydrant infrastructure, public roads and internal APZs are fully established.**	✓
3	At subdivision stages, ensure grass fuels are maintained below 100m in length within the internal buffer.	✓
4	At subdivision stage, assess and confirm the BAL ratings for individual lots prior to the creation of titles. **BAL Assessment for the subdivision stage is completed and attached**	✓
5	Ensure the site complies with the Shire of Serpentine Jarrahdale's Firebreak Notice as published.	✓

Regards,

Rohan Carboon
Managing Director
Bushfire Safety Consulting Pty Ltd

AS3959 Bushfire Attack Level Assessment Report

This report has been prepared using the Simplified Procedure (Method 1) as detailed in Section 2 of AS3959-2018.

Site Details			
Address:	Stage 6, Byford Meadows		
Suburb:	Byford WA 6122		
Local Government Area	Shire of Serpentine Jarrahdale		
State:	Western Australia		
Description of Building Works	27 residential lots		
Report Details			
Report / Job Number:	2205-78	**Report Version**	1.0
Assessment Date:	27/05/2022	**Report Date**	01/06/2022
Assessor Details			
Name:	Rohan Carboon		
Accredited Practitioner	Rohan Carboon Level 3 - BPAD 23160		

Disclaimer:

This report has been prepared in good faith and is derived from sources believed to be reliable and accurate at the time of publication. Nevertheless, this publication is distributed on the terms and understanding that the author is not responsible for results of any actions taken based on information in this publication or for any error in or omission from this publication.

Not withstanding the precautions adopted in this report, it should always be remembered that bushfires burn under a wide range of conditions. An element of risk, no matter how small always remains. The objective of the standard (AS 3959:2018) is 'to prescribe particular construction details for buildings to reduce the risk of ignition from a bushfire while the front passes' (Standards Australia, 2018). Building to the standard (AS 3959:2018) does not guarantee a building will survive a bushfire.

Site Assessment and Site Plans

The assessment of this development was undertaken on 27/05/2022 by Bushfire Safety Consulting Pty Ltd for the purposes of determining the Bushfire Attack Level for each lot in accordance with AS 3959 – 2018 Simplified Procedure (Method 1). The subdivision creates 27 residential lots in Stage 6.

This assessment has been undertaken to confirm BAL ratings for each lot in the subdivision (below) as outlined in the vegetation classification map.

Vegetation Classification

All vegetation within 150m of the subdivision stage was classified in accordance with Clause 2.2.3 of AS 3959-2018. There is no vegetation on the lots, the entire area has been cleared and lots and roads including infrastructure is fully developed. Classified vegetation in the form of grass only occurs where grass is north of the site and more than 86 metres from the lots.

Re-vegetation/Landscape Plans

Revegetation plans for the POS and drainage areas have been developed to be established and managed in a low threat condition as outlined in the Local Structure Plan.

The implications of the revegetated drainage and POS are depicted in the BAL Contour Plan.

Location details:	Byford Meadows, Stage 6 Byford
Assessment date:	May, 2022
Prepared by:	Bushfire Safety Consulting
Accreditation level:	Level 3 BPAD Practitioner
Accreditation number:	BPAD 23160
Accreditation expiry date:	31st January, 2023
Date aerial photo:	April 2022

PROPOSED SUBDIVISION

SCALE 1:1600 @ A3
DATE: JUNE 2022

SUBJECT LAND

SOURCE OF PHOTOGRAPHY: NEARMAP

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Mbl: 0429 949 262
www.bushfiresafetyconsulting.com.au

Each distinguishable vegetation plot with the potential to determine the Bushfire Attack Level is identified below and outlined in the Vegetation Classification Plan.

Photo ID: 1 **Plot Number:** 1 **Vegetation classification or exclusion clause:** Class: G Grassland **Description/justification of classification:** Remnant area of grasses outside of 100 metres	
Photo ID: 2 **Plot Number:**1 **Vegetation classification or exclusion clause:** Class: G Grassland **Description/justification of classification:** Remnant area of grasses outside of 100 metres	
Photo ID: 3 **Plot Number:** 1 **Vegetation classification or exclusion clause:** Class: G Grassland **Description/justification of classification** Open tussock grasses outside of 100 metres	
Photo ID: 4 **Plot Number:** 1 **Vegetation classification or exclusion clause:** Class: G Grassland **Description/justification of classification** Pasture paddock outside of 100 metres	
Photo ID: 5 **Plot Number:** 1 **Vegetation classification or exclusion clause:** Class: G Grassland **Description/justification of classification** Pasture paddock outside of 100 metres	

Photo ID: 6 **Plot Number:** 1 **Vegetation classification or exclusion clause:** Class: G Grassland **Description/justification of classification** Pasture paddock outside of 100 metres	
Photo ID: 7 **Plot Number:** 1 **Vegetation classification or exclusion clause:** Class: G Grassland **Description/justification of classification** Pasture paddock outside of 100 metres	
Photo ID: 8 **Plot Number:** 2 **Vegetation classification or exclusion clause:** Class: B Woodland **Description/justification of classification** Mixed species of eucalypt trees 10 – 30m high; 10 – 30% foliage cover; outside of the 100 metres	
Photo ID: 9 **Plot Number:** 2 **Vegetation classification or exclusion clause:** Class: B Woodland **Description/justification of classification** Mixed species of eucalypt trees 10 – 30m high; 10 – 30% foliage cover; outside of the 100 metres	
Photo ID: 10 **Plot Number:** 2 **Vegetation classification or exclusion clause:** Class: B Woodland **Description/justification of classification** Mixed species of eucalypt trees 10 – 30m high; 10 – 30% foliage cover; outside of the 100 metres	

Photo ID: 11 **Plot Number:** 2 **Vegetation classification or exclusion clause:** Class: B Woodland **Description/justification of classification:** Mixed species of eucalypt trees 10 – 30m high; 10 – 30% foliage cover; outside of the 100 metres	
Photo ID: 12 **Plot Number:** 3 **Vegetation classification or exclusion clause:** Exclusion Clause 2.2.3.2(f) **Description/justification of classification:** Low threat vegetation; Landscaped parkland, irrigated garden beds, mowed turf.	
Photo ID: 13 **Plot Number:** 3 **Vegetation classification or exclusion clause:** Exclusion Clause 2.2.3.2(f) **Description/justification of classification:** Low threat vegetation; Slashed grass area around the site within 100 metres; proposed Primary school site	
Photo ID: 14 **Plot Number:** 3 **Vegetation classification or exclusion clause:** Exclusion Clause 2.2.3.2(f) **Description/justification of classification:** Low threat vegetation; Slashed grass area around the site within 100 metres; proposed Primary school site	
Photo ID: 15 **Plot Number:** 3 **Vegetation classification or exclusion clause:** Exclusion Clause 2.2.3.2(f) **Description/justification of classification:** Low threat vegetation; Site works for future subdivision stage; within 100 metres	

Photo ID: 16 **Plot Number:** 4 **Vegetation classification or exclusion clause:** Exclusion Clause 2.2.3.2(e) **Description/justification of classification:** Non-vegetated area; Future footpaths in recreation area	
Photo ID: 17 **Plot Number:** 4 **Vegetation classification or exclusion clause:** Exclusion Clause 2.2.3.2(e) **Description/justification of classification:** Non-vegetated area; Footpaths and future sites in subdivision	
Photo ID: 18 **Plot Number:** 4 **Vegetation classification or exclusion clause:** Exclusion Clause 2.2.3.2(e) **Description/justification of classification:** Non-vegetated area; existing housing and roads	

Relevant Fire Danger Index

The fire danger index for this site has been determined in accordance with Table 2.1 in AS3959–2018.

Fire Danger Index:	Table
FDI : 80	2.5

Effective Slope

The effective slope under the classified vegetation surrounding the site is flat and is summarised in the table below.

Plot No.	Vegetation Classification	Effective Slope
1	Class G Grassland	Flat/upslope
2	Class B Woodland	Flat/upslope

Determined Bushfire Attack Level

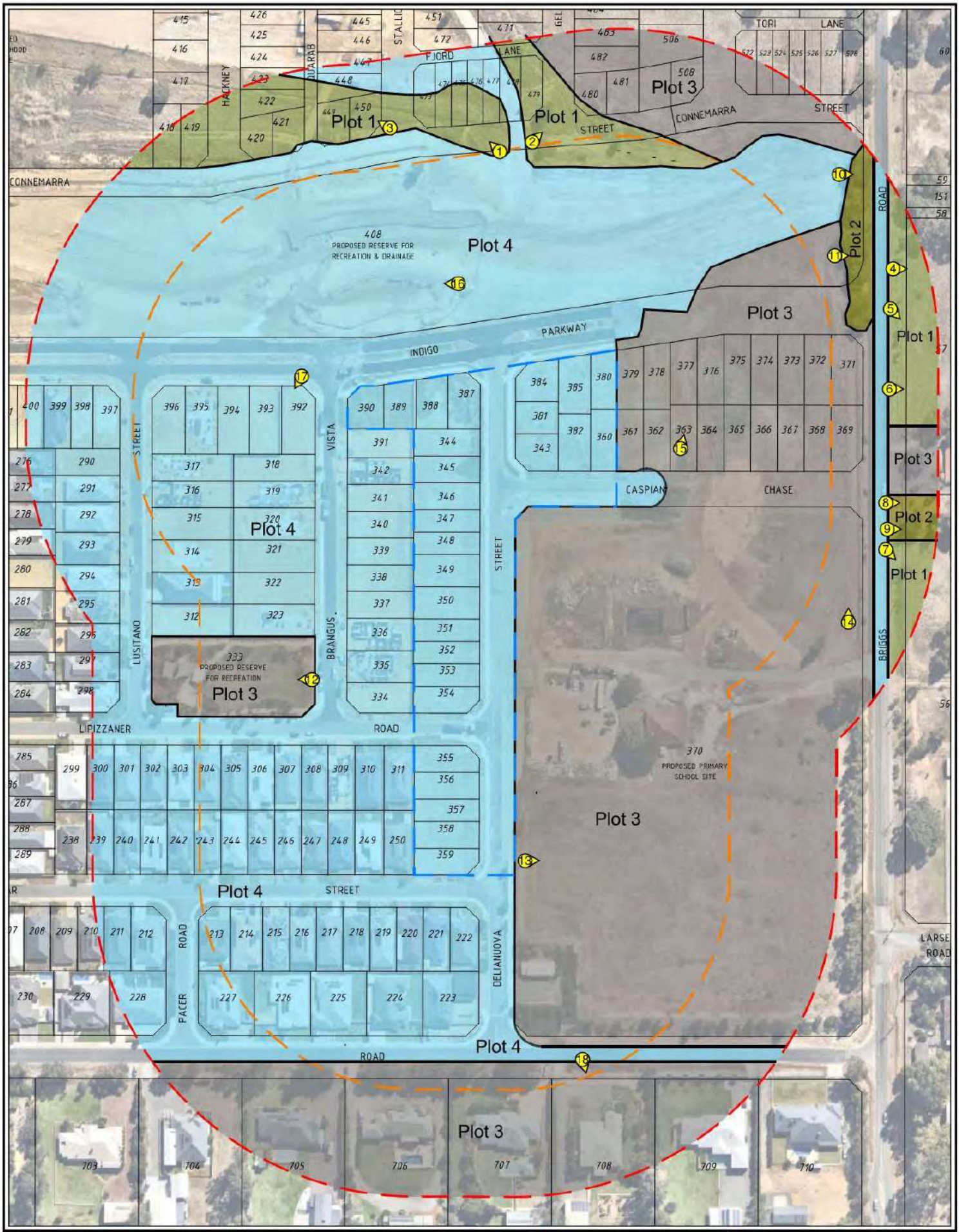
The determined Bushfire Attack Level (highest BAL) for the lots has been determined in accordance with clause 2.2.6 of AS3959-2018 using the above analysis.

Potential Bushfire Impacts

The predicted radiant heat flux levels into the lots from the assessment are outlined below in Table 1 and the BAL Contour Plan.

Table 1: BAL Inputs and Lot BAL Ratings

Lots	Vegetation Class	Plot No.	Slope	Setback Distance	BAL
343 -359	Class G Grassland	1	Flat/upslope	>100 m	BAL-LOW
387 - 390	Class G Grassland	1	Flat/upslope	>100 m	BAL-LOW
360, 382, 381	Class G Grassland	1	Flat/upslope	>100 m	BAL-LOW
380	Class G Grassland	1	Flat/upslope	86m	BAL-LOW
384	Class G Grassland	1	Flat/upslope	90m	BAL-LOW
385	Class G Grassland	1	Flat/upslope	88m	BAL-LOW



Location details:	Byford Meadows, Stage 6 Byford
Assessment date:	May, 2022
Prepared by:	Bushfire Safety Consulting
Accreditation level:	Level 3 BPAD Practitioner
Accreditation number:	BPAD 23160
Accreditation expiry date:	31st January, 2023
Date aerial photo:	April 2022

VEGETATION CLASSIFICATION MAP (BAL CONTOUR MAP)

0 20 40 60 80m

SCALE 1:1600 @ A3

DATE: MAY 2022

NORTH

SUBJECT LAND

ASSESSMENT AREA (150m) FROM THE EXTERNAL BOUNDARY OF THE SUBJECT SITE

ASSESSMENT AREA (100m) FROM THE EXTERNAL BOUNDARY OF THE SUBJECT SITE

PLOT 1 - CLASS G GRASSLAND

PLOT 2 - CLASS B WOODLAND

PLOT 3 - EXCLUSION CLAUSE 2.2.3.2(f)

PLOT 4 - EXCLUSION CLAUSE 2.2.3.2(e)

SOURCE OF PHOTOGRAPHY: NEARMAP

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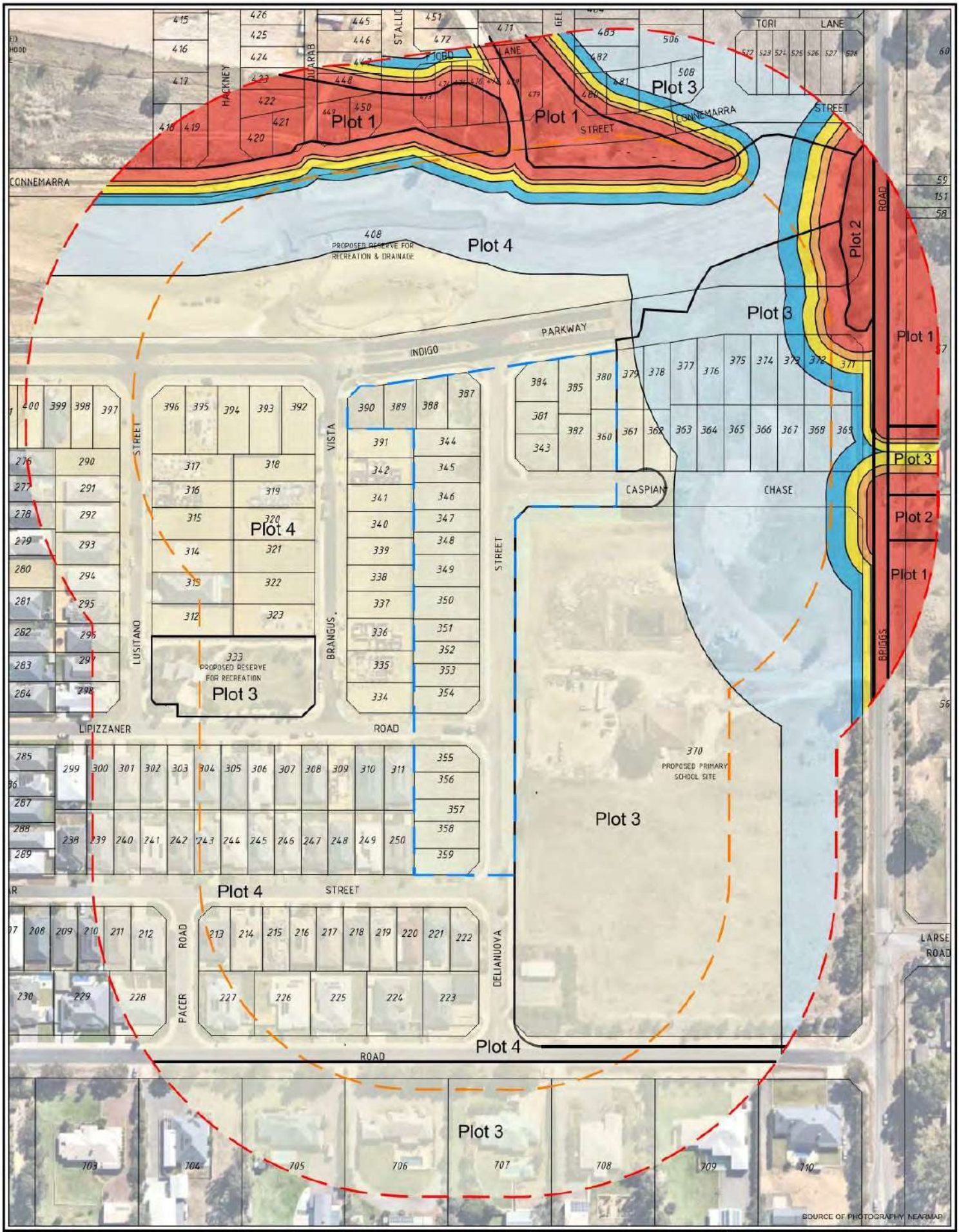

Location details:	Byford Meadows, Stage 6 Byford
Assessment date:	May, 2022
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Accreditation number:	BPAD 23160
Accreditation expiry date:	31st January, 2023
Date aerial photo:	April 2022

BAL CONTOUR MAP

0 20 40 60 80m

SCALE 1:1600 @ A3

DATE: JUNE 2022

NORTH

INDICATIVE BUSHFIRE ATTACK LEVELS

- BAL LOW
- BAL 12.5
- BAL 19
- BAL 29
- BAL 40
- BAL FLAME ZONE

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www.bushfiresafetyconsulting.com.au

Appendix 1: Additional Information / Advisory Notes

A Bushfire Attack Level (BAL) Assessment is a means of measuring the severity of a buildings potential exposure to ember attack, radiant heat and direct flame contact from a bushfire event, and thereby determining the construction measures required for the dwelling.

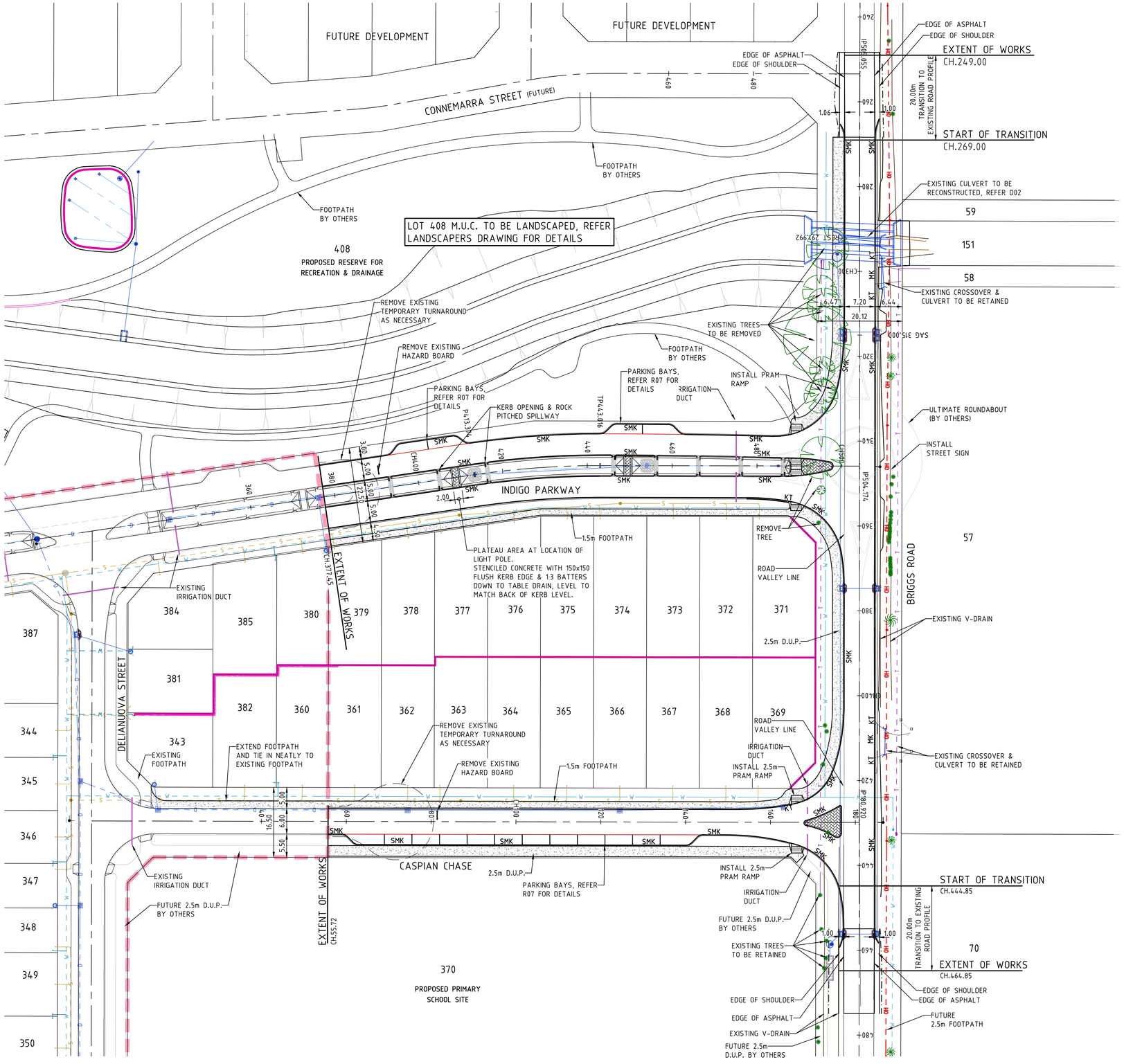
The method used to determination of the BAL rating, and subsequent building construction standards, are directly referenced from Australian Standard *AS3959-2018 Construction of buildings in bushfire prone areas*.

The BAL rating is determined through the identification and assessment of the following parameters:

- Fire danger Index (FDI) rating; assumed to be FDI-80 for Western Australia
- All classified vegetation **within 100m** of the subject building
- Separation distance between the building and the classified vegetation
- Slope of the land under the classified vegetation

AS3959-2018 has six (6) levels of BAL, based on the radiant heat flux exposure to the building, and also identifies the relevant sections for building construction as detailed below;

Bushfire Attack Level (BAL)	Classified Vegetation within 100m of the site and heat flux exposure thresholds	Description of predicted bushfire attack and levels of exposure	Construction Sections (within AS3959)
BAL-LOW	See Clause 2.2.3.2	There is insufficient risk to warrant specific construction requirements	4
BAL-12.5	≤12.5kW/m²	Ember attack	3 & 5
BAL-19	>12.5kW/m² to ≤19kW/m²	Increasing levels of ember attack and burning debris ignited by windbourne embers together with increasing heat flux	3 & 6
BAL-29	>19kW/m² to ≤29kW/m²	Increasing levels of ember attack and burning debris ignited by windbourne embers together with increasing heat flux	3 & 7
BAL-40	>29kW/m² to ≤40kW/m²	Increasing levels of ember attack and burning debris ignited by windbourne embers together with increasing heat flux with the increased likelihood of exposure to flames	3 & 8
BAL-FZ	>40kW/m²	Direct exposure to flames from fire front in addition to heat flux and ember attack	3 & 9



ROADWORKS LEGEND

- CHAINAGE MARK AND TANGENT POINT
- DENOTES PRAM RAMP
- PROPOSED BRICK PAVEMENT
- BOND BEAM
- MOUNTABLE KERB M-1 U.O.N
- BLACK ASPHALT AC7 U.O.N
- FLUSH KERB
- ROAD SIGN AS PER COUNCIL STANDARDS AND SHOWN IN SPECIFICATIONS, INSTALL ON NEAREST LIGHT POLE WHERE POSSIBLE.
- HAZARD BOARD (D4-5)
- 100mm CONCRETE (N32) - BRUSHED FINISH
- 150mm THICK STENCILED CONCRETE WITH 'TERRACOTTA' COLOUR WITH HERRINGBONE PATTERN AND REINFORCED WITH F62 MESH
- RED ASPHALT (0.5% RED OXIDE)

KERB TYPES

BK	BARRIER KERB
FK	FLUSH KERB
KT	KERB TRANSITION
BB	BOND BEAM
SMK	SEMI-MOUNTABLE KERB (SM-1)
MK	MOUNTABLE KERB (M-1)
CR1	600 CONCRETE RAMP
CR2	1200 CONCRETE RAMP
S-MK	SPECIAL MOUNTBALE KERB
S-FK	SPECIAL FLUSH KERB
M-SM	MODIFIED SEMI-MOUNTABLE KERB

SERVICES LEGEND

- EXISTING WATER / PROPOSED WATER
- EXISTING TELSTRA / PROPOSED NBN
- EXISTING OPTIC FIBRE / PROPOSED OPTIC FIBRE
- EXISTING GAS / PROPOSED GAS
- EXISTING UNDERGROUND POWER / PROPOSED UNDERGROUND POWER
- EXISTING SEWER / PROPOSED SEWER
- IRRIGATION DUCT Ø225mm (U.O.N) (Ø100mm DUCTS INTO LOTS)
- PROPOSED DRAINAGE PIPE / PROPOSED SUB-SOIL DRAINAGE PIPE / EXISTING DRAINAGE PIPE

NOTES:

1. LEVEL DATUM - AUSTRALIAN HEIGHT DATUM
2. THE CONTRACTOR SHALL CO-ORDINATE THE LOCATION OF ALL EXISTING AND PROPOSED SERVICES PRIOR TO COMMENCEMENT OF WORK. ANY CONFLICTS ARE TO BE REPORTED TO THE SUPERINTENDENT IMMEDIATELY
3. THE CONTRACTOR SHALL LOCATE ALL LEVELS FROM EXISTING BENCH MARKS
4. ALL BENCH MARKS ARE TO BE PROTECTED
5. SERVICES, SUCH AS WATER, GAS, TELEPHONE, ELECTRICITY, AND DRAINAGE MAY BE ENCOUNTERED DURING CONSTRUCTION OF THE WORKS. SERVICES INFORMATION SHOWN ON DRAWINGS IS INDICATIVE ONLY AND MAY NOT BE COMPLETE. BEFORE EXCAVATION COMMENCES THE LOCATION OF ALL SUCH SERVICES SHALL BE OBTAINED FROM THE RELEVANT AUTHORITIES
6. ALL KERBS TO BE MOUNTABLE TYPE M-1 U.O.N.
7. PATHS TO BE 300mm OFF BOUNDARY U.N.O.
8. FOOTPATHS IN FRONT OF WALLS TO BE WIDENED TO FACE OF WALL
9. FOR CROSSOVER DETAILS REFER TO LOCAL AUTHORITY STANDARD DRAWINGS
10. CLEARING SHALL BE KEPT TO AN ABSOLUTE MINIMUM
11. SIGN POSTS AND STREET NAME PLATES SHALL BE SUPPLIED AND INSTALLED AS PER LOCAL AUTHORITY STANDARDS. STREET SIGNS TO BE INSTALLED ON LIGHT POLES WHERE POSSIBLE.
12. REFER TO DRAWING **BYFGGC12 R07** FOR STANDARD DETAILS
13. ALL IRRIGATION DUCTS TO BE Ø225mm SEWER PIPE, EXCEPT DUCTS INTO LOTS WHICH ARE TO BE Ø100mm.
14. ALL IRRIGATION DUCTS TO EXTEND TO BOUNDARY LINES, WHERE DUCT RUNS PARALLEL TO ROADS EXTEND CLEAR OF PAVEMENT, KERBS, FOOTPATHS & BRICKPAVING MINIMUM 1.0m
15. IRRIGATION DUCT ENDS TO BE 600-800 BELOW GROUND LEVEL.
16. IRRIGATION DUCT ENDS TO BE "AS-CONED" WITH CO-ORDS, LENGTHS AND INVERT LEVELS.
17. ALL TEMPORARY TURNAROUNDS TO BE CONSTRUCTED USING 150 ROADBASE AND PRIMER SEAL FINISH

1:500 (A1)

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No.	DATE	BY	REVISION	
B	25/05/22	WJB	INTERSECTION LAYOUTS AMENDED, 1.5M FOOTPATH & DUP ADDED TO CASPIAN CHASE	SRA
A	14/03/22	WJB	INITIAL ISSUE	SRA

CLIENT: G&GCORP

DEVELOPMENT ENGINEERING CONSULTANTS
SUITE 3, 123A COLIN ST, WEST PERTH, 6005 WESTERN AUSTRALIA
Ph: (08) 9481 1900
Fax: (08) 9481 1700

PROJECT:
LOT 9503 BRIGGS ROAD BYFORD STAGE 7
W.A.P.C. No. - 158666

DRAWING:
ROADWORKS LAYOUT PLAN & INTERSECTION DETAILS
CAD DRAWING DO NOT MANUALLY ALTER

SCALE	DRAWN	CHECK	REV No.
1:500	WJB	SRA	B
DATE	DESIGNED	APPROVED	
MAR '22	WJB	SRA	

PROJECT NUMBER: BYFGGC12 R01
DRAWING NUMBER
S:\GGC\BYFGGC12\Drawings\BYFGGC12 R01.dwg26/05/2022

10.1.3 - Proposed Child Minding Centre - Lot 9511 Briggs Road, Byford (PA23/153)	
Responsible Officer:	Manager Statutory Planning and Compliance
Senior Officer:	Director Development Services
Disclosure of Officers Interest:	No Officer involved in the preparation of this report has an interest to declare in accordance with the provisions of the *Local Government Act 1995*.

Authority / Discretion

Quasi-Judicial	When Council determines an application/matter that directly affect a person's right and interests. The judicial character arises from the obligation to abide by the principles of natural justice. Examples of quasi-judicial authority include local planning applications, building licences, applications for other permits/licences (e.g. under Health Act, Dog Act or Local Laws) and other decisions that may be appealable to the State Administrative Tribunal.

Proponent:	Rowe Group
Owner:	Pino Gangemi
Date of Receipt:	27 February 2023
Lot Area:	11.38ha (Planning Parcel: 2,524m²)
Town Planning Scheme No 2 Zoning:	'Urban Development'
Metropolitan Region Scheme Zoning:	'Urban'

Report Purpose

The purpose of this report is for Council to consider endorsing the Responsible Authority Report (RAR) prepared for the development application for a 'Child Minding Centre' on Lot 9511 Briggs Road, Byford. The development involves the construction of a Child Minding Centre, for 110 children, associated outdoor play areas, landscaping and car parking. The site consists of six approved lots forming part of the Byford Meadows Stage 7 subdivision, that would be amalgamated if development approval is secured.

The development has an estimated construction value exceeding $2 million and the applicant has opted in for the Metro Outer Development Assessment Panel (MODAP), to determine the application. The MODAP will replace Council as the decision-making authority for the application in accordance with the *Planning and Development (Development Assessment Panels)* Regulations 2011. The report is presented to Council to consider the RAR that will be presented to the MODAP, consistent with established delegations.

The RAR, as contained in **attachment 1** recommends that the application be approved subject to conditions. Officers consider that the proposal is consistent the objectives of the zone and the planning framework and is therefore capable of approval. The report has addressed relevant matters including residential amenity, built form, traffic movements and noise management. The proposal will increase the provision of early learning services for the Byford community. For the reasons outlined in the report, it is recommended that Council endorse the RAR which recommends approval of the application by the MODAP, subject to conditions.

Relevant Previous Decisions of Council

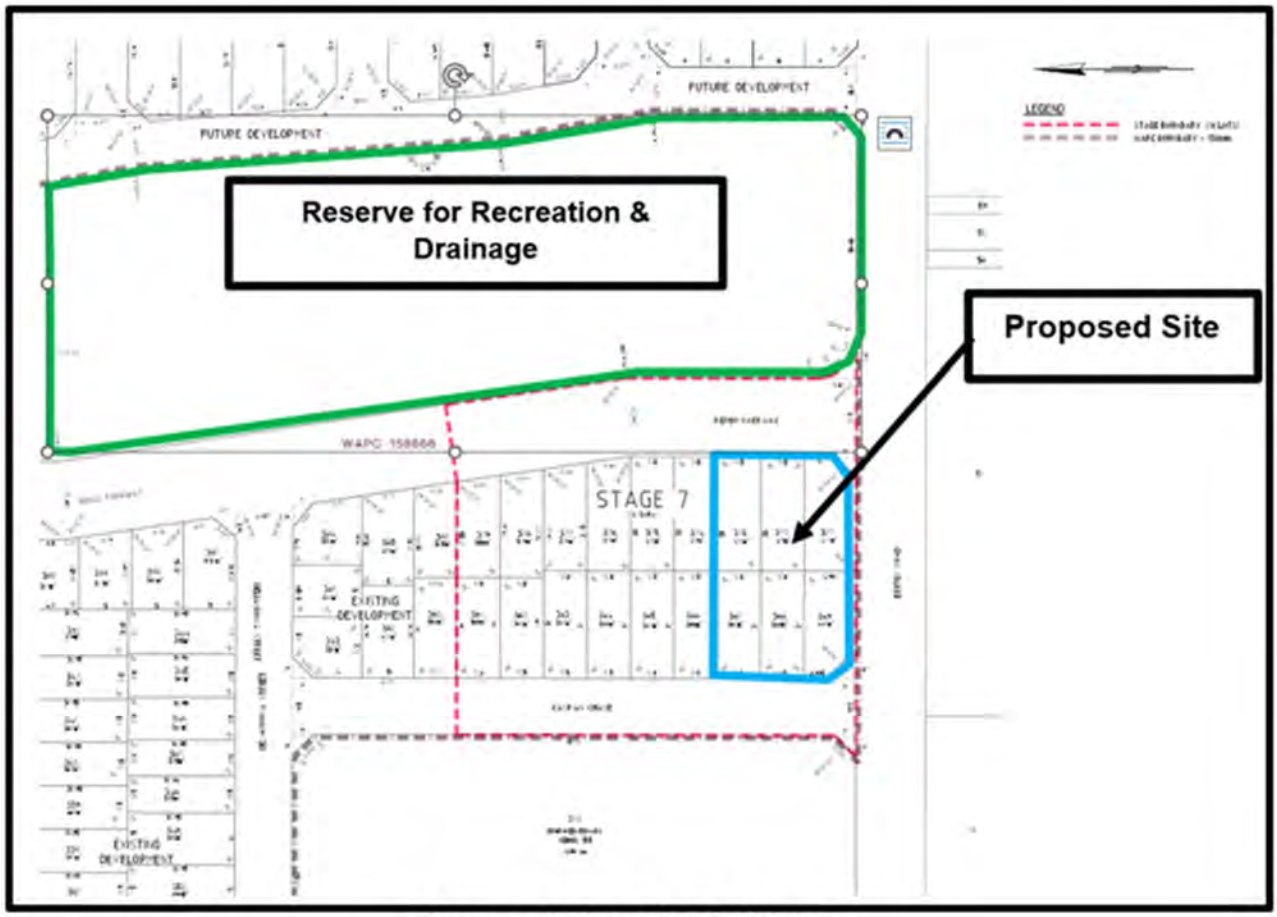
There is no previous Council decision relating to this matter.

Background

Existing Development

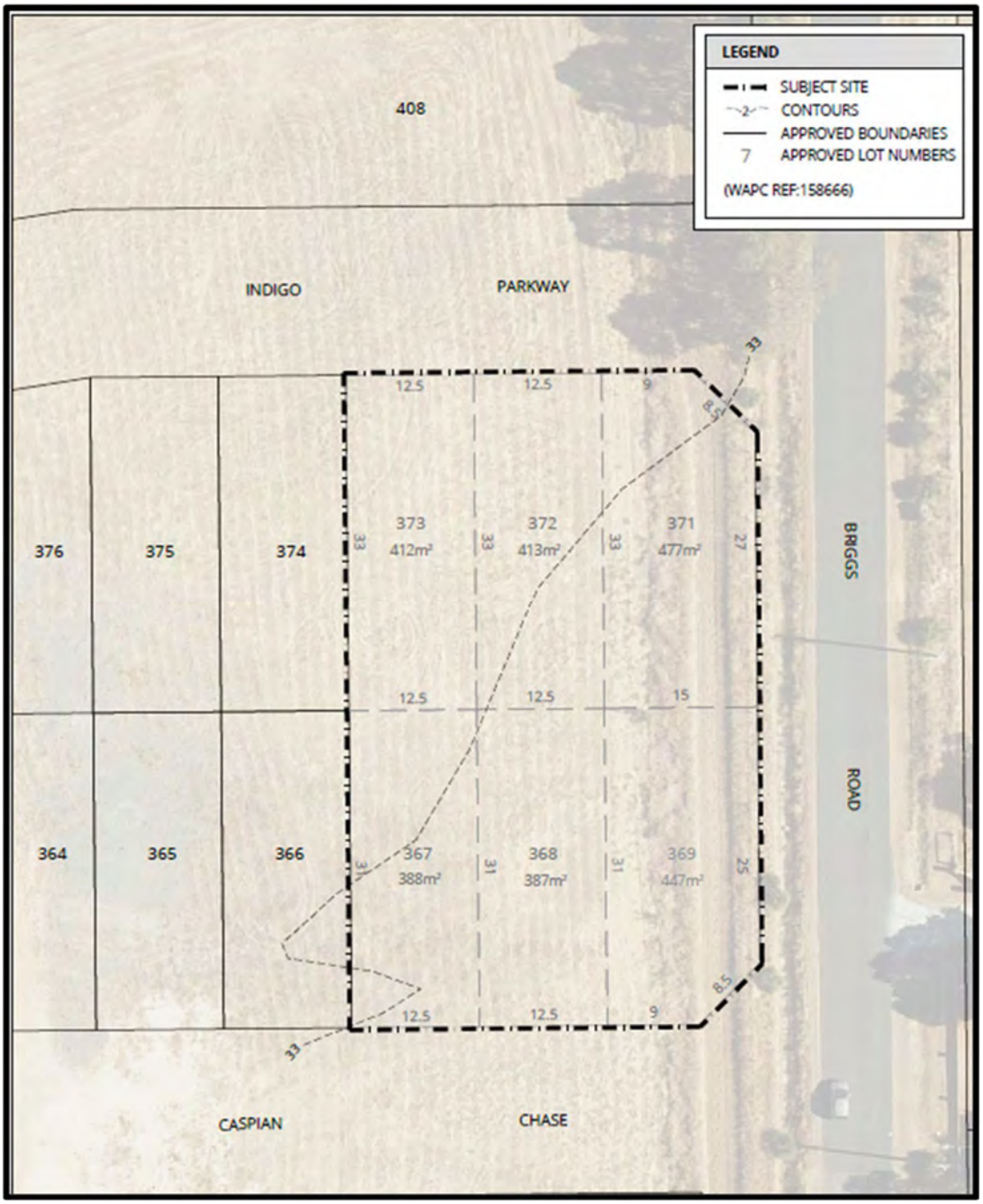
The subject site forms part of Lot 9511 Briggs Road which has a total land area of 11.3ha. The site is currently designated as 'Residential' within Lot 9500 Briggs Road, Byford Meadows Estate Local Structure Plan. The site is bound by Briggs Road to the east and future access roads being Indigo Parkway and Caspian Chase to the north and south respectively. The general locality is undergoing progressive urbanisation, with low-medium density housing and road infrastructure being constructed.

The site forms part of the Byford Meadows 'Stage 7' subdivision which has been approved and cleared by Western Australia Planning Commission (WAPC). The approved plan of subdivision below shows the area to be dedicated for public open space and drainage adjoining the site. The site is currently subject to ongoing subdivisional works which includes creating residential lots and includes the extension of Indigo Parkway and Caspian Chase to Briggs Road. Briggs Road is a gazetted road, Indigo Parkway and Caspian Chase are roads identified on the WAPC subdivision approval which will be constructed as part of 'Stage 7' of the subdivision as shown on the figure below.



Approved Plan of Subdivision

The plan below shows approved six land parcels bound by Indigo Parkway to the north, Briggs Road to the east and Caspian Chase to the south which is where the development is proposed.

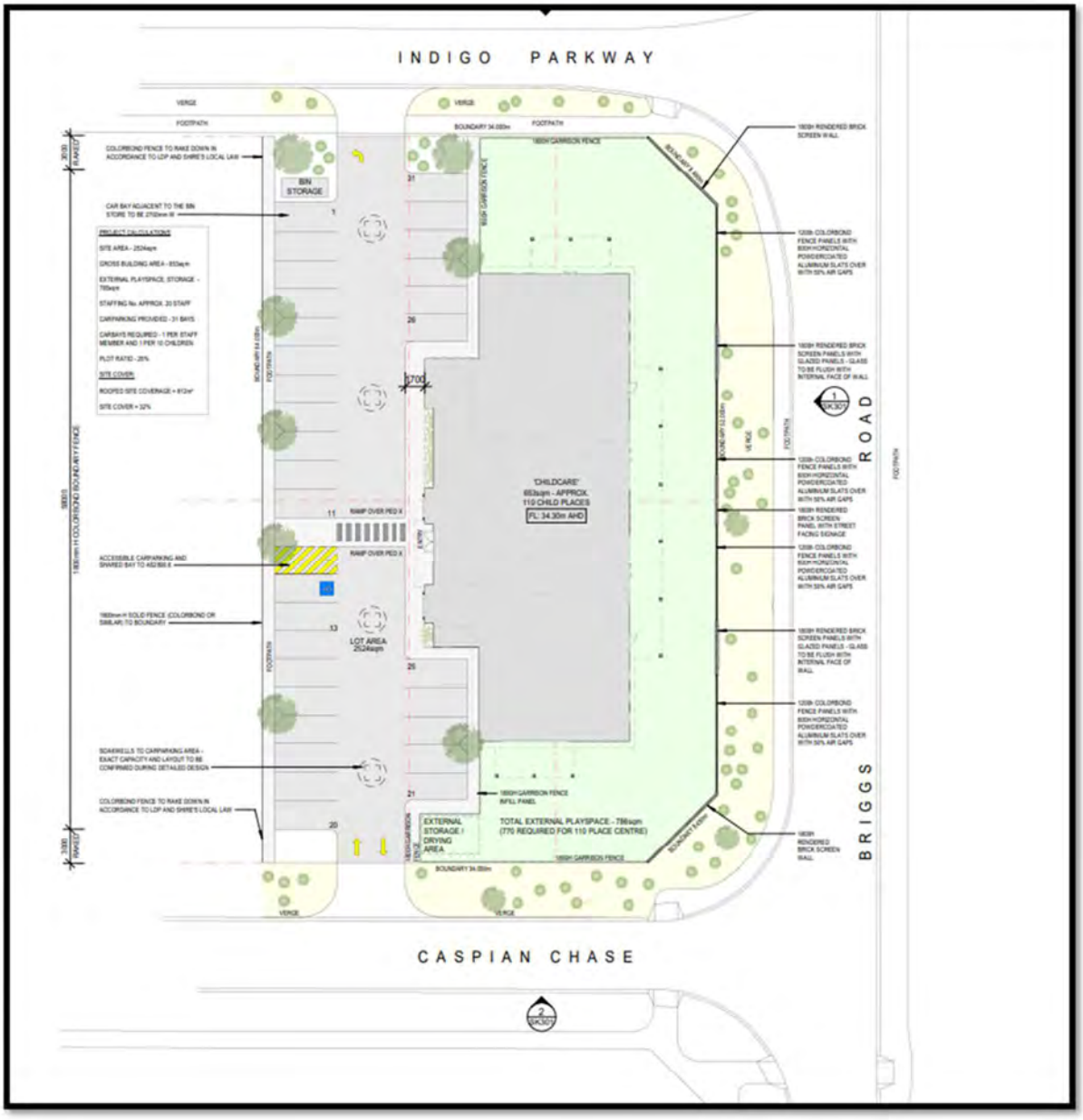


Proposed Development

The proposal seeks approval for the construction of a single storey purpose built 'Child Minding Centre'. The proposed development would occupy 2,524m^2 of the current overall land parcel of 11.3ha, which is being gradually subdivided consistent with the adopted structure plan.

The proposed building will have a total internal area of 653m^2, together with 786m^2 of outdoor play space provided to the northern, eastern, and southern aspects of the building, as well as the associated car parking area. The proposed building would be constructed of rendered blockwork panels, face brick, timber looking cladding with a colourbond roof.

Vehicle access to the subject site is proposed via a single full movement crossover on to Caspian Chase to the south of the site which is required to be constructed as part of this development. A crossover to the north which will facilitate a left/out movement only onto Indigo Parkway will also be required to be constructed.



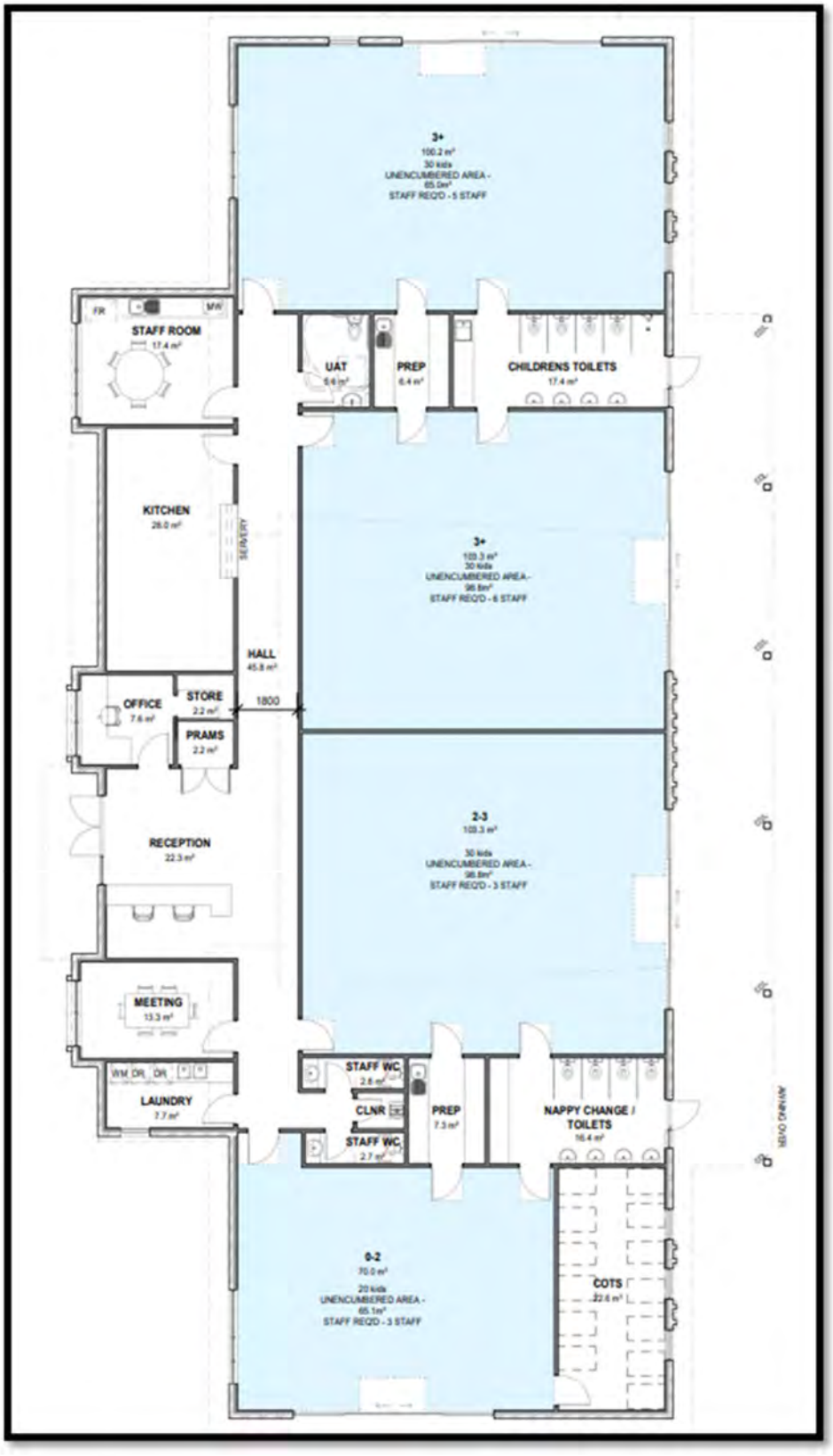
The proposed Child Minding Centre is designed to accommodate a maximum capacity of 110 children and is intended to operate between the hours of 6:30am - 7:00pm Monday to Friday. The Child Minding Centre is expected to employ up to a maximum of 20 staff across the operations in varying shift times.

The applicant provided information that the centre will accommodate children within the following age groups:

- 0-2 years: 20 places;
- 2-3 years: 30 places;
- 3+ years: 60 places.

Specifically the proposal comprises:

- Building comprising of an, reception area, office, meeting room, staff amenities, staffroom, kitchen, children's toilets with storage areas, dining area, unencumbered areas, cots room, nap change/toilets, sleep rooms, prep rooms toilets, change rooms, laundry and storage areas;
- Construction of a car park with 31 car parking bays comprising of 11 spaces for pick-up and drop-off, 20 staff car parking spaces including one universal access bay;
- Construction of a new crossover on Indigo Parkway to provide left out access out of the car parking area;
- Construction of a new crossover on Caspian Chase to provide full movement access to the car parking area;
- Construction of outdoor play areas with a total area of 786m^2 provided to the northern, eastern and southern aspects of the building;
- Construction of 1.8m high Colourbond solid fence along the western boundary abutting the main the car park;
- Construction of 1.8m garrison style fencing along the street boundaries, and 1.8m rendered brick screen wall along Briggs Road frontage;
- Perimeter landscaping along the car park boundary to west and on the road reserves.



Full details of the proposal are contained within **attachment 2**.

Community / Stakeholder Consultation

The application was advertised for a period of 21 days from 13 March 2023 to 3 April 2023 to surrounding landowners within a 500m radius of the subject site, in accordance with LPP1.4 - Consultation for Planning Matters. The application was also advertised on the Shire's website for the same period.

At the conclusion of the consultation, three submissions raising no objections were received. These did however raise concerns pertaining to the following aspects:

- An upgrade to the Briggs Road and Thomas Road intersection considered to be narrow and in poor condition,
- Upgrade or widening of Briggs Road to be able to cater for additional traffic movements and potential congestion concerns

These matters are discussed in the report below.

Consultation with other Agencies or Consultants

Department of Education (DoE)

The application was referred to the Department of Education who provided no in-principle objections to the proposal and provided the following advice:

> *The Department is generally supportive of childcare facilities located within proximity to public schools, however careful planning consideration needs to be given to the potential impact that these facilities may have on nearby schools in terms of safety and amenity.*
>
> *The subject site is located adjacent the future Byford North Central Primary School (Primary School) site. Given the minimal impact this proposal will have to the surrounding road network and parking in the area, it is anticipated that the proposed development will have no adverse impact on the future Primary School site.*
>
> *In view of the above, the Department has no in principle objections to the proposal No submission has been received to date.*

Department of Water and Environmental Regulation (DWER)

The application was referred to DWER and no objections to the proposal were raised. DWER however recommended for the car park stormwater drainage system to be designed, constructed and managed in accordance with the Stormwater Management Manual for Western Australia (DWER, 2022).

Department of Fire and Emergency Services (DFES)

DFES has recommended modifications to be undertaken to the submitted Bushfire Management Plan. These modifications primarily relate to the justification to support the exclusion of Plots 8 and 9 to the west and management of vegetation within the public open space. The BMP currently excluded these plots and identified vegetation within them as a low threat.

Water Cooperation

The application was referred to Water Corporation who provided no in principle objections to the proposal and provided the following advice:

> *Please be advised that the site is not currently serviced with water or wastewater. Delivery of reticulated water and wastewater infrastructure is required to satisfy conditional approval of proposed subdivision WAPC 161405. Water and wastewater reticulated infrastructure will be designed and delivered in accordance with current long-term scheme planning suitable for servicing the proposed child minding centre.*

Department of Planning Land and Heritage Westport Division

The Transport Planning section of the Department has no formal comments to provide as the subject section of Thomas Road to the north is now under the control of Main Roads WA.

Main Roads Western Australia (MRWA)

The application was referred to MRWA who had no objections to the proposal.

A summary of the submissions including applicant comments can be viewed in **attachment 3.**

Statutory Environment

Legislation

- *Planning and Development Act 2005*
- *Planning and Development (Local Planning Schemes) Regulations 2015*
- *Environmental Protection (Noise) Regulations 1997*
- *Planning and Development (Development Assessment Panel) Regulations 2011*
- *Metropolitan Region Scheme*

State Government Policies

- South Metropolitan Peel Sub-Regional Framework Towards Perth and Peel 3.5 Million
- Planning Bulletin 72/2009 - Child Care Centres
- Environmental Protection Authority Environmental Assessment Guideline for Separation Distances

Local Planning Framework

- Shire of Serpentine Jarrahdale Town Planning Scheme No. 2
- Draft Shire of Serpentine Jarrahdale Local Planning Scheme No. 3
- Shire of Serpentine Jarrahdale Local Planning Strategy

Local Planning Policies

- Local Planning Policy 1.4 - Public Consultation for Planning Matters (LPP1.4)
- Local Planning Policy 1.6 - Public Art for Major Developments (LPP1.6)
- Local Planning Policy 2.4 - Water Sensitive Design (LPP2.4)
- Local Planning Policy 4.15 - Bicycle Facilities Policy (LPP 4.15)
- Local Planning Policy 4.16 - Landscape and Vegetation Policy (LPP4.16)
- Local Planning Policy 4.24 - Child Minding Centres (LPP4.24)

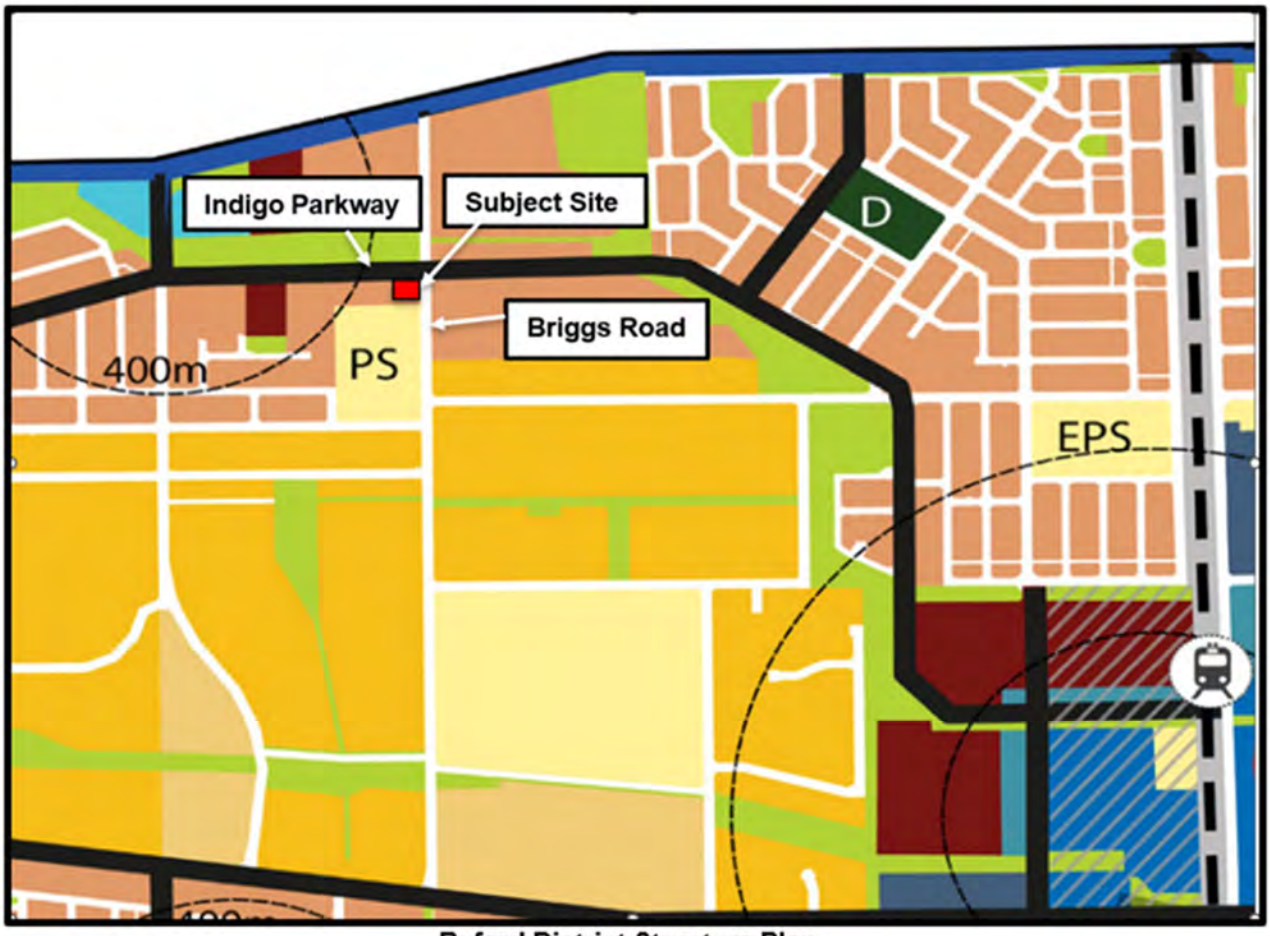
Planning Assessment

Clause 67 of the Deemed Provisions lists matters to be considered in the determination of development applications. A full assessment was carried out against the planning framework in accordance with Clause 67 of the Deemed Provisions which can be viewed within **attachment 4.**

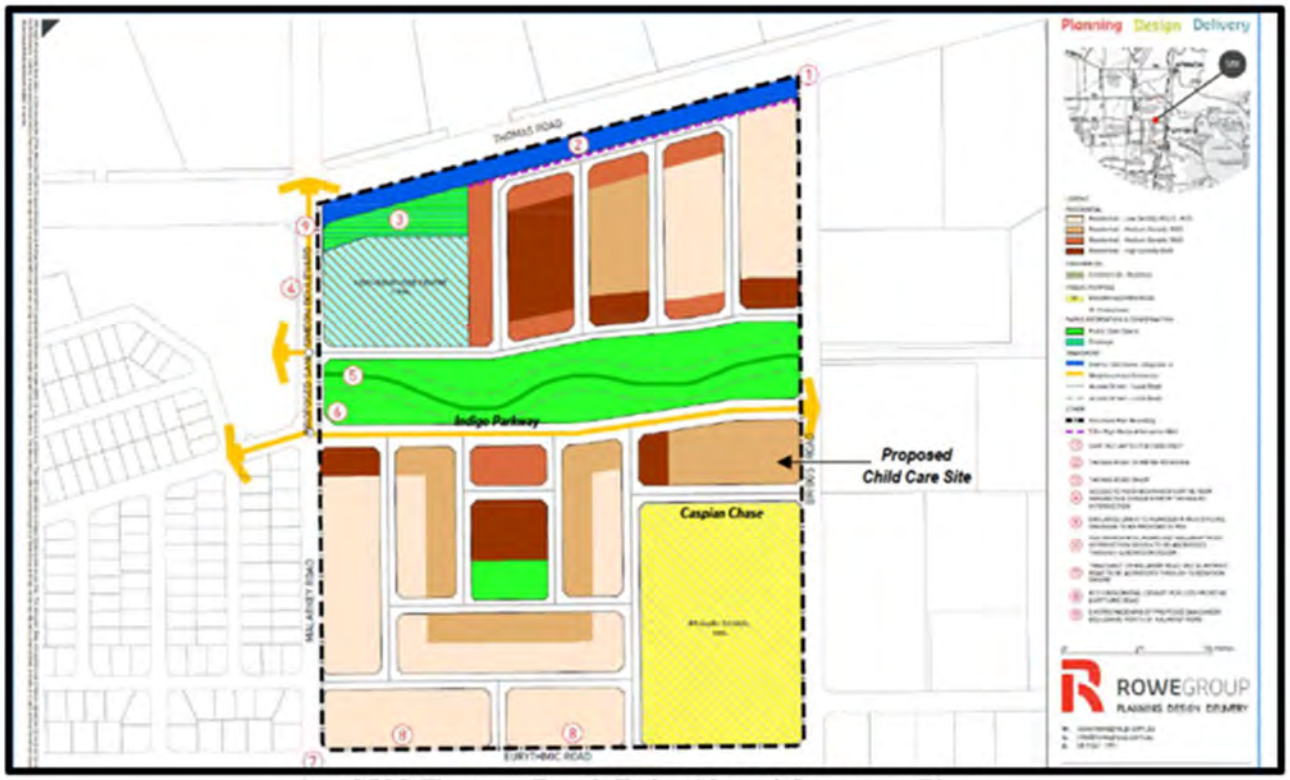
Town Planning Scheme No. 2 (TPS2)

The subject site is zoned 'Urban Development' under the Shire's TPS2. Clause 5.18 of TPS2 sets out the objective of the 'Urban Development' zone as "to provide for the orderly planning of large areas of land in a locally integrated manner and within a regional context, whilst retaining flexibility to review planning with changing circumstances". This objective is facilitated through the preparation of Structure Plans, which guide land use permissibility and development.

The subject site is identified as 'Residential' within the Byford District Structure Plan 2020 (BDSP), and the Lot 9500 Thomas Road, Byford Local Structure Plan (LSP) which provide the relevant land use permissibility and indicative land use designation applicable to the site. The proposed land use can be considered within the residential designations of the structure plans. The two structure plans, showing the land in question, are provided following:



Byford District Structure Plan



Lot 9500 Thomas Road, Byford Local Structure Plan

Land Use

The proposal falls within the TPS2 definition of 'Child Minding Centre', which means:

> *"…land and buildings used for the daily or occasional care of children in accordance with the Child Welfare (Care Centres) Regulations, 1968 (as amended) but does not include a family care centre as defined by those regulations, or an institutional home".*

The Child-Minding Centre' is an 'SA' land use in the 'Residential' zone which means, *"that Council may, at its discretion, permit the use after notice of the application has been given in accordance with Clause 64 of the Deemed Provisions."* An 'SA' land use requires the Shire to consider all submissions received and the broader planning framework in applying its discretionary powers to determine an application for approval.

Officers consider that the development, by way of scale, intensity and form of development is consistent with the current and intended future amenity of the area. The site forms an edge to the neighbourhood, where in combination with the future primary school, will be characterised by a higher level of activity compared to other locations within the structure plan area. Placement of these higher activity generating land uses on the edge of the neighbourhood will see an effective management of current and future amenity for the area.

Officers further consider that the design of the development is compatible with the future residential development as it seeks to incorporate design elements to the building which, when viewed from the street, would appear residential in form. This will provide a high degree of compatibility with adjoining and nearby medium residential density developments located within the broader locality of the Byford Meadows and Redgum Brook estates.

Draft Local Planning Scheme No.3 (LPS3) and Local Planning Strategy (LPS

The zoning of the subject site under draft Local Planning Scheme No.3 (LPS3) will be 'Residential'. The proposal would still fall under the land use of 'Child Care Premises' which is defined as:

"means premises where -

(*a) an education and care service as defined in the Education and Care Services National Law (Western Australia) Section 5(1), other than a family day care service as defined in that section, is provided; or*

(b) a child care service as defined in the Child Care Services Act 2007 section 4 is provided".

The use is similarly a discretionary use, subject to advertising, within the 'Residential' zone of LPS3.

The 'Residential zone' objective under LPS3 supports a range of non-residential uses, which are compatible with and complementary to residential development, encouraging high quality design, built form and streetscapes throughout residential areas which is appropriate to the climate. The design is considered to reflect such objectives.

Planning Bulletin 72/2009 - Child Care Centres

The bulletin provides guidance of planning considerations in relation to the location and development of child care centres. It states that broadly, child care centre activities are located in residential areas and that the ever-increasing demand for child care centres and the strong focus on their appropriate distribution and location is closely linked to demographic change. The objectives of the policy are to:

a) locate child care centres appropriately in relation to their surrounding service area;

b) minimise the impact a child care centre has on its surrounds, in particular on the amenity of existing residential areas;

c) minimise the impact the surrounds may have on a child care centre; and

d) consider the health and safety of children attending the child care centre within the confines of the planning system.

The bulletin states that childcare centres should be located to provide the maximum benefit to the community and should be within an easy walking distance and serviced by public transport.

The proposal adjoins a future school site to the south and is located approximately 400metres from the Byford Meadows Neighbourhood Centre precinct within a medium density housing environment. It is serviced by Transperth bus routes on Eurythmic Boulevard west of Briggs Road, approximately 350 metres walking distance from the site. The proposal includes construction of a footpath around the car park that would be linked to a footpath along Indigo Parkway to the north, to be constructed as part of the ongoing Stage 7 subdivision works. In addition, a footpath on Briggs Road would be extended from Eurythmic Road to Indigo Parkway as identified within the structure plan area. The site would then be accessible once the footpath network is fully established as the area continues to be developed through the ongoing subdivisions. The footpaths would provide infrastructure to enable residents from the nearby catchment areas to walk to the subject site consistent with this objective of the Bulletin.

The bulletin also states that it is important in limiting the impact a 'Child Minding Centre' may have on surrounding activities and amenity of existing residential areas. In this regard, the development has been designed in such a way that outdoor play areas have been located furthest away from the future residential dwellings. The proposal demonstrates a configuration of development to moderate as best possible noise impacts associated with the development.

Car Parking

Clause 67(s) of the Deemed Provisions requires consideration be given to the adequacy of provision for parking of vehicles. As such, a car parking assessment has been undertaken against the requirements from TPS2 and draft LPS3.

Table V of TPS2 sets out the parking requirements for different land uses. The minimum number of car parking bays for a 'Child Minding Centre' is one space per five children accommodated. Accordingly, as the proposal seeks to accommodate up to 110 children, a minimum of 22 parking bays would need to be provided. The plans provided indicate that the proposal is compliant with the minimum TPS2 parking requirements, as it incorporates a total of 31 bays, onsite bays, (including one [1] universal bay), to the west of the proposed childcare building.

In terms of draft LPS3, the table below summarises the parking requirements:

Land Use	Parking Requirement	No of Children/Staff	Parking Required	Proposed Bays
Child Minding Centre	1:10 children, plus 1.1 employee	110 20	11 bays 20 bays	11 20
Total			31	31

The proposal complies with the parking requirements under LPS3.

Officers have also considered that public transport is conveniently located nearby the subject land, leading to this mode of transport being available for use by families and staff alike. The bus stops would be easily accessible via existing formal footpaths and pedestrian crossing facilities once the area is fully subdivided and fully developed.

Development Requirements

Clause 7.10 and table 2 of TPS2 sets out the development standards and site requirements for development. Consideration has been given to the requirements as they apply to the 'Residential' zone, which the land is designated as under the LSP.

Table 11 TPS2 set out site requirements for selected uses in the 'Residential' Zone

Child Minding Centre	Required	Provided	Complies
Setbacks			
Front (Briggs Road)	7.5m	7.8m	Yes
Side (Indigo Parkway)	7.5m	14.5m	Yes
Side (Caspian Chase)	3.0m	9.0m	Yes
Plot Ratio (ratio of the gross total of the areas of all internal floors of a building to the area of site)	0.5:1	0.25.1	Yes
Site Coverage (how much of site is covered by roofed area)	0.3	0.32	No

The development slightly exceeds the prescribed site coverage requirements of TPS2. Officers have considered that the slight exceedance on the site coverage would not adversely impact on the available open space or appear as if the site is overdeveloped. The development features outdoor playscapes fronting Briggs Road, Indigo Parkway and Caspian Chase street frontages providing for separation between the building and public realm along these street frontages,

ultimately reducing the presence of the building. The minor variation is not considered to present the development as bulky or overbearing.

Form of Development

Part VII of TPS2 provides general development standards. Clause 7.1 of TPS2, relating to the general appearance of buildings and preservation of amenity, requires consideration of architectural style, colour, use of materials and the general appearance of buildings to ensure the exterior design is not out of harmony with existing buildings or likely to impact the amenity of the locality.

Below are the first set of elevations, as viewed from the west , north (Indigo Parkway) south (Caspian Chase) and from the east (Briggs Road).

Elevations Plans

In terms of the visual impacts of the development, the proposed building which covers an area of 653m^2 incorporates design elements intended to reflect residential development within the immediate locality, noting the site is located within a 'Residential' zone. The design elements include the use of timber looking boards, coloured blockwork, composite cladding, brickwork with contrasting colours and varied roof forms. These are accentuated at different areas to provide a building which reflects the rural tones of the Shire and which is aesthetically pleasing.

The design also proposes the brand 'Lego' artwork (painted red and blue panels) on the elevations which will add further interest to the building and a sense of playfulness. This is a theme contained within the Shire's Public Art Strategy and Masterplan document.

The site is subject to the Stage 7 Byford Meadows Local Development Plan which designates the site as R30. Although the development is not residential in nature and is not required to comply with the density designation, it has been designed to be sympathetic to the R30 density requirements, especially in terms of setbacks to further ensure the development is sympathetic to the existing and future residential development within the locality. It has also been designed to meet the Local Development Plan for the area which requires dwellings to address all street frontages to ensure surveillance of the street and to ensure an enhanced streetscape.

Local Planning Policy 4.24 - Child Minding Centres (LPP 4.24)

LPP4.24 seeks to provide guidance for child minding centres in relation to matters such as location, siting, design, traffic, and amenity. The objectives of the policy are as follows:

- *To provide guidance for the location of child minding centres to best take advantage of the surrounding natural environment and provide a compatible setting with the locality.*
- *To ensure that amenity impacts, including noise and traffic, are managed appropriately.*
- *To promote a design of child minding centres which reflect the rural and natural character of the Shire.*
- *To provide guidance for the consideration of convenient access and layout.*

LPP4.24 sets out particular criteria for child minding centres. Development that complies with the 'acceptable' criteria will generally be supported. Proposals falling within 'Performance Based' are required to demonstrate acceptability in relation to the specific criteria. The application has been assessed against the policy criteria below and generally complies.

Acceptable Development	Performance Based	Officer Comment
Location		
Child minding centres located within easy walking distance of activity centre or recreational nodes. Located within a walkable catchment for the local neighbourhood. Larger child minding centres being encouraged to locate near or within activity centres.	The chosen location is appropriate to the proposed scale of the child minding centre, and such location benefits from integration with the surrounding natural and built environment.	Acceptable - Proposal located within 400m of a Neighbourhood Centre. It is located within a walkable distance from existing and future residential development.
The location is close to or adjoins public open space.	Located within a walkable distance to a public open space/recreational area with good quality pathways.	Acceptable - Proposal abuts the Public Open Space to the North of Indigo Parkway.
Child minding centres are adequately separated from any incompatible nearby uses, with this supported by a suitably qualified	Where child mining centres are located within 200m of any incompatible use, such proposal demonstrates that the potential	Acceptable - No incompatible land uses within 200m of the subject site.

Acceptable Development	Performance Based	Officer Comment
risk assessment forming part of an application. Such risk assessment is to consider elements such as dangerous goods, hazardous materials and public health considerations. Potentially incompatible uses (taking into account design and layout) may include, for example, outlets selling petroleum, fast-food, and alcohol or tobacco products.	for adverse health impacts is removed. Such demonstration to be in the form of a suitably qualified consultant study.	
Parking		
Parking meets the requirements of the Local Planning Scheme, and demonstrates how this meets the operational aspects of the development. Internal driveways having two-way movement. Landscaped parking areas in accordance with the Local Planning Scheme. Parking areas located so as to provide a separation between surrounding dwellings and outdoor play spaces.	Suitably demonstrates that there is sufficient parking onsite in the form of a traffic and parking assessment. Design and layout demonstrates safe movement of vehicles and pedestrians internally. Parking areas incorporate layers of landscaping and Water Sensitive Urban Design.	Acceptable - Proposal is compliant with TPS2 car parking requirements. Refer to parking section of the report.
Traffic		
Traffic generation poses an increase of no more than 10% of the current recorded daily volumes on the roads which the development adjoins. This is confirmed by a traffic impact statement. Development facilitates full movement access to and egress from the site.	Demonstrates that traffic impacts can be managed through the submission of a Traffic Management Plan. This demonstrates how traffic will be managed to not represent an adverse safety or amenity impact on the adjoining road environment. Demonstrate that access and egress to the site will not result in unsafe manoeuvring due to the lack of full movement access.	Acceptable - refer to the traffic section of the report.
Infrastructure Requirements		

Acceptable Development	Performance Based	Officer Comment
Designated pedestrian footpaths from the street to the centre and the car park to the centre.	Demonstrate that pedestrians can safely navigate to and around the site, with dedicated pathways.	Acceptable - A condition will be imposed to ensure footpath abuts the frontage of the block and around the carpark.
Car parking visible from the street to discourage verge parking.	Signage or other means to discourage verge or unsafe parking.	Acceptable - refer to the car parking section of the report.
Amenity		
Outdoor play areas located in a safe place within the site, providing adequate shade, and separated from noise sensitive premises. Waste service areas appropriately screened from public areas. Setbacks to side and rear boundaries and the orientation of openings to indoor play areas located to minimise noise impacts. Acoustic impact assessment submitted demonstrates how noise will be managed, particularly from: - Indoor and outdoor play areas; - Car parking areas and the impulsive noise that comes from car access (especially staff arriving before opening and departing after closure), opening and closing of car doors, arrangement of car parking bays (staff versus visitor).	Outdoor play areas are arranged so as to demonstrate such will not adversely impact sensitive receptors. This is confirmed by an acoustic impact assessment and subsequent noise management plan. Noise levels are demonstrated to be consistent with the level of amenity currently afforded to an area.	Acceptable - outdoor play area is located to the western portion of the site.
Hours of operation 7:00am to 7:00pm Monday to Friday.	Demonstrate that operation hours outside of these times would not impact amenity of the area through an acoustic impact assessment and subsequent noise management plan.	Performance - the proposed hours of 6:30.am - 7:00am operation comply. While staff and children arriving prior to 7:00am, the use of the outdoor play areas will not occur until after 7:00am to comply with the acoustic report.

Acceptable Development	Performance Based	Officer Comment
Child minding centres are not subject to unacceptable noise that could impact the health and wellbeing of children.	An acoustic impact assessment and subsequent noise management plan demonstrate that noise external to the site would not adversely impact on the wellbeing of children.	Acceptable - refer to the amenity section of the report.
Sites in residential areas greater than 1,000m^2 in areas. A maximum site coverage of 60%, in order to mimic typical residential form and to provide future ability to recede back to a residential development should that occur.	Demonstrate that sites in residential areas will be able to accommodate all activities (including parking and play areas) required on the site.	Acceptable - the site is greater than 1,000m^2
Landscaping		
On site landscaping and landscape of all adjoining verge areas, in accordance with the Scheme, to provide an attractive setting and contribute to the streetscape.	A reduction in the on-site landscaping requirement is associated with additional verge landscaping.	Acceptable - Proposed landscaping is consistent with the policy. Refer to the built form section of the report.
Design		
Development has the appearance of natural materials i.e. recycled clay face brick, vertical and horizontal patterns of timber cladding, rammed earth construction, earth block features, natural stone elements for columns, sheltering gable roof. Measures should be taken to ensure that play areas are large enough and of such dimensions to be useful as play areas and positive outdoor space. Side setback and leftover building areas are not included for such purpose.	Demonstrate that the development includes natural features to elevate the rural and natural character of the Shire. Demonstrate that the proposal is in keeping with the surrounding built and natural environment. Development in residential areas mimics residential urban patterns (front yard, central placed building, driveway to one size and rear backyard).	Acceptable - refer to Built Form section of report.

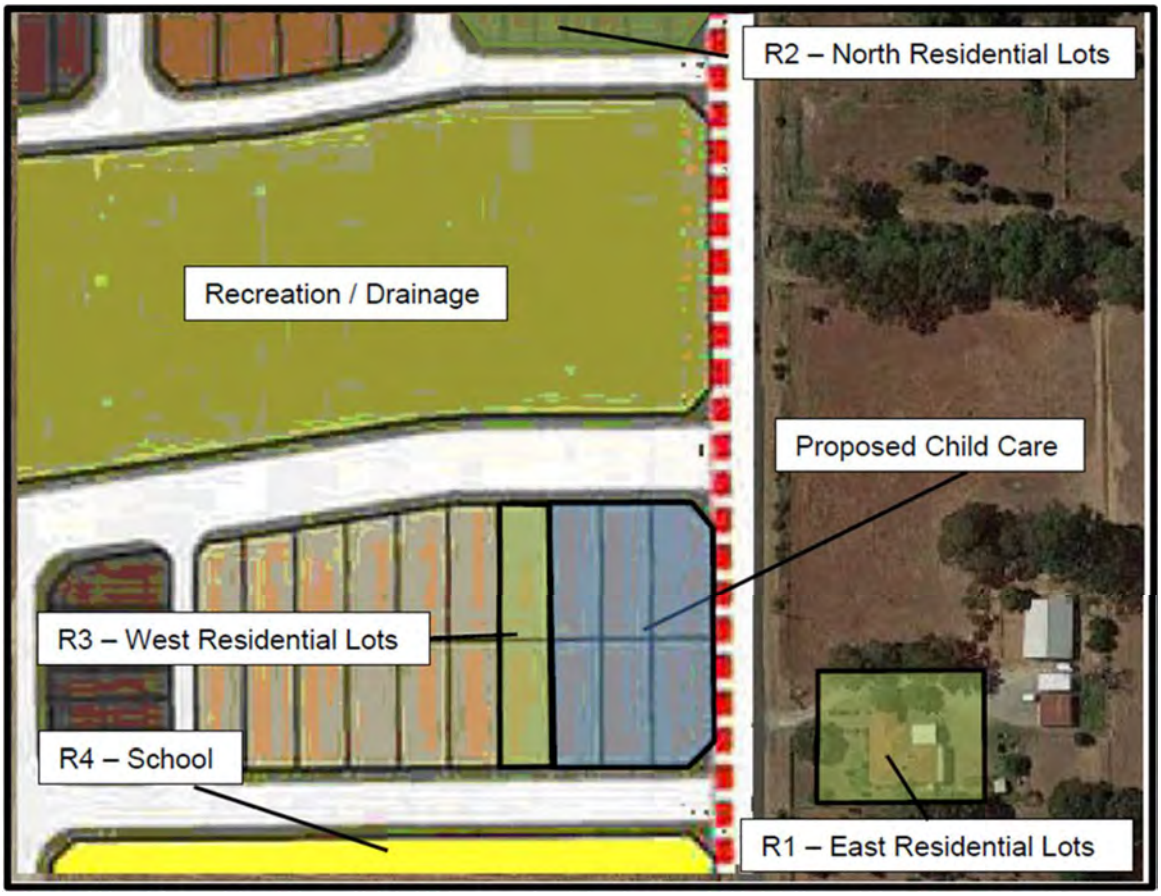
Amenity

Clause 67 of the Deemed Provisions, namely clause (n), requires the Local Government to consider the amenity impacts of a development. Noise generated from the proposal has the potential to impact upon the amenity of the area, given the proximity of the proposal to future neighbouring residential dwellings to the west of the subject site (sensitive receptors).

To address noise, the applicant submitted an Environmental Acoustic Assessment (EAA) in accordance with the *Environmental Protection (Noise) Regulations 1997* (the Regulations). This can be viewed as **attachment 5.** The report assesses noise emissions from outdoor child play

areas, car doors closing in the car park, car starting, car doors closing and mechanical plants (air conditioning units and exhaust extraction fans), against the prescribed standards the Regulations.

The Regulations set out the maximum allowable noise level that may be received at nearby sensitive receptors. In this case, computer modelling using the noise modelling program SoundPlan was used to predict noise emissions from the development at all sensitive receptors identified as (R1-R3) and the educational establishment School; (R4) as shown below and demonstrated within the EAA.



The predicted noise levels received at the future educational establishment (school), existing (R1) and future (R2 and R3) sensitive receptors within the EAA for the major noise sources, have been tabulated in Tables 6.4 to 6.9 of the EAA. The location of these sensitive receptors and noise receivers at this location have been captured in the above diagram.

In terms of the outdoor child play assessment, the EAA assessment demonstrates that all noise receivers will comply with the assigned levels under the regulations with zero exceedance. The acoustic modelling of outdoor play noise was made, based on the worst-case scenario of any age group of children within the outdoor play areas shown in the site plan. The noise modelling has been based on construction of a solid wall along the western boundary enclosing the carpark and surrounding the outdoor play area as shown in the site plan. The applicant has provided information that although the proposed facility would open before 7:00am (i.e. during the night period as set in the Regulations) for drop offs, however, the outdoor play area would only be used after 7:00am thereby restricting outdoor play times. As such, Officers are satisfied that outdoor play area noise received at the neighbouring future residences to the west from the outdoor play area would comply with the assigned and maximum noise levels.

In regard to the noise emitted from the mechanical plant, the ENA demonstrates that the future school and all existing and future sensitive receptors, comply with the assigned levels under the regulations Regulation. The applicant has provided information that the assessment of the mechanical plant noise (specific AC unit types) has not been modelled on the exact mechanical plant and therefore recommended the detailed design of the units to be reviewed to ensure that noise attenuation is applied to achieve compliance with the Regulatory requirement to the future sensitive receptors. This will include measures such as acoustic shielding of the units on all sides by a suitable barrier. This has been conditioned accordingly and required to be met prior to the issue of a building permit.

In respect to car movements, engines starting, doors opening and closing within the car park, ENA demonstrates that all noise receivers will comply with the assigned levels under the regulations for the existing nearby sensitive receptors. In order to achieve compliance for the future sensitive receptors from noise levels within the car park area, the applicant has provided information that parking bays to the west of the building (red) would not be permitted before 7:00am and bays to the south and north of the building (blue) will be reserved for staff and specifically those arriving before 7:00am only as shown in the diagram below.

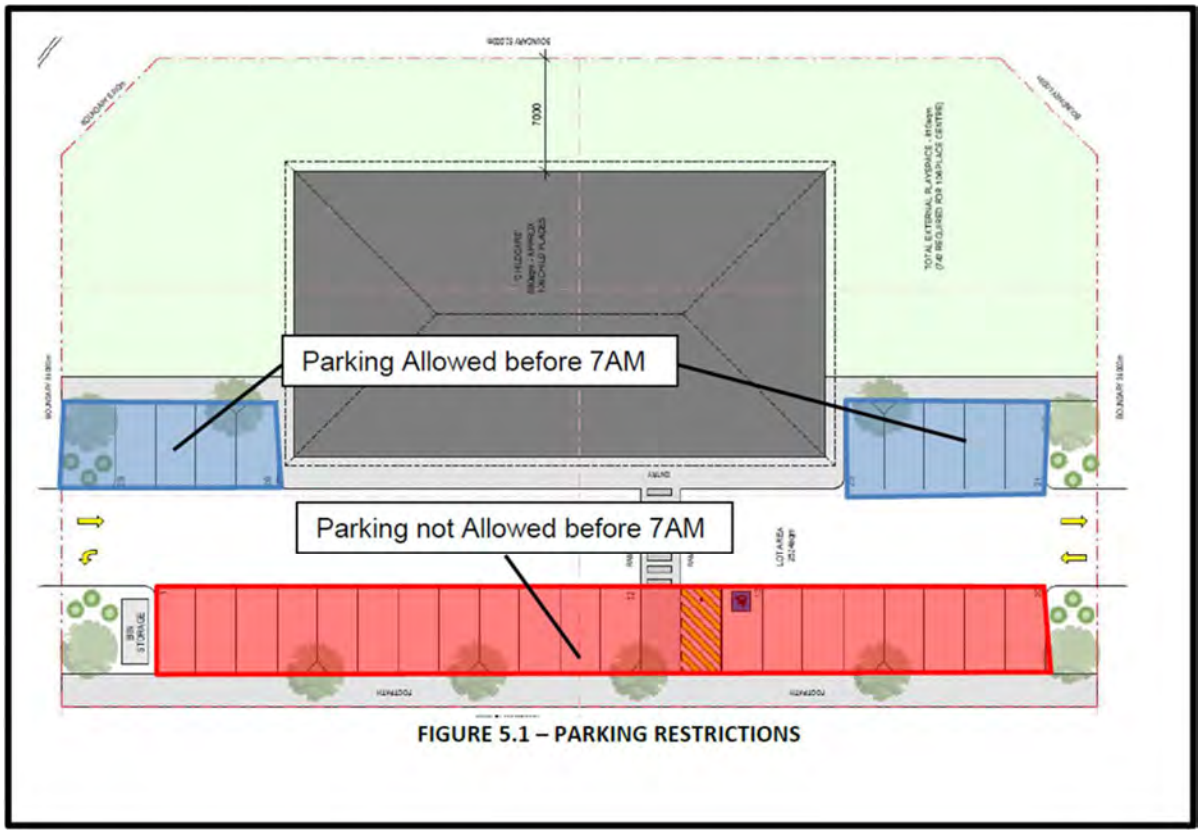


FIGURE 5.1 – PARKING RESTRICTIONS

Overall, the ENA demonstrates that all noise receivers will comply with the assigned levels under the Regulations. Officers will be recommending a Noise Management Plan be submitted to address all activities associated with outdoor play and indoor child play to further reduce noise emissions from the development and to include the recommendations within ENA. Officers are satisfied that the development can be undertaken without adversely impacting upon the amenity of the locality.

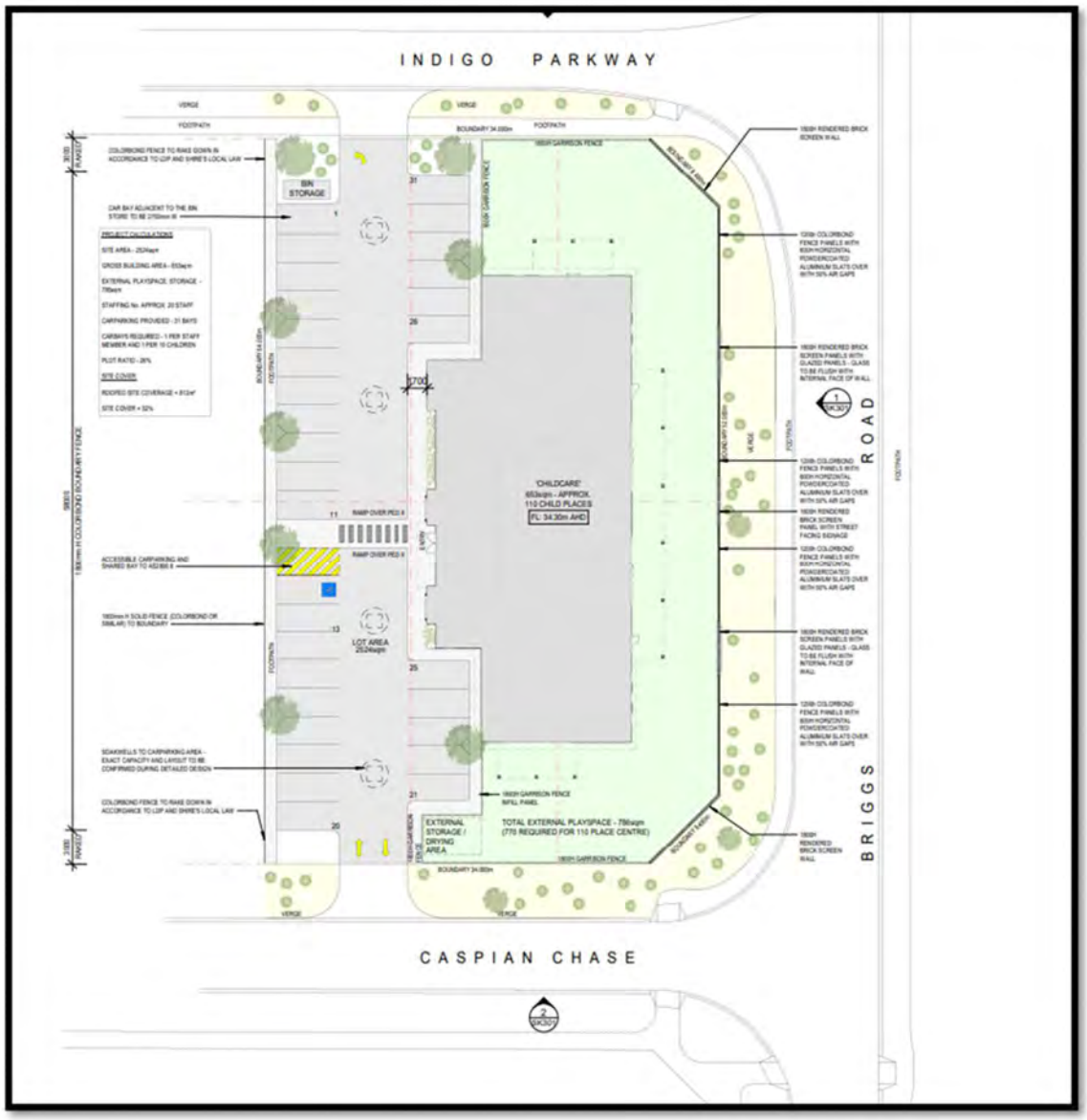
Traffic and Access

The category of the vehicles associated with the proposed development will predominantly comprise of small passenger vehicles dropping off and picking up children, as well as staff and

waste vehicles. During the consultation period concerns were raised over the impacts of increased traffic movements on Briggs Road and whether its current state would be capable to accommodate additional traffic generated by the proposal.

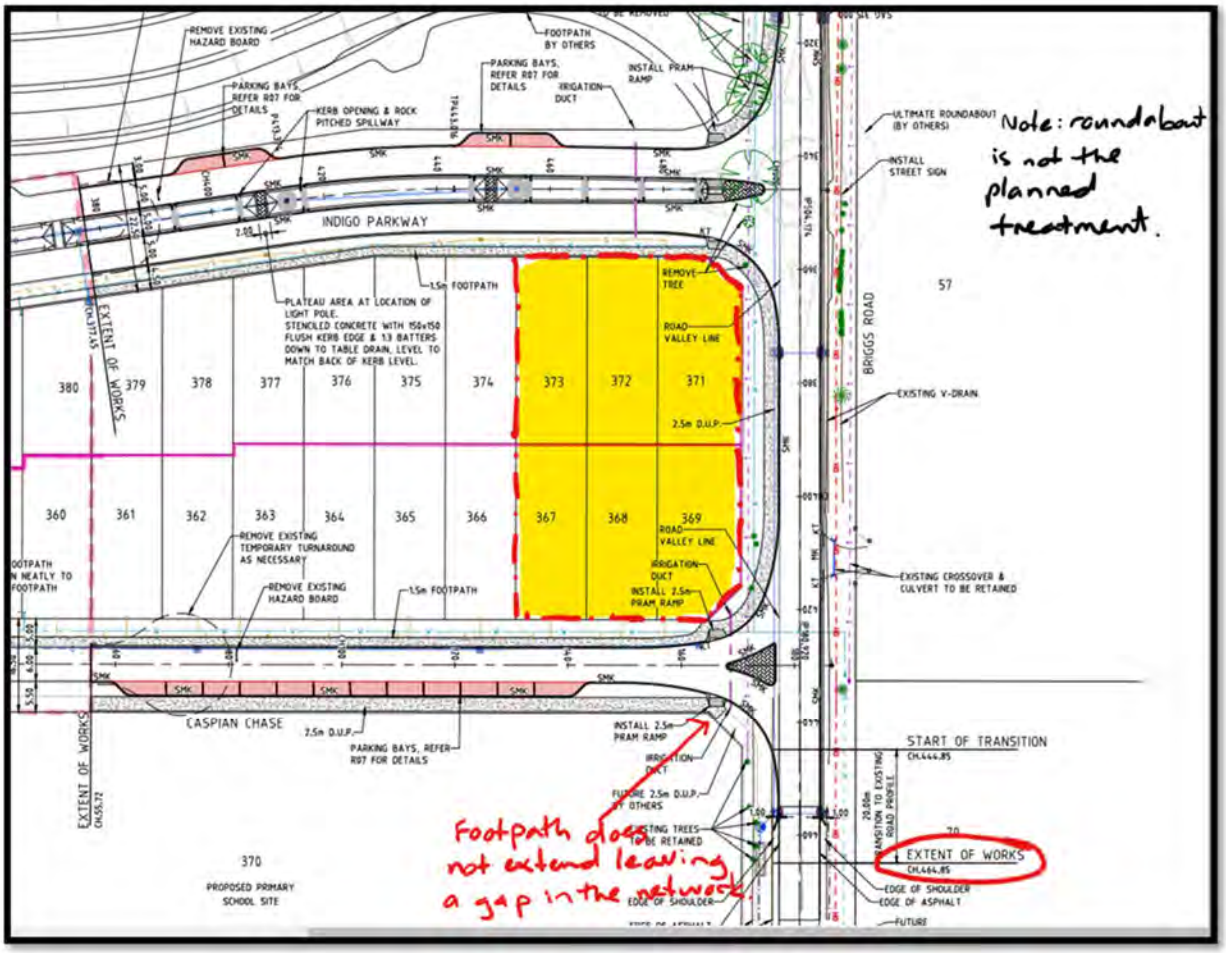
Vehicle access to the subject site is proposed via a single full movement crossover on Caspian Chase once constructed and initially a left in/left out movement crossover to Indigo Parkway once constructed to the north of the site. The north access/egress arrangement has been modified from the plans that were advertised, to respond to concerns regarding potential localised congestion. In this regard, to avoid possible queuing and congestion at the intersection of Briggs Road/Indigo Parkway for those vehicles wanting to access the site in a southbound direction on Briggs Road, the northern crossover has been modified to a left-out arrangement only. The proposed median strip as part of the design of Indigo Parkway at this section will also restrict the movement to left out only. This will divert vehicles to use the Caspian Chase full movement crossover, also removing potential conflict points with the access to the proposed adjoining child minding centre under a separate application as seen below. This will also address a concern raised during the public consultation.

Officers note that Caspian Chase and a portion of Indigo Parkway to Briggs Road are subject to the subdivision approval and will be constructed as T-intersections to Briggs Road as part of the Stage 7 subdivision approval of the Byford Meadows. A condition however, will also be imposed as part of this development to ensure the construction of the roads as the proposal also relies upon this. A condition will also be imposed to ensure the section of Briggs Road between Caspian Chase and Indigo Parkway is fully upgraded to an urban standard, given this will provide both interim and ultimate access to the centre for a portion of clients.



The proposed crossover on Caspian Chase will provide access to the main car park consisting of 31 bays (inclusive of one ACROD bay) as shown in the previous image. Footpaths along the interfacing roads would be constructed as part of the ongoing subdivisional works which would provide pedestrian access to the proposed development. A condition is however included to also secure the required footpath infrastructure that adjoins the frontages of this lot, which also extends to link to the footpath network (existing) on Larsen Road. This is important in order to facilitate safe pedestrian access to the proposed development. The existing network and additional footpath link to be conditioned, is shown following. This is essential in order to provide safe pedestrian access to the centre, for clients based to the south and east of the proposed development, consistent with the planning framework to ensure that all modes of transport are catered for.

With respect to the subdivision works currently underway to create the site, this shows that the extent of planned footpath works will not connect to the existing path on Larsen Road. This is the basis for the recommended condition.

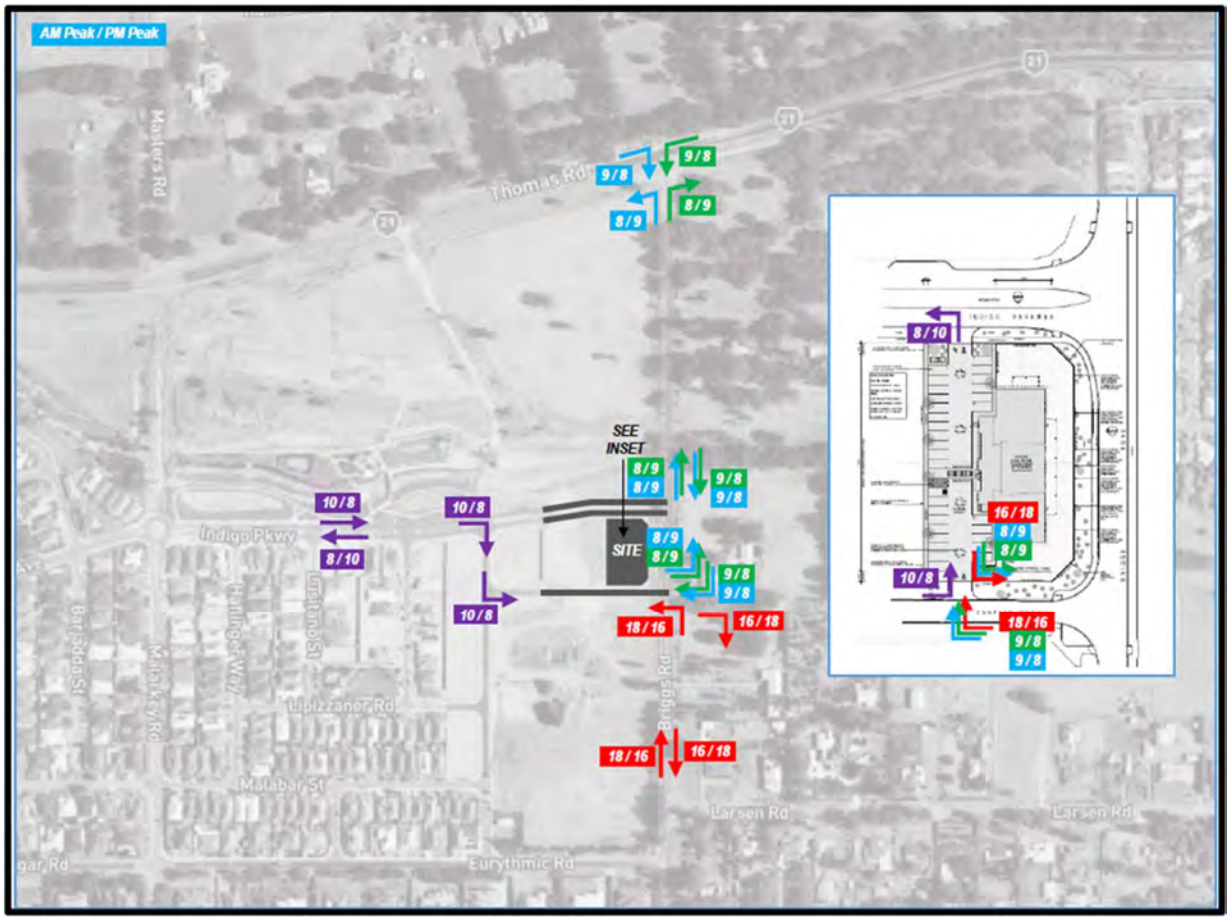


To assess the increased traffic movements on the road network and potential safety issues, a Transport Impact Statement (TIS) was provided with the application, which can be viewed in **attachment 6** to this report. The TIS assessed traffic generated by the proposed development and its potential impact on the overall performance of the existing and future surrounding local road network. This includes the current state of Briggs Road, Indigo Parkway Way, and Caspian Chase. Briggs Road is a Local Distributor Road and Indigo Parkway is an Access Road. Based on the approved LSP covering the site, Indigo Parkway will be upgraded to a Local Distributor and Caspian Chase will be an Access Road. Consistent with the planning for Byford and protection of the Byford Trotting Complex, Briggs Road is not intended to function as a Local Distributor Road, and has been carrying traffic associated with movements between Thomas Road and Abernethy Road, due to the delays in realising the ultimate traffic network as development of Byford continues. These issues are discussed following, including the rationale for various conditions dealing with road upgrades.

Existing Network

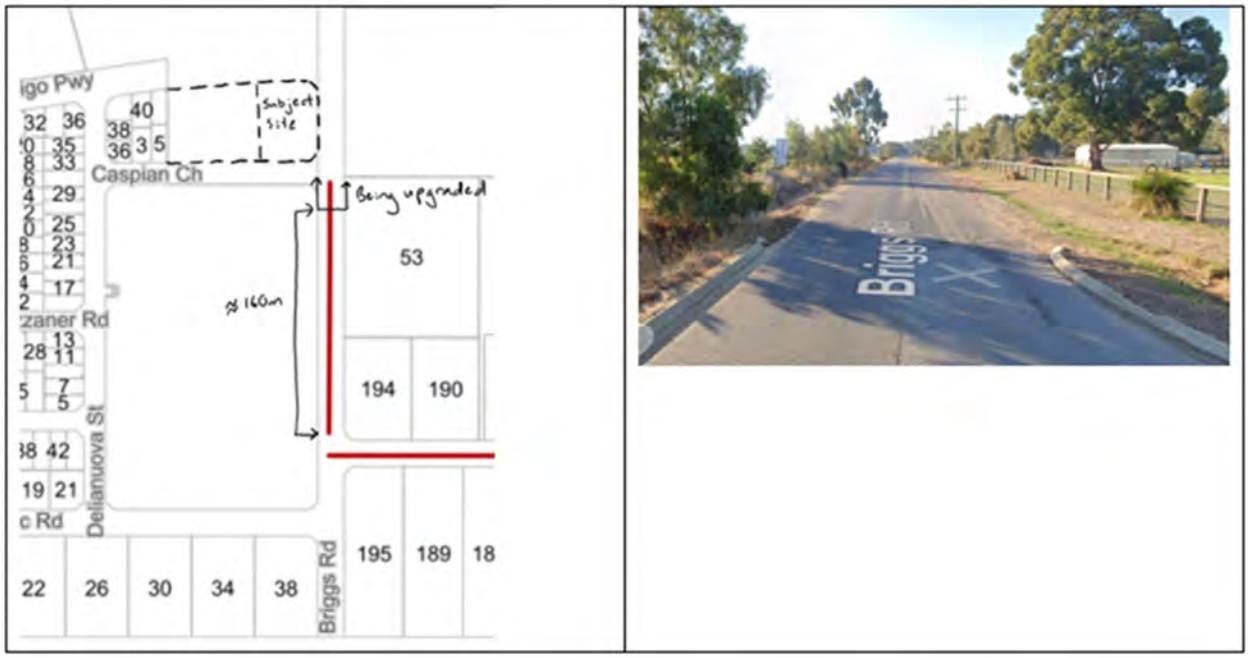
The findings on the volume of traffic likely to be generated by the proposal to the site, based on the existing network was estimated using available trip generation rates from the Institute of Transportation Engineers (ITE). The TIS identifies that the development will generate 450 vehicle trips per day within the local catchment. The AM peak period generating 86 vehicle trips to the site and a PM peak flow of 87 trips generated. The movements to the site with to and from the site as follows and as depicted on the diagram:

- 40% north along Briggs Road split evenly in both directions along Thomas Road
- 40% south along Briggs Road / Larsen Road / Eurythmic Road
- 20% west along Indigo Parkway



The predicted AM/PM trip generation peak periods fall under the 'moderate impact' category according to WAPC Transport Impact Assessment Guidelines.

This moderate impact, however, will in the opinion of Officers, exacerbate the section of Briggs Road which is not being upgraded to a suitable standard to accommodate the planned increase in traffic. There is a 160m section of Briggs Road south of Caspian Chase, that is designated as 'Very Poor' according to the 2023 asset data capture. The current engineering drawings that will create the subject site, result in upgrades north of Caspian Chase, but not south. The section of concern is shown following:



As the approved engineering drawings (refer **attachment 8**) for the adjoining subdivision do not indicate the upgrade to this section of Briggs Road, Officers are of the opinion that the road upgrade standard north of Caspian Chase, needs to be continued south of Caspian Chase by 160m to eliminate the risk posed by the very poor section of road.

Without a suitable upgrade, the very poor section of Briggs Road will, in the opinion of Officers, be a risk exacerbated by the intensification of traffic proposed by the development. Accordingly, a condition is recommended to require the upgrade to this section of road, in order to create an acceptable road and pedestrian infrastructure outcome.

The WAPC Transport Impact Assessment Guidelines (2016) provides guidance on the assessment of traffic impacts:

> "*As a general guide, an increase in traffic of less than 10 per cent of capacity would not normally be likely to have a material impact on any particular section of road but increases over 10 per cent may. All sections of road with an increase greater than 10 per cent of capacity should therefore be included in the analysis. For ease of assessment, an increase of 100 vehicles per hour for any lane can be considered as equating to around 10 per cent of capacity. Therefore, any section of road where development traffic would increase flows by more than 100 vehicles per hour for any lane, should be included in the analysis.*"

In Officers assessing this aspect of the TIS, the actual deteriorated section of Briggs Road does not represent a current infrastructure standard that can safely manage the planned increase in traffic. To address this aspect, a road upgrade is needed to enable the proposed development to safely operate based on the expected traffic demands which show in the interim period 40% of traffic coming from the south.

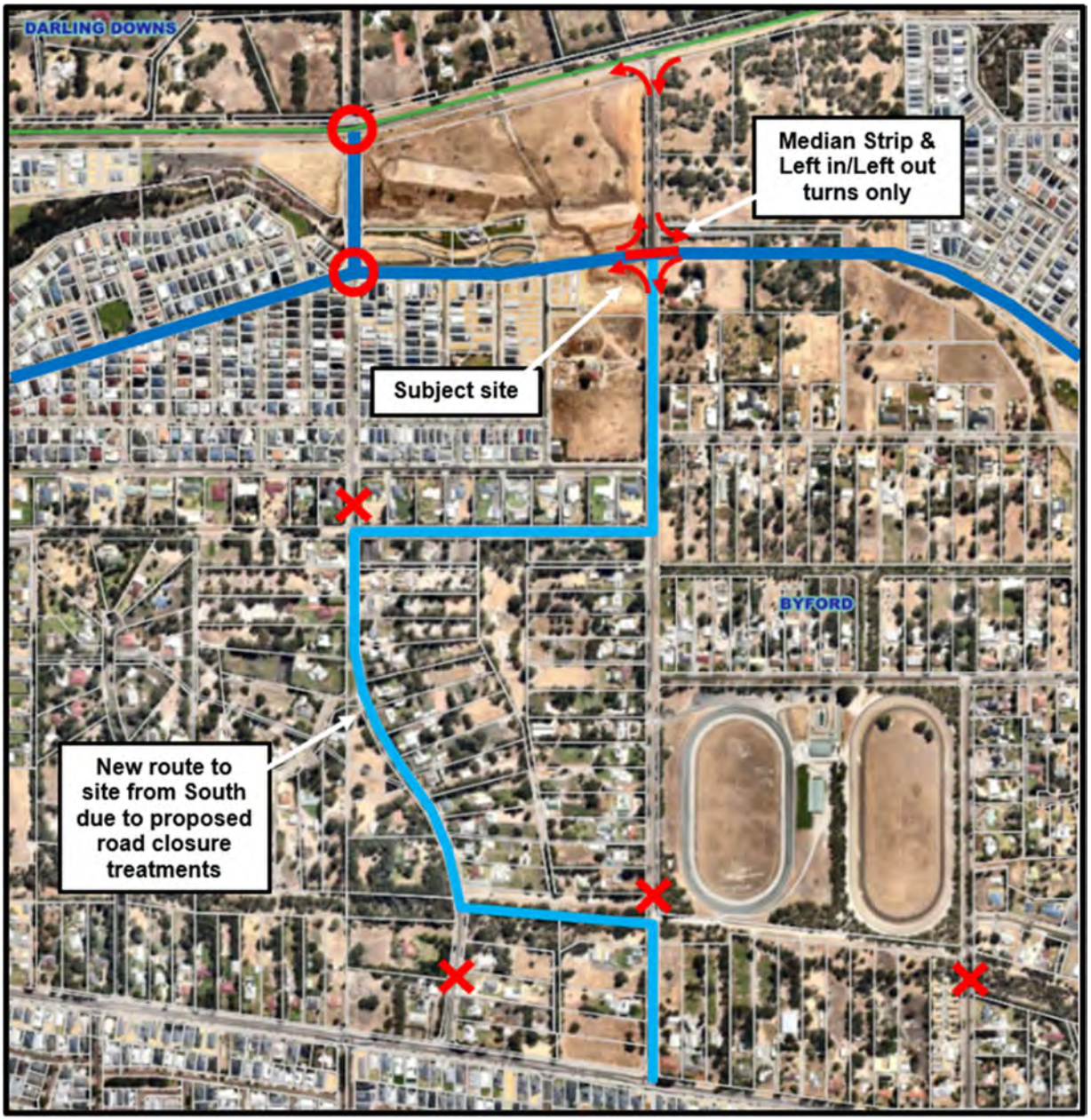
Future network

In the longer term, various proposed changes to the surrounding road network will redistribute the child care centre traffic. This is based upon the approved Byford DSP, which depicts the ultimate network structure which aims to avoid traffic flows running through the Byford Trotting Complex along Briggs Road and Malarkey Road.

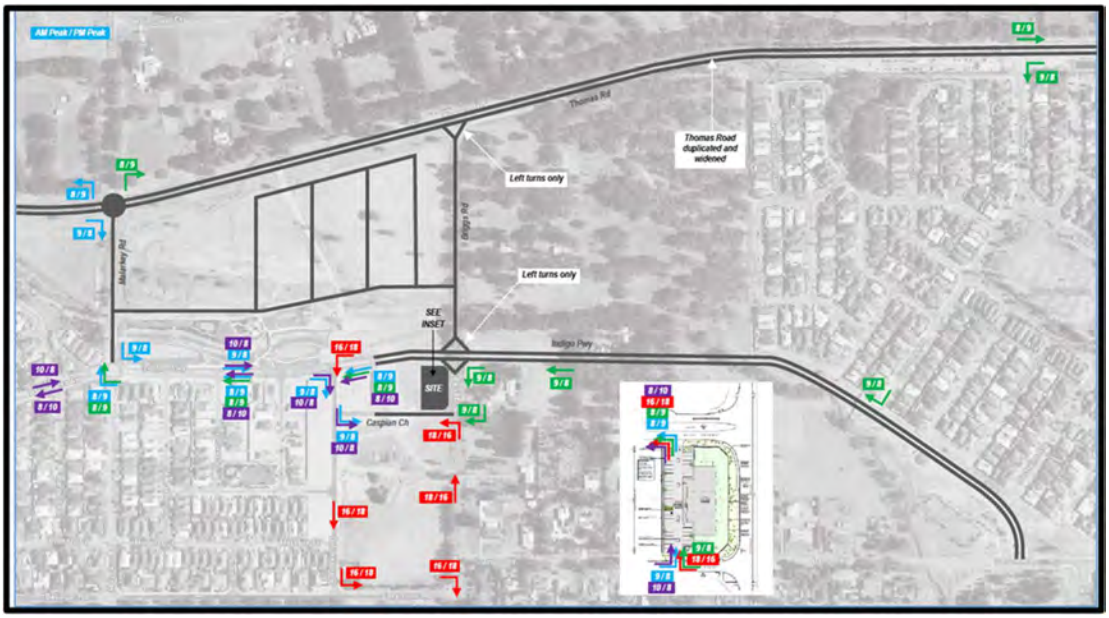
The changes to the network in the future are as follows:

- Thomas Road / Briggs Road intersection will be modified to only allow left turns.
- Briggs Road north of Abernethy Road will be modified to limit through traffic in the Byford Trotting Complex.
- Malarkey Road will be extended north to Thomas Road, and new roundabouts will be constructed on Thomas Road at Malarkey Road/Master Road and Kardan Boulevard.
- The Thomas Road / Plaistowe Boulevard intersection will be signalised.
- The median strip along Indigo Parkway will be extended across Briggs Road to block right turns and through movements along Briggs Road.

The long-term changes to the road network is depicted in the diagram below:



The estimated distribution over the long-term traffic network is seen below:



As shown, the proposed development will not increase the traffic volume on any particular section of the road by more than 100 vehicles per hour and provided the previously mention condition of upgrading the 160m section of Briggs Road occurs, the development is unlikely to have an adverse impact on the road network in the future.

Local Planning Policy 1.6 - (LPP 1.6) - Public Art for Major Developments

The objective of LPP1.6 is to facilitate per cent for art to enhance public enjoyment, engagement and understanding of places through the integration of public art. The policy sets out the requirements for physical and financial contributions for public art for any development valued at $1 million or greater.

Officers note that the applicant has not provided any details for a public art feature within the design of the development. Should the application be approved, a percentage for art condition of development approval would be recommended by way of a condition, consistent with the policy.

Local Planning Policy 4.11 (LPP4.11) - Advertising

Local Planning Policy LPP 4.11 - Advertising sets out development standards and requirements for advertisements. The plans, as submitted, have identified nominal wall signage for the proposal integrated into the façade of the development. No detailed drawings of the signage were provided with the application.

If the application is approved, a signage plan will be required to be prepared and approved prior to operation of the development, to ensure any signage is compliant with the policy.

Local Planning Policy 4.15 (LPP4.15) - Bicycle Facilities

LPP4.15 provides guidance to developers on the design and requirements of bicycle parking and end of trip facilities for each specific land use. In accordance with the policy, bicycle facilities are to be provided in accordance with Schedule 1 of the policy.

Officers note that the applicant has not provided any details or provisions for a bicycle rack. If the application were to be approved, the applicant would be required to comply with the requirements of the policy.

Local Planning Policy 2.4 - Water Sensitive Design

LPP2.4 aims to maximise water efficiency by encouraging best practice urban water management methods. The policy aims to ensure water sensitive design best management practices are implemented for new developments with the Shire.

A Stormwater and Drainage Management Plan (SMP) will be required, demonstrating how stormwater is managed and shall be provided prior to issue of a Building Permit.

Local Planning Policy 24 (LPP24) - Designing Out Crime

LPP24 encourages commercial development to incorporate principles of Crime Prevention through Environmental Design (CPTED). LPP24 sets out five key crime prevention principles that are to be applied to different levels of the planning framework according to the policy. A development application needs to be assessed against the principles of the policy. The principles relate to surveillance, access control, territorial reinforcement, target hardening, management, and maintenance.

It is considered that the corner location of the site affords the site with a high level of passive surveillance. In addition, proposed activity spaces and outdoor play areas face public streets and facilitate passive surveillance over the public realm.

State Planning Policy 3.7 - Planning in Bushfire Prone Areas

SPP3.7 provides the requirements and guidelines for development within areas identified as bushfire prone. The subject site is located within a designated bushfire prone area in accordance with the Department of Fire and Emergency Services (DFES) Map of Bushfire Prone Areas. SPP3.7 seeks to ensure the risk of bushfire to developments is considered and mitigated through the development assessment process.

Pursuant to the provisions of SPP3.7, the application included a Bushfire Management Plan (BMP) for the subject site. The BMP which can be viewed as **attachment 7** states that on completion the proposed childcare center is expected to achieve a compliant BAL-29 or lower outcome, under the vegetated scenario.

As a Child-Minding Centre is a vulnerable land use, the application has been referred to DFES for assessment. DFES has recommended modifications to be undertaken to the submitted Bushfire Management Plan. These modifications primarily relate to the justification on the classification of vegetation plots on the west that have been excluded and management of vegetation within the Public Open Space. The BMP currently excluded these plots and identified vegetation within them as a low threat. Officers consider vegetation within the public open space would be maintained to an appropriate APZ standard by the Shire.

Development Contributions (DCA1)

This development falls within the development contribution area DCA1 (Area A) and as such is required to contribute towards the cost of common infrastructure under the Byford Traditional Development Contribution Plan.

Under a Development Application (as opposed to a subdivision), contributions are calculated on the current lot area on which the development is situated, giving a lot “yield” for the site. The liability to pay the contribution is triggered at the building permit stage, and thus the DCP payment will be applied as a development condition needing to be met prior to the issue of a Building Permit.

Options and Implications

Option1

That Council RESOLVES the following Responsible Authority Recommendation:

1. That the Metro Outer Joint Assessment Panel APPROVES the development application for the construction of a 'Child Minding Centre' at Lot 9511 Briggs Road, Byford subject to the following conditions:

a. The development is to be carried out in compliance with the plans and documentation listed below and endorsed with the Shire of Serpentine Jarrahdale stamp, except where amended by other conditions of this consent.

Plans and Specifications	Development Plans received at the Shire Offices on 22 February 2023 and 21 April 2023. Updated Transport Impact Statement received at the Shire Offices on 21 April 2023. Environmental Acoustic Assessment dated 30 January 2023 received at the Shire Offices on 22 February 2023. Bushfire Management Plan received at the Shire's Offices on 22 February 2023.

b. The maximum number of children on the premises shall not exceed 110.

c. The operating hours shall be between 6:30am and 7:00pm, Monday to Friday.

d. Prior to issue of a Building Permit, the subject lots being amalgamated to create one single allotment.

e. Prior to issue of a building permit, detailed plans being submitted to and approved by the Shire, depicting the following road and footpath infrastructure upgrades:

(i) The full extension of Indigo Parkway to Briggs Road as a 'T' intersection with a median strip constructed up to Briggs Road;

(ii) The full extension of Caspian Chase as a 'T' intersection up to Briggs Road;

(iii) The existing footpath on Larsen Road being extended west across Briggs Road, then north to connect with the footpath infrastructure across the full frontage of the development site;

(iv) The 160m section of Very Poor Condition of Briggs Road from Caspian Chase south, being upgraded to match the upgrades occurring north of Caspian Chase, as shown on Drawing Number BYFGGC12-R01 (**attachment 8**). This includes a road upgrade to that section of road, to become a sealed, kerbed and drained road, with concrete footpath on the western side verge.

Once approved, the applicant must undertake and complete all infrastructure upgrade works prior of the commencement of the development's operations.

f. Prior to the occupation of the development, vehicle parking areas, access ways and crossovers shall be designed, constructed, sealed, kerbed, drained and line marked in accordance with the approved plans and thereafter maintained to the satisfaction of the Shire of Serpentine Jarrahdale.

g. A minimum of one car parking bay is to be provided and marked for the exclusive use of vehicles displaying government issued disabled parking permits. Such bay shall be located conveniently to the principal building entrance and designed in accordance with the relevant Australian Standard.

h. Prior to issue of a Building Permit, the applicant shall submit a Noise Management Plan to the specifications and satisfaction of the Shire of Serpentine Jarrahdale. The Noise Management

Plan shall be prepared to ensure appropriate measures are designed and implemented for the development to achieve compliance with the *Environmental Protection (Noise) Regulations 1997,* with particular regard to the following points:

(i) The design of the wall on the west side of the carpark;

(ii) The management of outdoor play areas;

(iii) The management of indoor activities;

(iv) The design and shielding of mechanical plant;

(v) Parking arrangement for drop off before 7:00am.

Once approved, the Noise Management Plan shall be implemented in its entirety to the satisfaction of the Shire. The plan shall demonstrate the development incorporating all design and operational recommendations as specified within the Environmental Acoustic Assessment, to the satisfaction of the Shire of Serpentine Jarrahdale where associated with construction requirements integrated into plans submitted for a building permit.

i. Prior to issue of a Building Permit, a Waste Management Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. Once approved, the Waste Management Plan shall be implemented in its entirety to the satisfaction of the Shire.

j. Prior to the issue of a Building Permit, a Landscape and Revegetation Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. This is required to include the full extent of verge adjoining the development site. Once approved, the Landscape and Revegetation Plan shall be implemented in its entirety and maintained thereafter by the operator, to the Shire's satisfaction.

k. Prior to the issue of a Building Permit, a Stormwater Management Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. All stormwater shall be directed so stormwater is disposed of within the property. Direct disposal of stormwater onto the road, neighbouring properties, watercourses and drainage lines is not permitted. Stormwater may be managed through either soak wells, raingardens or a combination of the two.

l. Prior to issue of a Building Permit, a Signage Strategy must be submitted to and approved by the Shire of Serpentine Jarrahdale. The Strategy shall demonstrate compliance with Local Planning Policy No 4.11 - Advertising Signs. Once approved, signage shall be displayed and maintained in accordance with the Strategy.

m. Prior to occupation of the development, the provision of percent for art being provided in accordance with Local Planning Policy 1.6 - Public Art for Major Developments to the satisfaction of the Shire.

n. Arrangements being made with the Shire of Serpentine Jarrahdale for the landowner/ applicant to contribute towards the costs of providing common infrastructure, as established through Amendment 208 (once gazetted) to Shire of Serpentine Jarrahdale Town Planning Scheme No. 2.

o. Prior to issue of a Building Permit, the landowner/applicant contributing towards development infrastructure, pursuant to the Shire of Serpentine Jarrahdale Town Planning Scheme No. 2.

p. Prior to issue of a Building Permit, a Construction Management Plan is to be submitted to and approved by the Shire of Serpentine Jarrahdale. The Plan should address the following matters:

(i) Management of car parking, delivery vehicles and traffic associated with the construction of the development.

(ii) Management of dust and noise.

Option 2

That Council RESOLVES the following alternative Responsible Authority Recommendation

1. That the Metro Outer Development Assessment Panel REFUSES the application for a 'Child Minding Centre' development at Lot 9511 Briggs Road, Byford due to the following reasons:
   a. The size of the development poses an adverse amenity impact on the surrounding current and future sensitive land uses in the area;
   b. The current road condition of Briggs Road, 160m south of the subject land, is in Very Poor Condition and cannot safely accommodate additional traffic generated by this development;
   c. The current footpath network will not be linked to the development, and represents an unsafe access situation for pedestrian to access the development.

Option 1 is recommended.

Conclusion

This report is presented to Council to endorse a Responsible Authority Reports for the Metro Outer Development Assessment Panel for a 'Child Minding Centre' development in the western portion of Byford. Officers consider that the development is consistent with the planning framework, provided conditions are imposed to address the relevant incidental matters that relate to the proposed development. The proposed development will increase the child care services and provide employment opportunities for the local community that will assist to support the population growth within the Shire. Officers are satisfied that the conditions recommended will address concerns raised during public submissions and it is considered to not adversely impact upon the existing amenity of the area.

As such, for the reasons outlined in the report, it is recommended that Council approve the application subject to conditions.

Attachments (available under separate cover)

- **10.1.3 - attachment 1** - Responsible Authority Report (E23/5176)
- **10.1.3 - attachment 2** - Development Plans (E23/4827)
- **10.1.3 - attachment 3** - Summary of Submissions (E23/3665)
- **10.1.3 - attachment 4** - Deemed Provisions Regulations Clause 67 (E23/5246)
- **10.1.3 - attachment 5** - Updated Traffic Impact Assessment (E23/5243)
- **10.1.3 - attachment 6** - Environmental Acoustic Assessment (E23/4811)

- **10.1.3 - attachment 7** - Bushfire Management Plan (E23/5247)
- **10.1.3 - attachment 8** - Engineering Drawing No. BYFGGC12-R01 (E23/5758)

Alignment with our Strategic Community Plan

Outcome 3.1	A commercially diverse and prosperous economy
Strategy 3.1.1	Actively support new and existing local businesses within the district.
Outcome 4.2	A strategically focused Council
Strategy 4.2.1	Build and promote strategic relationships in the Shire's interest.

Financial Implications

Nil.

Risk Implications

Risk has been assessed on the Officer Options and Implications:

er C	Risk Description	Controls	Principal Consequence	Risk Assessment	Risk Mitigation Strategies (to

			Category	Likelihood	Consequence	Risk Rating	further lower the risk rating if required)
1	That Council RESOLVES the Responsible Authority Recommendation for the MOJDAP to approve the application, and MODAP propose approval without the full extent of conditions necessary.	A clearly explained report that addresses the validity of each condition.	Social / Community Outcomes	Possible	Moderate	MODERATE	If MODAP were seeking to approve, the provision of the RAR contains justification to the conditions.
2	That Council RESOLVES the Responsible Authority Recommendation for the MOJDAP to refuse the application, and MODAP propose approval without the full extent of conditions necessary.	Panning Framework	Organisational Performance	Possible	Moderate	MODERATE	If MODAP were seeking to approve, the provision of the RAR would include reference to Option 1 so would be a basis to ensure conditions were made aware to MODAP.

Voting Requirements: Simple Majority

Officer Recommendation

That Council RESOLVES the following Responsible Authority Recommendation:

1. That the Metro Outer Joint Assessment Panel APPROVES the development application for the construction of a 'Child Minding Centre' at Lot 9511 Briggs Road, Byford subject to the following conditions:

a. The development is to be carried out in compliance with the plans and documentation listed below and endorsed with the Shire of Serpentine Jarrahdale stamp, except where amended by other conditions of this consent.

Plans and Specifications	Development Plans received at the Shire Offices on 22 February 2023 and 21 April 2023. Updated Transport Impact Statement received at the Shire Offices on 21 April 2023. Environmental Acoustic Assessment dated 30 January 2023 received at the Shire Offices on 22 February 2023. Bushfire Management Plan received at the Shire's Offices on

	22 February 2023.

b. The maximum number of children on the premises shall not exceed 110.

c. The operating hours shall be between 6:30am and 7:00pm, Monday to Friday.

d. Prior to issue of a Building Permit, the subject lots being amalgamated to create one single allotment.

e. Prior to issue of a building permit, detailed plans being submitted to and approved by the Shire, depicting the following road and footpath infrastructure upgrades:

(i) The full extension of Indigo Parkway to Briggs Road as a 'T' intersection with a median strip constructed up to Briggs Road;

(ii) The full extension of Caspian Chase as a 'T' intersection up to Briggs Road;

(iii) The existing footpath on Larsen Road being extended west across Briggs Road, then north to connect with the footpath infrastructure across the full frontage of the development site;

(iv) The 160m section of Very Poor Condition of Briggs Road from Caspian Chase south, being upgraded to match the upgrades occurring north of Caspian Chase, as shown on Drawing Number BYFGGC12-R01 (attachment 8). This includes a road upgrade to that section of road, to become a sealed, kerbed and drained road, with concrete footpath on the western side verge.

Once approved, the applicant must undertake and complete all infrastructure upgrade works prior of the commencement of the development's operations.

f. Prior to the occupation of the development, vehicle parking areas, access ways and crossovers shall be designed, constructed, sealed, kerbed, drained and line marked in accordance with the approved plans and thereafter maintained to the satisfaction of the Shire of Serpentine Jarrahdale.

g. A minimum of one car parking bay is to be provided and marked for the exclusive use of vehicles displaying government issued disabled parking permits. Such bay shall be located conveniently to the principal building entrance and designed in accordance with the relevant Australian Standard.

h. Prior to issue of a Building Permit, the applicant shall submit a Noise Management Plan to the specifications and satisfaction of the Shire of Serpentine Jarrahdale. The Noise Management Plan shall be prepared to ensure appropriate measures are designed and implemented for the development to achieve compliance with the *Environmental Protection (Noise) Regulations 1997,* with particular regard to the following points:

(i) The design of the wall on the west side of the carpark;

(ii) The management of outdoor play areas;

(iii) The management of indoor activities;

(iv) The design and shielding of mechanical plant;

(v) Parking arrangement for drop off before 7:00am.

Once approved, the Noise Management Plan shall be implemented in its entirety to the satisfaction of the Shire. The plan shall demonstrate the development incorporating all design and operational recommendations as specified within the Environmental Acoustic Assessment, to the satisfaction of the Shire of Serpentine Jarrahdale where associated with construction requirements integrated into plans submitted for a building permit.

i. Prior to issue of a Building Permit, a Waste Management Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. Once approved, the Waste Management Plan shall be implemented in its entirety to the satisfaction of the Shire.

j. Prior to the issue of a Building Permit, a Landscape and Revegetation Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. This is required to include the full extent of verge adjoining the development site. Once approved, the Landscape and Revegetation Plan shall be implemented in its entirety and maintained thereafter by the operator, to the Shire's satisfaction.

k. Prior to the issue of a Building Permit, a Stormwater Management Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. All stormwater shall be directed so stormwater is disposed of within the property. Direct disposal of stormwater onto the road, neighbouring properties, watercourses and drainage lines is not permitted. Stormwater may be managed through either soak wells, raingardens or a combination of the two.

l. Prior to issue of a Building Permit, a Signage Strategy must be submitted to and approved by the Shire of Serpentine Jarrahdale. The Strategy shall demonstrate compliance with Local Planning Policy No 4.11 - Advertising Signs. Once approved, signage shall be displayed and maintained in accordance with the Strategy.

m. Prior to occupation of the development, the provision of percent for art being provided in accordance with Local Planning Policy 1.6 - Public Art for Major Developments to the satisfaction of the Shire.

n. Arrangements being made with the Shire of Serpentine Jarrahdale for the landowner/ applicant to contribute towards the costs of providing common infrastructure, as established through Amendment 208 (once gazetted) to Shire of Serpentine Jarrahdale Town Planning Scheme No. 2.

o. Prior to issue of a Building Permit, the landowner/applicant contributing towards development infrastructure, pursuant to the Shire of Serpentine Jarrahdale Town Planning Scheme No. 2.

p. Prior to issue of a Building Permit, a Construction Management Plan is to be submitted to and approved by the Shire of Serpentine Jarrahdale. The Plan should address the following matters:

   (i) Management of car parking, delivery vehicles and traffic associated with the construction of the development.

   (ii) Management of dust and noise.

OCM097/05/23

COUNCIL RESOLUTION

Moved Cr Strautins, seconded Cr Dagostino

That Council RESOLVES the following Responsible Authority Recommendation:

1. That the Metro Outer Joint Assessment Panel APPROVES the development application for the construction of a 'Child Minding Centre' at Lot 9511 Briggs Road, Byford subject to the following conditions:

a. The development is to be carried out in compliance with the plans and documentation listed below and endorsed with the Shire of Serpentine Jarrahdale stamp, except where amended by other conditions of this consent.

Plans and Specifications	**Development Plans received at the Shire Offices on 22 February 2023 and 21 April 2023.**

	Updated Transport Impact Statement received at the Shire Offices on 21 April 2023. **Environmental Acoustic Assessment dated 30 January 2023 received at the Shire Offices on 22 February 2023.** **Bushfire Management Plan received at the Shire's Offices on 22 February 2023.**

b. The maximum number of children on the premises shall not exceed 110.

c. The operating hours shall be between 6:30am and 7:00pm, Monday to Friday.

d. Prior to issue of a Building Permit, the subject lots being amalgamated to create one single allotment.

e. Prior to issue of a building permit, detailed plans being submitted to and approved by the Shire, depicting the following road and footpath infrastructure upgrades:

(i) The full extension of Indigo Parkway to Briggs Road as a 'T' intersection with a median strip constructed up to Briggs Road;

(ii) The full extension of Caspian Chase as a 'T' intersection up to Briggs Road;

(iii) The existing footpath on Larsen Road being extended west across Briggs Road, then north to connect with the footpath infrastructure across the full frontage of the development site;

(iv) The 160m section of Very Poor Condition of Briggs Road from Caspian Chase south, being upgraded to match the upgrades occurring north of Caspian Chase, as shown on Drawing Number BYFGGC12-R01 (attachment 8). This includes a road upgrade to that section of road, to become a sealed, kerbed and drained road, with concrete footpath on the western side verge.

Once approved, the applicant must undertake and complete all infrastructure upgrade works prior of the commencement of the development's operations.

f. Prior to the occupation of the development, vehicle parking areas, access ways and crossovers shall be designed, constructed, sealed, kerbed, drained and line marked in accordance with the approved plans and thereafter maintained to the satisfaction of the Shire of Serpentine Jarrahdale.

g. A minimum of one car parking bay is to be provided and marked for the exclusive use of vehicles displaying government issued disabled parking permits. Such bay shall be located conveniently to the principal building entrance and designed in accordance with the relevant Australian Standard.

h. Prior to issue of a Building Permit, the applicant shall submit a Noise Management Plan to the specifications and satisfaction of the Shire of Serpentine Jarrahdale. The Noise Management Plan shall be prepared to ensure appropriate measures are designed and implemented for the development to achieve compliance with the *Environmental Protection (Noise) Regulations 1997,* with particular regard to the following points:

(i) The design of the wall on the west side of the carpark;

(ii) The management of outdoor play areas;

(iii) The management of indoor activities;

(iv) The design and shielding of mechanical plant;

(v) Parking arrangement for drop off before 7:00am.

Once approved, the Noise Management Plan shall be implemented in its entirety to the satisfaction of the Shire. The plan shall demonstrate the development incorporating all design and operational recommendations as specified within the Environmental Acoustic Assessment, to the satisfaction of the Shire of Serpentine Jarrahdale where associated with construction requirements integrated into plans submitted for a building permit.

i. **Prior to issue of a Building Permit, a Waste Management Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. Once approved, the Waste Management Plan shall be implemented in its entirety to the satisfaction of the Shire.**

j. **Prior to the issue of a Building Permit, a Landscape and Revegetation Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. This is required to include the full extent of verge adjoining the development site. Once approved, the Landscape and Revegetation Plan shall be implemented in its entirety and maintained thereafter by the operator, to the Shire's satisfaction.**

k. **Prior to the issue of a Building Permit, a Stormwater Management Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. All stormwater shall be directed so stormwater is disposed of within the property. Direct disposal of stormwater onto the road, neighbouring properties, watercourses and drainage lines is not permitted. Stormwater may be managed through either soak wells, raingardens or a combination of the two.**

l. **Prior to issue of a Building Permit, a Signage Strategy must be submitted to and approved by the Shire of Serpentine Jarrahdale. The Strategy shall demonstrate compliance with Local Planning Policy No 4.11 - Advertising Signs. Once approved, signage shall be displayed and maintained in accordance with the Strategy.**

m. **Prior to occupation of the development, the provision of percent for art being provided in accordance with Local Planning Policy 1.6 - Public Art for Major Developments to the satisfaction of the Shire.**

n. **Arrangements being made with the Shire of Serpentine Jarrahdale for the landowner/ applicant to contribute towards the costs of providing common infrastructure, as established through Amendment 208 (once gazetted) to Shire of Serpentine Jarrahdale Town Planning Scheme No. 2.**

o. **Prior to issue of a Building Permit, the landowner/applicant contributing towards development infrastructure, pursuant to the Shire of Serpentine Jarrahdale Town Planning Scheme No. 2.**

p. **Prior to issue of a Building Permit, a Construction Management Plan is to be submitted to and approved by the Shire of Serpentine Jarrahdale. The Plan should address the following matters:**

   (i) Management of car parking, delivery vehicles and traffic associated with the construction of the development.

   (ii) Management of dust and noise.

q. **Prior to operation of the development, a suitable pedestrian crossing treatment comprising of crossing lights shall be provided between the subject land and the public open space on the north side of Indigo Parkway, to the satisfaction of the Shire on advice of Main Roads WA (who will be required to separately approve such crossing treatment and lights).**

CARRIED 6/3

Councillor Coales, in accordance with Section 5.21(4)(b), Local Government Act 1995 requested the votes be recorded.
Councillors Atwell, Byas, Dagostino, Mack, Strange and Strautins voted FOR the motion.
Councillors Rich, Coales and Duggin voted AGAINST the motion.

Reason for difference to Officer Recommendation

The inclusion of pedestrian crossing lights in consideration of Local Planning Policy 4.24 and the Department of Planning, Lands and Heritage Planning Bulletin 72/2009.

BRIGGS ROAD, LOTS 59, 60, 61 AND THOMAS ROAD, LOTS 62, BYFORD – PROPOSED GROUPED DWELLINGS AND ASSOCIATED COMMUNAL FACILITIES (LIFESTYLE VILLAGE)

Form 1 – Responsible Authority Report
(Regulation 12)

DAP Name:	Metro Outer Development Assessment Panel	
Local Government Area:	Shire of Serpentine Jarrahdale	
Applicant:	Allerding & Associates	
Owner:	Oyster Reef Holdings Pty Ltd & Valma Gwendoline Hicks	
Value of Development:	$22 million ☒ Mandatory (Regulation 5) ☐ Opt In (Regulation 6)	
Responsible Authority:	Shire of Serpentine Jarrahdale	
Authorising Officer:	Director Development Services	
LG Reference:	PA23/177	
DAP File No:	DAP/23/02460	
Application Received Date:	15 March 2023	
Report Due Date:	12 June 2023	
Application Statutory Process Timeframe:	90 Days	
Attachment(s):	1. Development Plans 2. Summary of Submissions 3. Clause 67 Assessment 4. Council Minutes	
Is the Responsible Authority Recommendation the same as the Officer Recommendation?	☒ Yes ☐ N/A	**Is the Responsible Authority Recommendation the same as the Officer Recommendation?**
	☐ No	Complete Responsible Authority and Officer Recommendation sections

Responsible Authority Recommendation

That the Metro Outer Development Assessment Panel resolves to:

1. APPROVE DAP Application DAP/23/02460 and accompanying plans (**attachment 1**) in accordance with Clause 68 of Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015,* and the provisions of Shire of Serpentine Jarrahdale Town Planning Scheme No. 2 subject to the following conditions:

a. The development is to be carried out in compliance with the plans and documentation listed below and endorsed with the Shire of Serpentine Jarrahdale stamp, except where amended by other conditions of this consent.

Plans and Specifications	Development Plans (P1) dated 19 April 2023. Bushfire Management Plan (P2) dated 3 March 2023. SPP5.4 Acoustic Assessment (P3) dated 3 March 2023. Stormwater Management Strategy (P4) dated February 2023. Transport Impact Statement (P5) dated 20 April 2023.

b. Prior to the issue of a Building Permit, an amended Local Water Management Strategy is to be prepared by the applicant to the satisfaction of the Shire, on advice of the DWER. The amended Local Water Management Strategy is required to:

   i. Incorporate the approved development design structure;

   ii. Include details on the expected volumes of stormwater runoff generated from the development design;

   iii. Include clear quantification calculation to inform the land required for stormwater conveyancing and storage;

   iv. Include cross-sections of stormwater infrastructure and how proposed open space is to be irrigated.

   If the amended Local Water Management Strategy requires structural changes to the layout of the development, these are required to be reflected in the plans which are taken forward to physical construction of the development.

c. Prior to issue of a Building Permit and subsequent to condition (b) being complied with, an updated Urban Water Management Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. This is required to address the following aspects to the satisfaction of the Shire:

   i. The capacity of the drainage infrastructure, including contingency for significant storm events;

   ii. How the swales will direct water through obstacles such as road reserves, driveways and the acoustic wall on the north lot boundary;

   iii. The location of the southern row of dwellings being positioned in the floodway of the drain to the south of site;

   iv. The management measures to be employed to ensure water quality is maintained;

   v. How much fill is necessary to be imported into site; and

   vi. What measures will be in place to ensure the survivability or replacement of vegetation within the swales and ‘rain gardens’.

   Once approved, development shall be in accordance with the Urban Water Management Plan.

d. Prior to the issue of a Building Permit or approval of earthworks / civil plans (whichever comes first), updated development plans shall be submitted to and approved by the Shire of Serpentine Jarrahdale which depict the following being undertaken as part of the development:

   i. A new footpath being extended on the eastern side verge of Briggs Road to link the development to the existing footpath on Larsen Road;

ii. The verge abutting the subject land being upgraded to an urban standard, to match the verge standard approved as part of the adjoining resident subdivision on the western side of the Briggs Rd;

iii. The landscaping and drainage design of the multiuse corridor, in order to reflect the continuation of the design elements located western of the subject land, namely central living stream, offline vegetated swales, lighting and pathways;

iv. Any structural adjustments required as a result of the updated Local Water Management Strategy.

Once approved, the applicant must undertake and complete all infrastructure upgrade works prior of the commencement of the development's operations.

e. Prior to issue of a Building permit, engineering drawings and specifications for the construction of internal roads, parking areas, circulation areas and detailing the connection with the existing Briggs Road are to be submitted and approved by the Shire of Serpentine Jarrahdale. Once approved, the applicant must undertake and complete all works prior of the commencement of the development's operations.

f. Prior to the issue of a Building Permit, the applicant to provide an artwork concept for consideration and approval, which reflects the Local Planning Policy 1.6 - Public Art for Major Development, to the satisfaction of the Shire of Serpentine Jarrahdale.

g. Prior to issue of a Building Permit, a Tree Survey and Landscape Management Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. The Landscape Management Plan must also demonstrate detailed design for the Multiple Use Corridor, as referenced by condition c(iii) above. Once approved, the Landscape Management Plan shall be implemented and maintained thereafter to the satisfaction of the Shire of Serpentine Jarrahdale.

h. Prior to issue of a Building Permit, a Schedule of Colours and Materials shall be submitted for approval for the communal buildings and for the future housing options. Once approved, development shall be constructed in accordance with the approved Schedule of Colours and Materials.

i. Prior to issue of a Building Permit, a Local Development Plan shall be submitted to the Shire of Serpentine Jarrahdale including the layout of each lot and any proposed variations to State Planning Policy 7.3 Residential Design Codes (Volume 1).

j. Prior to issue of a Building Permit, drawings and specifications of the 2.4m noise wall is to be submitted to the Shire of Serpentine Jarrahdale for approval. The noise wall must demonstrate the 'Internal and External Noise Target of State Planning Policy 5.4 Road and Rail Noise' being achieved at all times. Once approved, the noise wall must be fully constructed prior to operation of the development.

k. Prior to issuing of a Building Permit, arrangements being made with the Shire of Serpentine Jarrahdale to the satisfaction of the Western Australian Planning Commission, for the landowner/applicant to contribute towards the costs of providing community and/or common infrastructure, as established through Amendment 208 (when gazetted) to the Shire of Serpentine Jarrahdale Local Planning Scheme No. 2.

l. The landowner/applicant contributing towards development infrastructure provisions, pursuant to the Shire of Serpentine Jarrahdale Local Planning Scheme No. 2.

m. Prior to occupation, vehicle parking, manoeuvring and circulation areas shall be suitably constructed, sealed (asphalt, concrete or brick pavers), drained, kerbed, marked (including disabled bays) and thereafter maintained.

n. Prior to issue of a Building Permit, a Waste Management Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. The Plan must demonstrate how bin collection by private contractor means will be undertaken at all times, given the design of the movement network restricts access by Shire refuse vehicles. Once approved, the Waste Management Plan shall be adhered to at all times.

o. Prior to the issue of a Building Permit, plans shall be provided demonstrating an additional emergency access way for residents to the northern portion of the site to Briggs Road. Once approved, the emergency access way shall be constructed in accordance with the approved plans prior to the completion of the works.

p. Prior to issue of a Building Permit, the subject lands are to be amalgamated.

q. Upon full development and landscaping of the Multiple Use Corridor which is required prior to the commencement of development operation, the Multiple Use Corridor shall be ceded to the Shire at the cost of the applicant, via a subdivision process.

r. Prior to commencement of works, a Lighting Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. The Lighting Plan shall ensure lighting aligns with expected amenity within a residential area at all times, including the Multiple Use Corridor and footpath link to Larsen Road. Once approved, the Lighting Plan shall be adhered to at all times.

s. Prior to the issue of a Building Permit, a revised Traffic Impact Statement shall be submitted to and approved by the Shire of Serpentine Jarrahdale. The revised Traffic Impact Statement shall provide detailed designs of the following:

    i. Design of trailer and caravan parking areas;

    ii. Pedestrian connection points to the surrounding Byford network;

    iii. Design of pedestrian, gopher and cycling facilities; and

    iv. Turning templates provided and provision made for the safe manoeuvring of waste vehicles.

t. Prior to the issue of a Building Permit, an updated Bushfire Management Plan shall be prepared and submitted to the Shire for its assessment and approval, based on advice from the Department of Fire and Emergency Services. This is required to depict;

    i. the location of the clubhouse being swapped with the location of the bowling green, such that the former is locations outside of the flame zone area;

    ii. re-examination of vegetation plots and any associated updates to the contour mapping;

    iii. a development wide fire response and evacuation plan which details the arrangements for evacuation during an emergency, as well as the

consideration for prioritising the most vulnerable residents to locations furthest away from the eastern adjoining reserve.

Details: outline of development application

Region Scheme	Shire of Serpentine Jarrahdale Town Planning Scheme No.2
Region Scheme - Zone/Reserve	Urban Development
Local Planning Scheme	Lots 59-62 Briggs Road, Byford Local Structure Plan
Local Planning Scheme - Zone/Reserve	Residential, Public Open Space and Multi Use Corridor
Structure Plan/Precinct Plan	'AA' (discretionary)
Structure Plan/Precinct Plan - Land Use Designation	8.7827 hectares
Use Class and permissibility:	'Residential – Single House' and 'Vacant land'
Lot Size:	No
Existing Land Use:	Shire of Serpentine Jarrahdale Town Planning Scheme No.2
State Heritage Register	Urban Development
Local Heritage	☒ N/A ☐ Heritage List ☐ Heritage Area
Design Review	☒ N/A ☐ Local Design Review Panel ☐ State Design Review Panel ☐ Other
Bushfire Prone Area	Yes
Swan River Trust Area	No

Report Purpose:

The purpose of this report is for Council to consider a Responsible Authority Report (RAR) (**attachment 1**) prepared for a development application for a Lifestyle Village in the form of a 'Grouped Dwelling' development at Lots 59, 60, 61 Briggs Road and Lot 62 Thomas Road, Byford. The application proposes the creation of 202 lots, incidental communal facilities, full internal road system, landscaped areas and elements of the southern multiple use corridor. The application includes elevations and several design options of dwellings for approval to be made available for future purchasers of the lots.

The physical works associated with the dwellings do not form part of this application, given the range of choices that purchasers have in terms of dwellings. The selection of final dwellings is ultimately sales led and purchasers select a home from the range of designs and also the lot they wish to locate it upon. As such, a site plan showing the layout of each dwelling has not been provided at this stage, but will form the basis of a future LDP process once approval for this application has been granted.

The application has a development value of more than $10 million, and therefore is required to be determined by the Metro Outer Joint Development Assessment Panel

(MODAP). The MODAP will replace Council as the decision-making authority for the application in accordance with the *Planning and Development (Development Assessment Panels) Regulations 2011*. The report is presented to Council to consider the RAR that will be presented to the MODAP, consistent with established delegations.

The proposal is consistent with the existing and future planning framework and as a result, the RAR (**attachment 1**) recommends that the application be approved subject to conditions. The development reflects the intent of the approved structure plan for the land, which designates the land for aged and dependent persons development. The lifestyle village will provide a development solution for particularly a full range of aged persons, being accessible by ages 55 and upwards.

Background:

Existing Development

The subject site of four parcels of land with a total area of approximately 8.78ha, is located within Byford, to the south of Thomas Road and to the east of Briggs Road. The subject site is zoned 'Urban Development' under Town Planning Scheme No. 2 (TPS2) and is designated 'Residential' under the Byford District Structure Plan (DSP) and the Local Structure Plan (Lots 59-62 Briggs Road, Byford) (LSP).

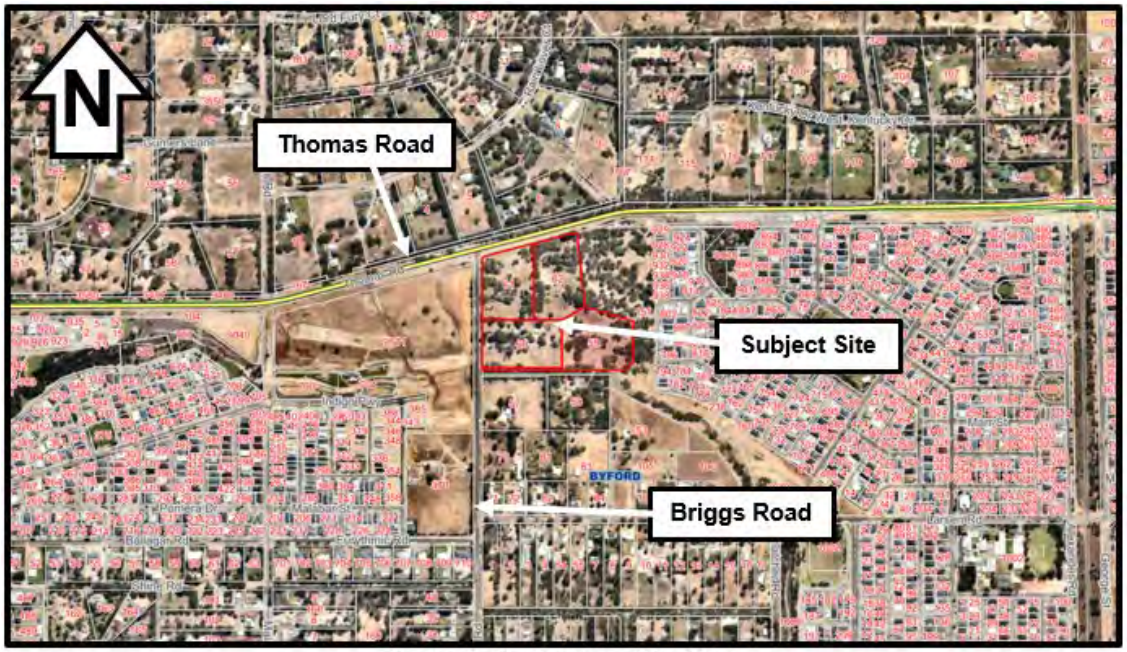


Figure 1: Aerial Locality Plan

Proposed Development

The application seeks approval for a 'Lifestyle Village' in the form of a 'Grouped Dwelling' development with incidental communal aspects, and includes the following components:

- Creation of 202 lots;
- Clubhouse, including a swimming pool;
- Lawn bowling greens;
- Pottery shed;

- Community garden;
- Workshop;
- Arts and crafts building;
- Parking spaces for boats and caravans
- Multiple use corridor and drainage reserve; and
- Internal streets and landscaping areas.

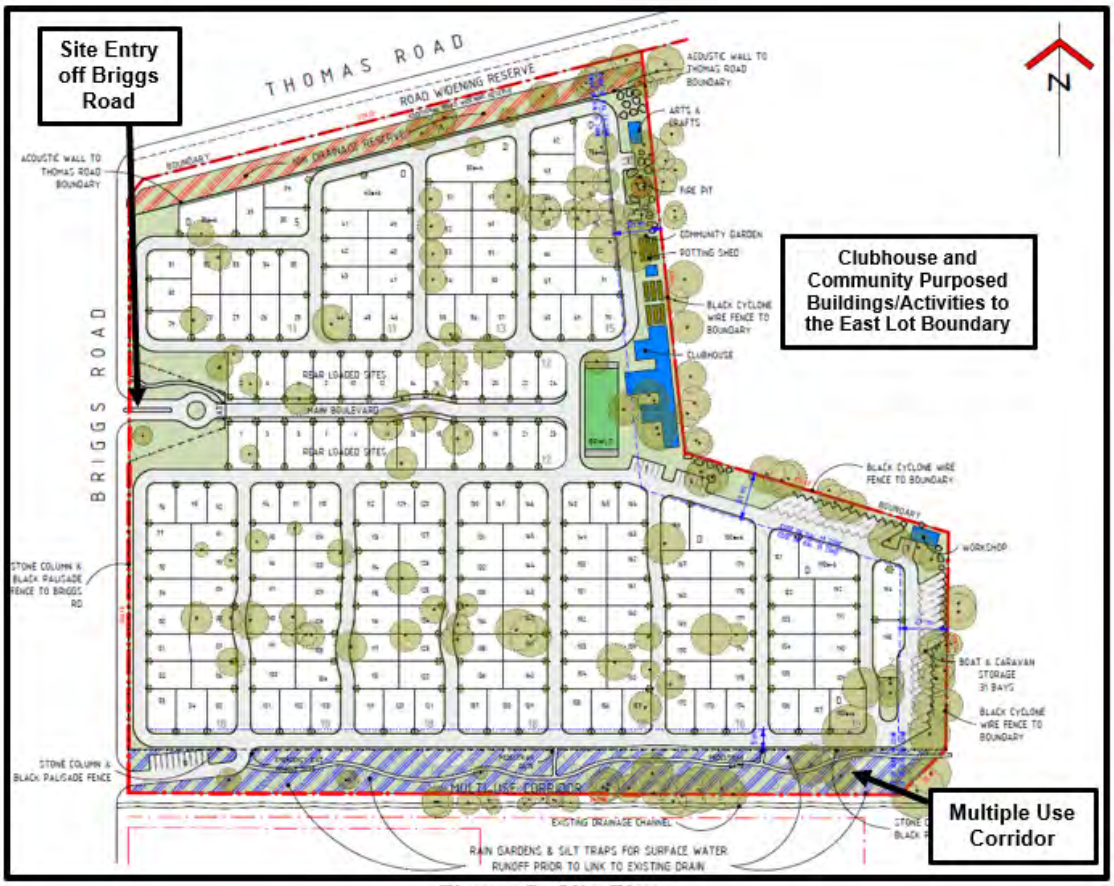


Figure 2: Site Plan

Figure 3: Plans of two of the ten designs

Full details of the development are contained within **attachment 2**.

Legislation and Policy:

Legislation

- *Planning and Development Act 2005*
- *Planning and Development (Local Planning Schemes) Regulations 2015*
- *Environmental Protection (Noise) Regulations 1997*
- Metropolitan Regional Scheme

State Government Policies

- South Metropolitan Peel Sub-Regional Framework Towards Perth and Peel 3.5 Million
- State Planning Policy 7.3 - Residential Design Codes (Volume 1) (R-Codes)

Local Planning Framework

- Shire of Serpentine Jarrahdale Local Planning Strategy (Strategy)
- Shire of Serpentine Jarrahdale Town Planning Scheme No.2
- Draft Shire of Serpentine Jarrahdale Local Planning Scheme No.3 (LPS3)
- Byford District Structure Plan 2020 (DSP)
- Lots 59-62 Briggs Road, Byford Local Structure Plan (LSP)
- Local Planning Policy 1.4 - Public Consultation for Planning Matters (LPP1.4)
- Local Planning Policy 1.6 - Public Art for Major Developments (LPP1.6)
- Local Planning Policy 2.4 - Water Sensitive Design (LPP2.4)
- Local Planning Policy 4.15 - Bicycle Facilities Policy (LPP 4.15)
- Local Planning Policy 4.16 - Landscape and Vegetation Policy (LPP4.16)
- Local Planning Policy No 24 - Designing Out Crime (LPP24)

Consultation:

The application was advertised for a period of 28 days from 28 March 2023 to 25 April 2023 to surrounding landowners within a 500m radius of the subject site, in accordance with LPP1.4 – Consultation for Planning Matters. The application was also advertised on the Shire's website for the same period. At the conclusion of the consultation, five submissions were received, consisting of three submissions either objecting or raising concerns with aspects of the proposal. Two submissions were received either in support of the proposal, or did not object to it.

The objections and concerns relate to the following issues which are discussed under the relevant headings of the report:

- Noise - The concerns about noise have been addressed in the Form of Development and Amenity section of this report.
- Traffic - The concerns about traffic have been addressed in the Traffic section of this report.
- Density - Consideration has been given to the density of the development within the Local Structure Plan section of this report.
- Loss of privacy - A concern raised was that due to the increase in density, there would be a loss of privacy for residents to the south. Officers however consider that the development would be separated to the south by the Multiple Use Corridor

public open space reserve and a drain. A condition is also recommended to facilitate a future Local Development Plan, which would address interface of development to the MUC.

- Rural amenity - Despite the concern regarding the loss of rural amenity, it is noted that the approved Local Structure Plan sets the amenity expectation that residential development would occur on this site in the future. The design of the development is dealt with in the form of development and amenity section.

A summary of the submissions received, including the applicant's response and Officer comments, is contained within **attachment 2**.

Main Roads Western Australia (MRWA)

The application was referred to MRWA for a period of 42 days. MRWA, in their letter dated 11 April 2023, indicated they were unable to provide a recommendation on the proposal due to requiring a Traffic Impact Statement (TIS). A TIS was supplied to the Shire and forwarded to MRWA on 24 April 2023.

As it stands, MRWA's position remains one of non-support and the Shire has not received any updated referral response to advise otherwise. The Shire has previously been advised that as of 30 May 2022, Thomas Road from Rockingham Road to South Western Highway is under RWA administration. However, at the time of writing, this portion of Thomas Road remains an Other Regional Road (blue road) under the MRS and the Shire has delegation to provide a recommendation to the DAP in accordance with Delegated Instrument 2017/02 in this instance.

Department of Fire and Emergency Services (DFES)

DFES has provided a submission requiring modifications to the Bushfire Management Plan in relation to vegetation classification and other matters. Furthermore, DFES has discussed a redesign of the development to increase the setback between the bushfire hazard and habitable buildings (clubhouse). A condition is recommended for an updated BMP to be prepared to the satisfaction of the Shire, as well as relocation of the clubhouse facility.

Department of Water and Environmental Regulation (DWER)

The application was referred to DWER for a period of 42 days. DWER, in their submission, have provided comments in relation to the departure of the proposal from the approved Local Water Management Strategy (LWMS) and recommended a condition requiring this to be updated. A condition has been recommended in this regard. Furthermore, advice has been provided for the applicant in relation to clearing of vegetation and obtaining a groundwater license. This has been passed on to the applicant.

Department of Planning Lands and Heritage (DPLH)

DPLH Westport Division advised that they have no comments on this application. DPLH Land Use Planning Division did not make a submission.

Water Corporation

Water Corporation have provided advice for the applicant regarding connection to reticulated water and sewerage, which has been passed on to the applicant.

Planning Assessment:

Clause 67 of the Deemed Provisions lists matters to be considered in the determination of development applications. A full assessment was carried out against the planning framework in accordance with Clause 67 of the Deemed Provisions which can be viewed within **attachment 3**.

Town Planning Scheme No.2 (TPS2)

The subject site is zoned 'Urban Development' under the Shire's TPS2. Clause 5.18 of TPS2 sets out the objective of the 'Urban Development' zone as *"to provide for the orderly planning of large areas of land in a locally integrated manner and within a regional context, whilst retaining flexibility to review planning with changing circumstances"*. This objective is facilitated through the preparation of structure plans, which guide land use permissibility and development.

The subject site is identified as 'Residential Low (Suburban): R20-R35' within the Byford District Structure Plan 2020 (DSP). Further to the DSP, a site-specific Local Structure Plan (LSP) was approved in 2010 which includes a designation of 'Residential'. These designations inform appropriate land uses intended for the site. The development is generally compliant with the LSP provisions which is discussed later in the report.

Local Planning Scheme No. 3 (LPS3)

The site would remain zoned 'Urban Development' under LPS3. The provisions of LPS3 relating to the 'Urban Development' zone also rely on the preparation of a structure plan. As mentioned, the site is subject to an LSP, which has been further considered in the following sections of the report.

Land Use

The proposed development falls within the TPS2 definition of 'Grouped Dwelling' as found within State Planning Policy 7.3 – Residential Design Codes (Volume 1) (R-Codes), which is as follows:

> *"A dwelling that is one of a group of two or more dwellings on the same lot such that no dwelling is placed wholly or partly vertically above or below another, except where special conditions of landscape or topography dictate otherwise, and includes a dwelling on a survey strata with common property."*

The 'Grouped Dwelling' land use is an 'AA' land use within the 'Residential' zone, as designated under the structure plans. This means, "*that the Council may, at its discretion, permit the use*". Therefore, the proposed land use is considered consistent, subject to a merits-based assessment.

Local Structure Plan (Lots 59-62 Briggs Road, Byford) (LSP)

The purpose and objectives of the approved LSP for this site are twofold:

- *To provide a high quality aged or dependent persons' dwellings development within the subject area that will help meet the needs of the frail and ageing in the Byford community.*
- *To provide guidance for future development of the land.*

There is a specific intent for aged or dependent persons, which is met by the application in question. The LSP also provides a general layout of development, to which the proposal generally meets. The lot layout provided within the LSP is shown following:

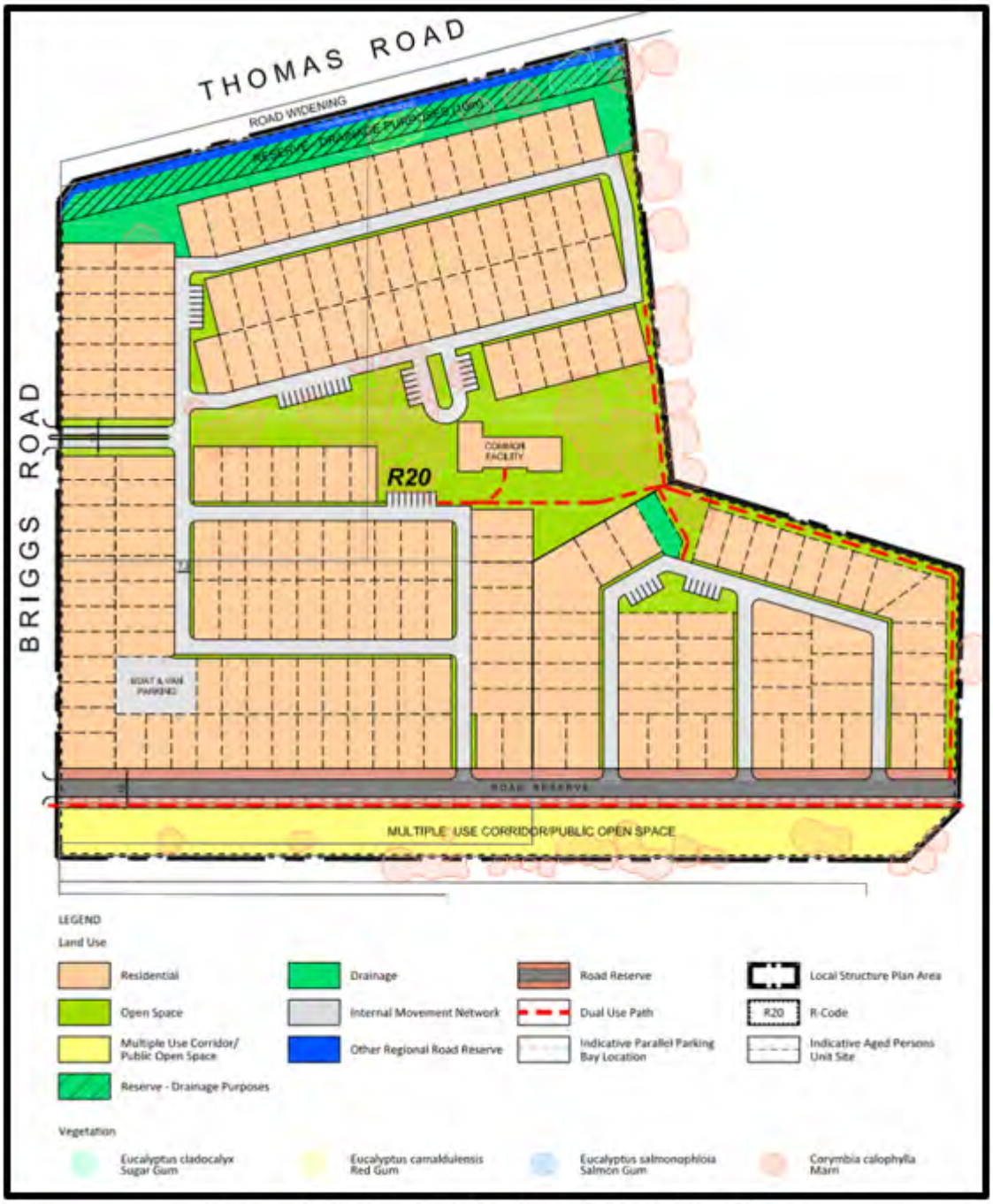


Figure 4: Extract of the Local Structure Plan

While generally consistent, the proposal seeks approval for a modified development layout from the approved LSP. These modifications to the LSP include:

- A reduction in the drainage area to the north of the site, adjacent to Thomas Road from 4,733m^2 down to 2,328m^2;
- Reduced width of the road reserve to the south of the site;
- An increase in the number of dwellings from 196 to 202; and
- An average lot size of 336m^2, whereas the average lot size for the R25 density is 350m^2.

Despite these variations, the LSP is a document that provides guidance to development, and is required to be given regard to in undertaking assessment of the application. The LSP also aims to provide high-quality development for aging members of the community. Officers consider the development meets this intent of the LSP.

Form of Development and Amenity

Clause 67 of the *Deemed Provisions* specifically (m) relates to the form of the development that is required to be assessed. The proposal will ultimately provide 202 dwellings of various designs, across 164 standard sites, 24 rear loaded sites and 14 duplex sites. The selection of dwellings will be sales led and purchasers will select a home from a range of designs and also the lot they wish to locate it on. As such, a site plan showing the layout of each dwelling has not been provided at this stage.

In line with the LSP, the dwellings are intended to meet the requirements of State Planning Policy 7.3 – Residential Design Codes (Volume 1) (R-Codes), specifically in terms of setbacks, open space and outdoor living. This however cannot be fully determined until a sale has occurred and a particular lot and house type chosen. To ensure that each dwelling does not require an individual development application and that sites are afforded an appropriate level of residential amenity, it is recommended that a Local Development Plan (LDP) is prepared for the site to set out relevant planning controls for the area.

The applicant has included an example of what such provisions may look like within the additional information provided. This includes a 1m lot boundary setback requirement and reduced front setbacks for carports. Officers are satisfied that the preparation of an LDP would allow for a process to assess the built form of the development, establish the character of the area and ensure an appropriate level of amenity for residents. A condition is recommended in this regard.

Several dwelling designs have been provided as part of the application, as contained within the attachments. Some examples of these are depicted below:

Figure 5: Series of Dwelling Designs

The dwellings are generally of a contemporary design and simple form typical of development expected in a lifestyle village. The appearance incorporates earthy tones and appears to feature materials consistent with the rural character of the Shire, including timber weatherboard/cladding. The dwellings also include verandahs and pitched roofs consistent with rural building design. It is considered that the information provided demonstrates that the proposed built form would create desirable streetscapes and a consistent approach to development.

The development also proposes a clubhouse (714m^2), workshop (60m^2) and an arts and crafts workshop (60m^2). All these buildings are located along the eastern lot boundary. The workshops are considered modest in scale and sited so as to not adversely impact on the character or amenity of the locality. The clubhouse is larger in scale than the other community facilities, as depicted below:

Figure 6: Perspective of the Clubhouse

This building abuts public open space to the east where there is established vegetation. It is considered that due to the siting, form and external appearance of the clubhouse, it would not adversely impact upon the amenity of the locality or that of surrounding landowners. The design replicates the form and design features of the dwellings proposed.

Noise

Whilst the subject development is not considered noise generating, the site is located in close proximity to Thomas Road, an 'Other Regional Road' designated under the MRWA hierarchy. As such, it is important to ensure that traffic noise from Thomas Road does not adversely impact upon the residential amenity of the occupants of the site.

State Planning Policy 5.4 - Road and Rail Noise (SPP5.4) seeks to ensure that the community is protected from unreasonable levels of transport noise. Table 1 of SPP5.4 sets out distances between a road carriageway and a development site to determine whether an assessment against the policy is required. In this case, the distance is 300m and the site lies within this distance, as depicted below:

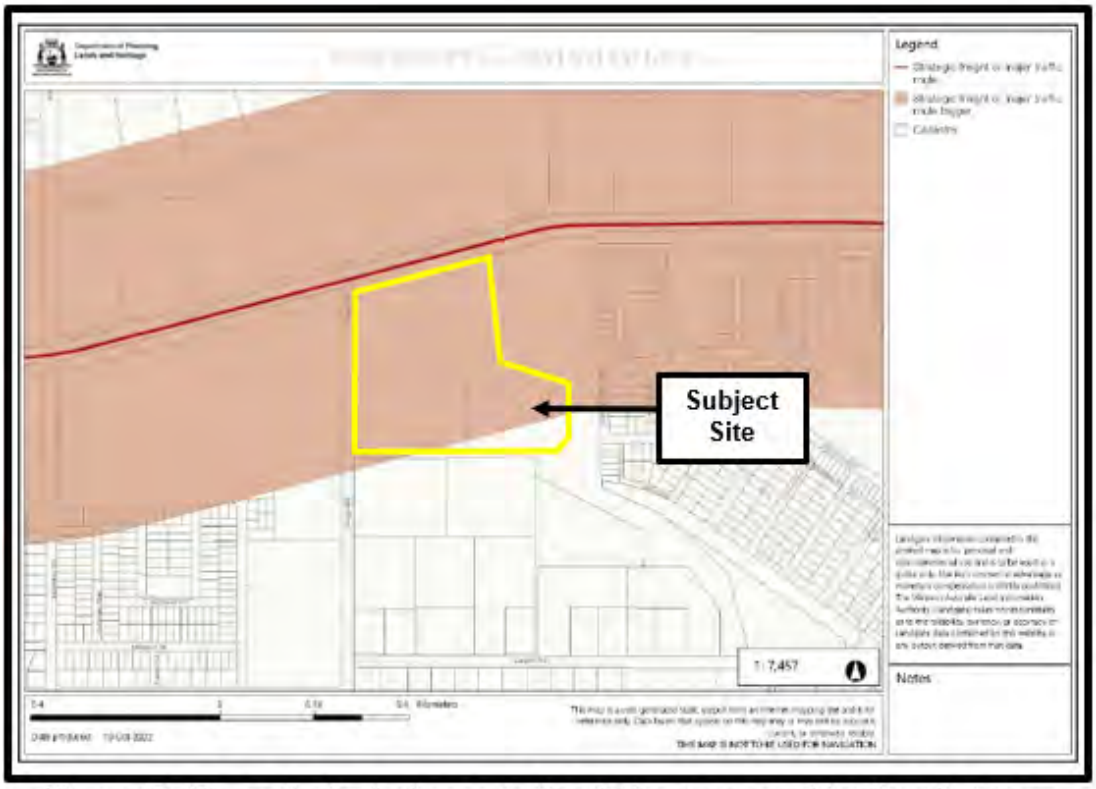


Figure 7: The red shaded area is the 300m transport buffer distance

To support the proposal and ensure consistency with SPP5.4, an Acoustic Assessment has been provided with the application. SPP5.4 sets out noise targets to be achieved for both within the dwelling and on land external to the dwelling. The Acoustic Assessment details that the dwellings located adjacent to Thomas Road would exceed the noise targets and proposes either a 2.4m high noise wall on the boundary facing Thomas Road, or design considerations to lot placement and public open space, combined with individual design by way of Quite House Design.

The proposed site plan indicates a Noise Wall located on the northern boundary adjacent to the drainage reserve. Based on the Acoustic Assessment provided, it is considered that this noise wall will ensure an appropriate level of amenity is afforded to occupants, consistent with SPP5.4. A condition requiring that the noise walls and boundary fencing to be in accordance with Local Planning Policy 4.25 - Uniform Fencing has been recommended by Officers which will address the visual appearance of the wall when viewed from the public realm.

Traffic

Clause 67 of the *Deemed Provisions*, specifically (s) and (t) relate to the ability of the development to manage access and egress arrangements, and whether the traffic generated by the proposal would be suitable considering the local road network. The category of the vehicles associated with the proposed development will predominantly comprise of resident's passenger vehicles and waste collection vehicles.

Several changes are currently being undertaken to the local road network, separate to this development. The section of Briggs Road where this development would take access is yet to be upgraded to an 'urban standard', however engineering plans have been approved which show the upgrade taking place in accordance with the subdivision of land opposite the subject site (Byford Meadows Stage 8). This does not include the section of verge however adjoining the subject land.

In order to address this, it is a standard requirement that the adjoining verge be upgraded as part of development taking place. This is required to match an urban standard, comprising a suitable footpath, drainage improvements, undergrounding of power and landscaping etc. This forms a recommended condition of approval.

In looking beyond Briggs Road, there are a number of planned road upgrades in the locality, which include:

(1) The Thomas Road Upgrade Project is to include a left in left out treatment to the intersection of Thomas Road and Briggs Road;

(2) A solid median strip and left in left out treatment to the intersection of Indigo Parkway and Briggs Road; and

(3) A number of road closure treatments to the Byford road network to reduce through-traffic and 'rat runs' within the Byford Trotting Complex.

These are pictured in the following figure:

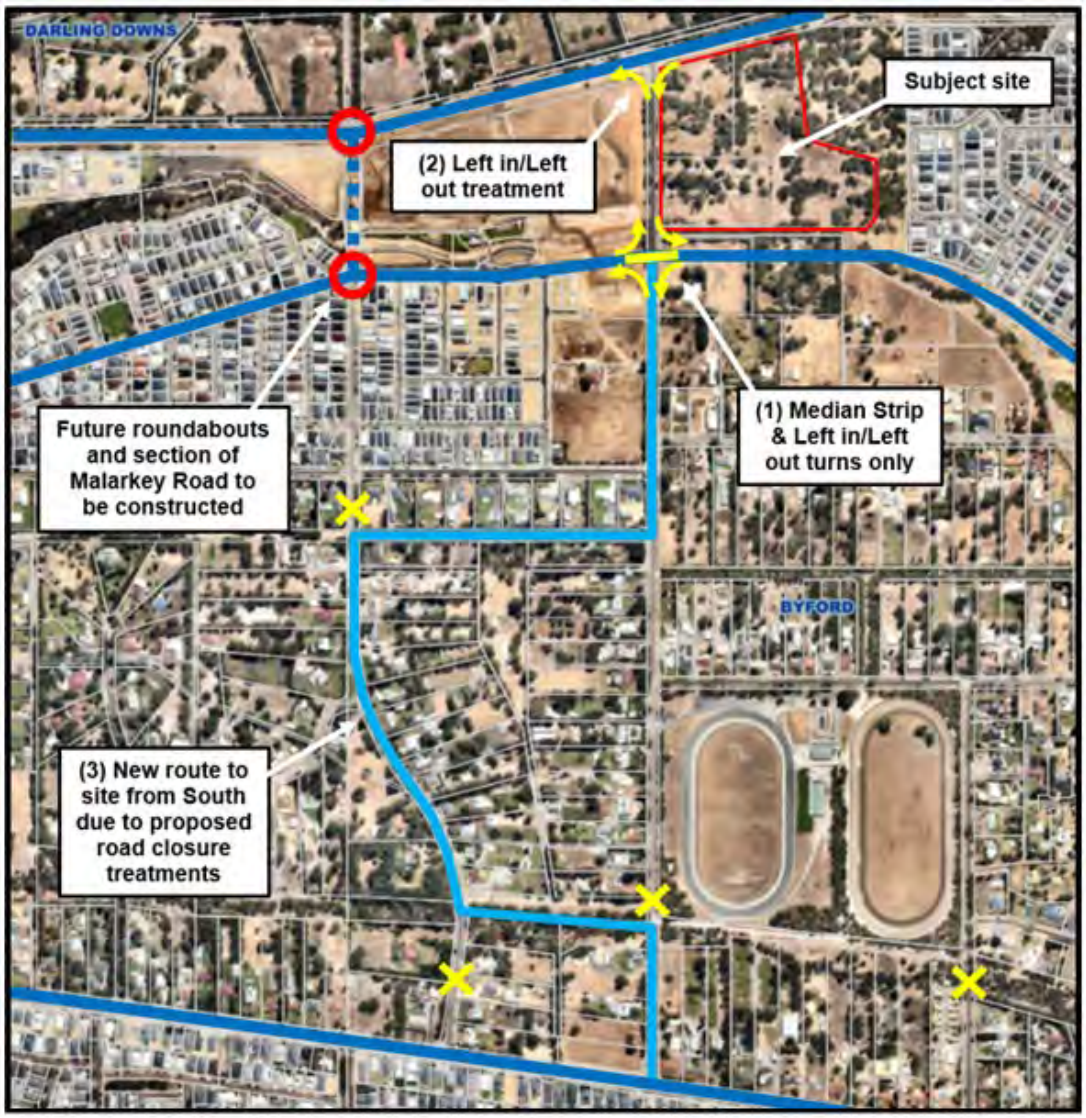


Figure 8: Details of the future road upgrades to the local road network

A Traffic Impact Statement (TIS) has been prepared to address the impact on the existing and future local road network. Submissions during the consultation period were received raising traffic concerns.

The standard trip generation rates for ‘housing for aged and disabled persons’ is less than a standard residential development rate. Therefore, it is considered that the number of vehicles generated by this development is less when compared with the residential development that the LSP initially allowed for. The TIS models that during the morning peak hour it is anticipated that only 40 vehicle movements would be generated by the proposal.

This would not substantially increase the traffic volume on the road network and is unlikely to have an adverse impact in the future. The TIS also concludes that no further upgrades to the local road network are warranted by this development.

Officers generally concur with this finding given the road upgrades taking place as part of the subdivision works for Byford Meadows Stage 8. However, there is a safety issue associated with the lack of an urban standard verge on the eastern verge area adjoining the subject land, and connecting the subject land southwards to the local footpath network on Larsen Rd.

As shown in the following image, the site will be isolated from a safe pedestrian path, and officers consider that this needs to be addressed as part of approval of the development. By including a footpath on the eastern verge that connects south to the existing network along Larsen Rd, elderly residents (specifically) will not be forced to cross Briggs Rd and access the path network being built by the adjoining subdivision. This will enable safer access to amenities like the Byford Town Centre.

As a final note, the TIS also recommends the following matters to be addressed in the detailed design phase. A condition is secured on this basis:

- Design of trailer and caravan parking areas;
- Pedestrian connection points to the surrounding Byford network; and
- Design of pedestrian, gopher and cycling facilities.

Internal Roads and Pedestrian Network

In terms of carriageway widths associated with grouped dwelling developments the State Planning Policy 7.3 - Residential Design Codes (Volume 1) (R-Codes) requires a 12m minimum total width, inclusive of a minimum 5.5m wide road and 1.2m wide footpath. The current layout of the communal streets provides a 6m wide road only. No footpaths are provided apart from on the main boulevard that leads to the communal facility to the east of site. This is detailed below.

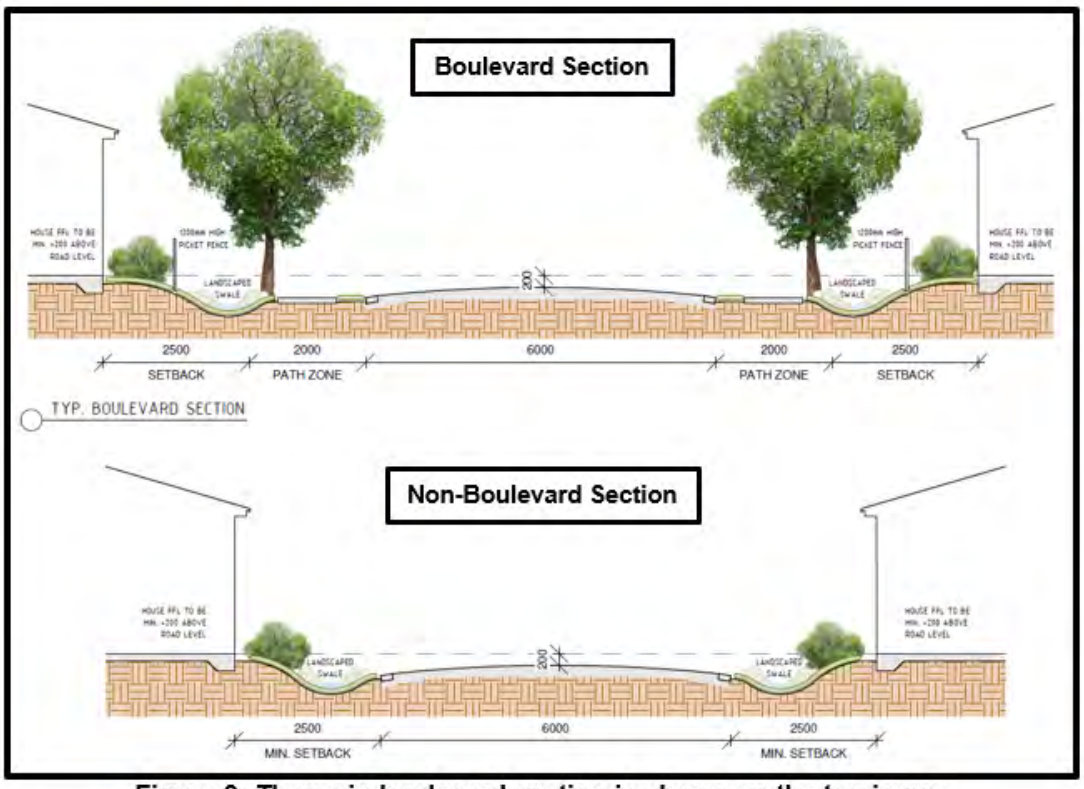


Figure 9: The main boulevard section is shown on the top image and the typical street elevation at the bottom

The applicant proposes that internal roads, as private roads only, will be enforced through their design and development rules, to not exceed a speed limit of 8km/hr. This design and enforced speed regulation in the private estate, will enable safe sharing of space by both vehicles and pedestrians.

Car Parking

Clause 5.3.3 of the R-Codes requires for grouped dwellings, one visitor bay for every four dwellings. The development proposes 51 visitor parking bays for grouped dwelling developments.

<u>Stormwater Management</u>

Clause 67 (q) of the *Deemed Provisions*, relates to the suitability of the land for the proposed development, considering issues of stormwater. The applicant has provided

a Stormwater Management Plan (SWMP) to this effect, which is able to be viewed within **attachment 1**.

The site has a fall of 3m from the high point in the south-east to the low point at the north-west. The site is also classified as a 'flood prone' area, elevating the importance of effective stormwater management.

Figure 10: Existing natural surface/groundwater movement (blue) towards the North-West corner of the lot

The proposal seeks to manage stormwater runoff from the private roads and buildings through a series of roadside drainage swales adjacent to the internal roads of the development. The vegetation within the swales would strip nutrients from the water prior to infiltration.

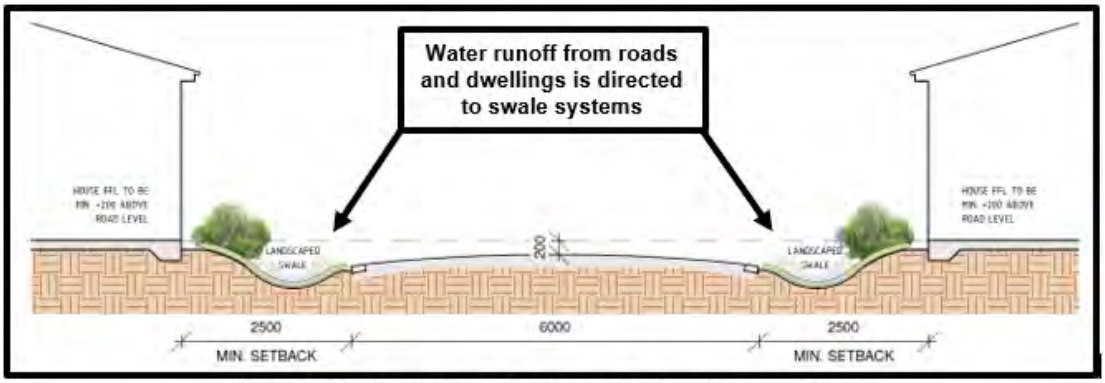


Figure 11: A section of a typical streetscape layout

Water that is not infiltrated will be directed through the swale system to bio retention basins ('rain gardens') and eventually to the drainage infrastructure to the north of the site or the Multiple Use Corridor (MUC) drain to the south of site. This system is pictured below, and reflects the water management aspects contemplated by the approved LSP:

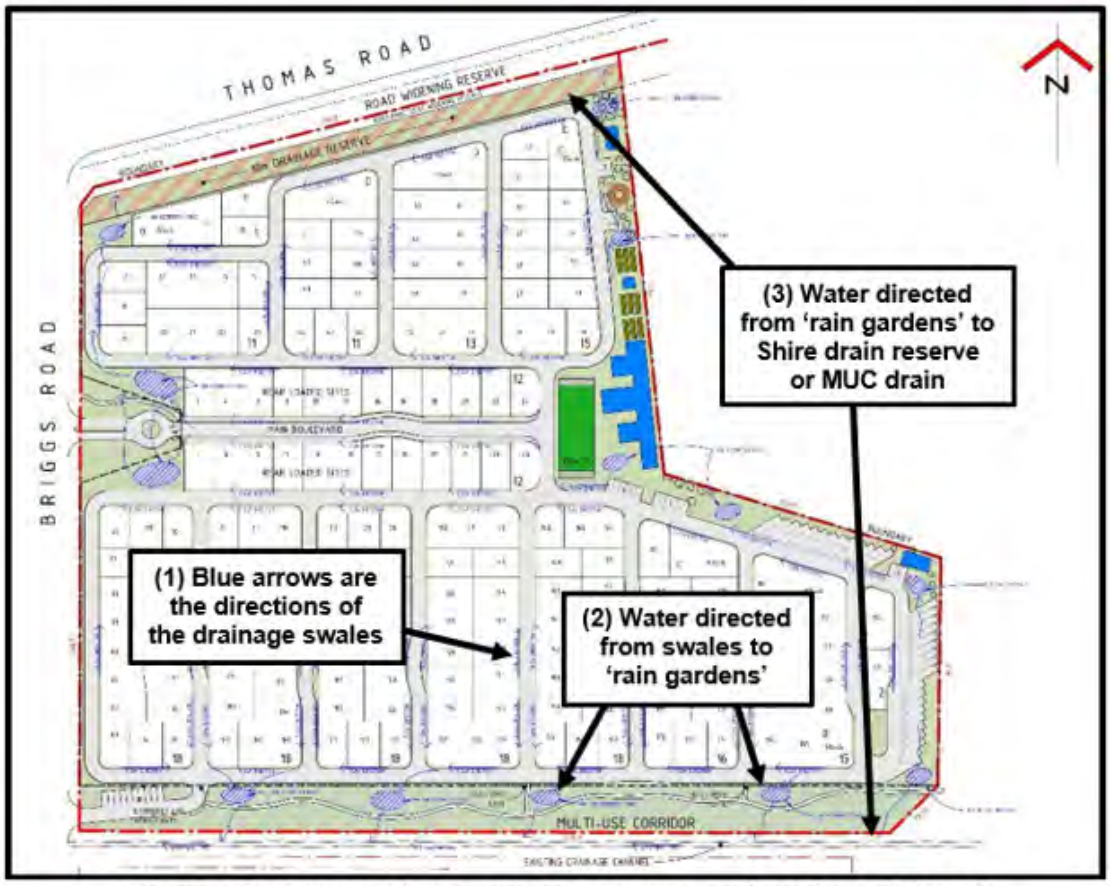


Figure 12: Proposed stormwater management system pictured

The applicant has not at this stage undertaken detailed engineering designs for the development. In order to ensure compliance with the Byford District Water Management Strategy and LWMS prepared as part of the original LSP, a condition is recommended to require an updated LWMS (which reflects also the advice of DWER) and subsequent to this, a detailed Urban Water Management Plan (UWMP). These processes will address the following matters:

- The capacity of the drainage infrastructure, including contingency for significant storm events;
- How the swales will direct water through obstacles such as road reserves, driveways and the acoustic wall on the north lot boundary;
- The location of the southern row of dwellings being positioned in the floodway of the drain to the south of site;
- The management measures to be employed to ensure water quality is maintained;
- How much fill is necessary to be imported into site; and
- What measures will be in place to ensure the survivability or replacement of vegetation within the swales and 'rain gardens'.

Officers consider the above are necessary to ensure appropriate stormwater management takes place.

<u>State Planning Policy 3.7 - Planning in Bushfire Prone Areas (SPP3.7)</u>

The subject site lies within a bushfire prone area and as such, the provisions of SPP3.7 apply which seeks to *"avoid any increase in the threat of bushfire to people, property*

and infrastructure" through a balanced risk-based approach. A Bushfire Management Plan (BMP) was submitted with the application including an assessment against the criteria within the *Guidelines for Planning in Bushfire Prone Areas.* (Guidelines).

Location, Siting and Design:

The BMP demonstrates that a worst-case scenario bushfire attack level (BAL) rating for the dwellings would be BAL-29, consistent with the requirements of SPP3.7. The BAL contour map however identifies that the Clubhouse is within Flame Zone, as depicted below.

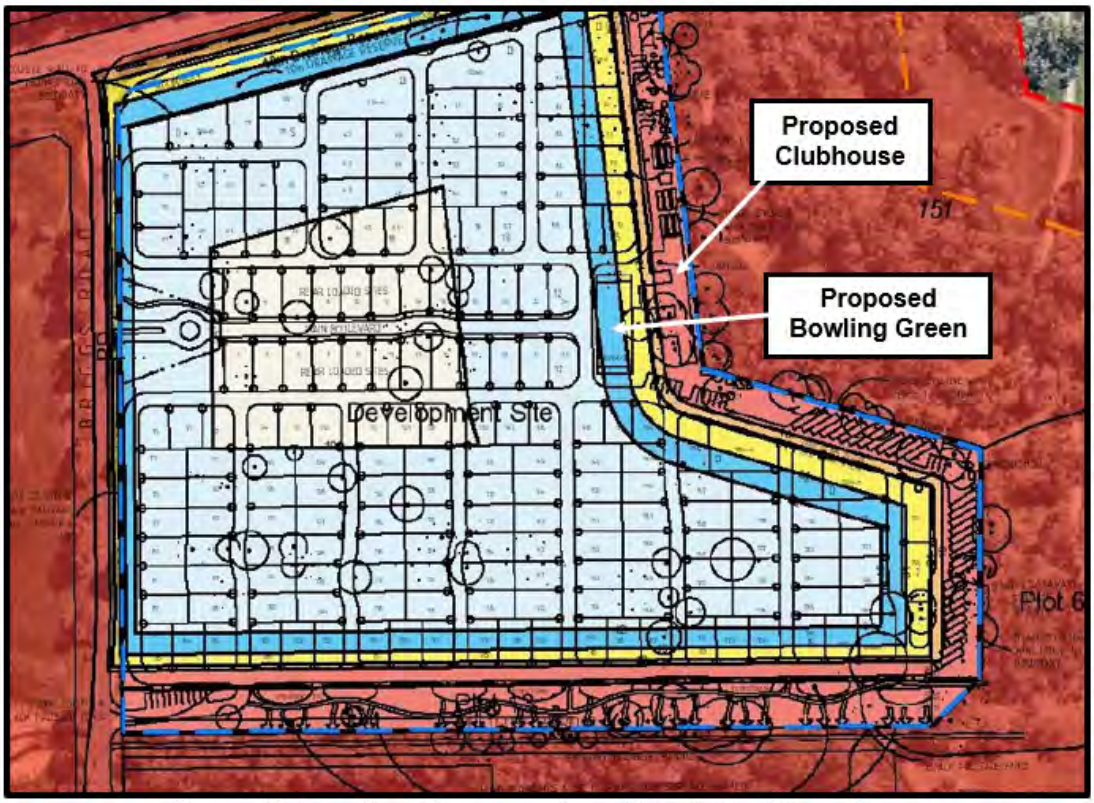


Figure 13: Location of community facilities in the Flame Zone

As the building is considered habitable (where people live, work, study or are entertained), Officers raised this as a concern with the applicant and recommended that the building be relocated to where the bowling green is situated and vice versa. SPP3.7 states that development applications that result in a rating of BAL-40 or Flame Zone will not be supported unless it is considered 'minor development' or 'unavoidable development', which the proposal is not considered.

In response to this, the applicant provided additional information which is summarised as follows:

- The clubhouse is capable of exemption under SPP3.7 as it is incidental to the dwellings and would be used infrequently by residents;
- Bushfire is well managed within these types of lifestyle developments and includes a fire warden, community volunteers to assist with fire safety and response and emergency evacuation plans/muster points;
- The site would be serviced by an independent fire water main;

- The land to the east of the bushfire hazard contains an established residential development. Once the subject development is established the bushfire hazard would be contained by urban development to the west and east and constructed roads, resulting in any bushfire being capable of being responded to immediately; and
- The clubhouse and surrounding structures would have a comprehensive fire alarm system and evacuation process.

Officers consider that the justification provided by the applicant goes further to mitigate the risks associated with bushfire and that it could be appropriately managed. The building would be used by residents of the development who would be aware of their surroundings and the evacuation measures in place should a bushfire occur.

Furthermore, with the availability of reticulated fire hydrants and the new Cardup Career Fire Station targeted to be in operation prior to this development being completed, there is an acceptable risk management approach proposed.

Vehicular Access:

The Guidelines require that vehicular access allows for the provision of public road access in two different directions to at least two suitable destinations. The subject application satisfies this requirement. However, should a bushfire occur within the Flame Zone area to the east, residents located towards the north of the site would be required to travel towards the bushfire before exiting the site onto Briggs Road as depicted below:

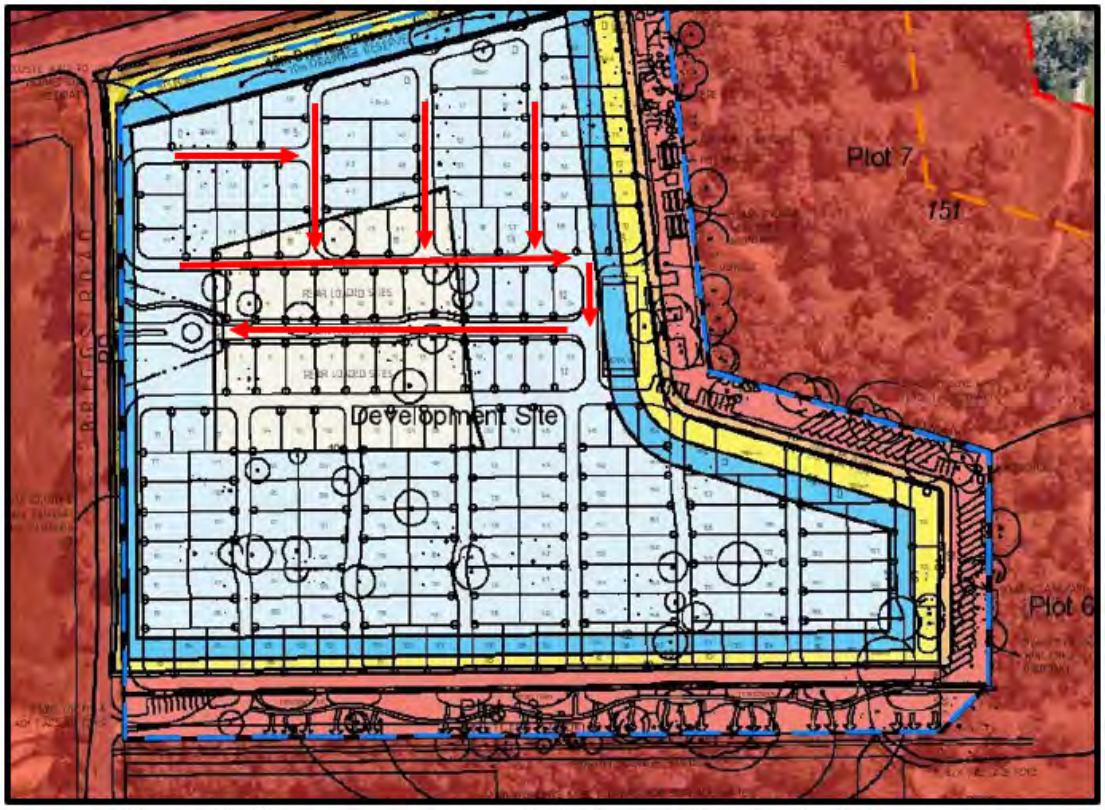


Figure 14: Emergency egress route (red arrows) during bushfire event

Officers recommend to further substantiate the risk, a further emergency access is created for the residents to the north.

Water:

The subject site is serviced by a reticulated water supply enabling the installation of fire hydrants, in accordance with the Guidelines.

Tree Removal

Clause 67 (q) of the Deemed Provisions requires consideration be given to the removal and retention of trees during applications for development approval. Further to this, the criteria of the LSP includes the following:

> *"Future development shall ensure every effort is made to retain existing vegetation within communal open space/drainage areas."*

The existing site features a large number of mature native Marri trees and several Eucalyptus species. In accordance with the LSP, the applicant has aimed to retain vegetation throughout the site and especially the eastern corridor as detailed following. The Multiple Use Corridor to the south of the site would feature a large amount of vegetation planting as well as the retention of existing mature trees.

Figure 15: Site plan detailing vegetation intended to be retained

However, vegetation loss will be required to facilitate development (i.e. the construction of roads, site works and dwellings. While Officers consider the intent of the planning framework is met to seek to retain as many existing trees as possible, it is recommended that prior to lodgement of a Building Permit a detailed Tree Survey is undertaken. The purpose of this would be to determine which trees can be retained, including a Landscaping Plan detailing tree replacement to offset vegetation loss and ensure an appropriate amenity outcome. A condition has been recommended in this regard.

Development Contributions (DCA1)

This development falls within the development contribution area DCA1 (Area A) and as such is required to contribute towards the cost of common infrastructure under the Byford Traditional Development Contribution Plan.

Under a Development Application (as opposed to a subdivision), contributions are calculated on the current lot area on which the development is situated, giving a lot "yield" for the site. The liability to pay the contribution is triggered at the building permit stage, and thus the DCP payment will be applied as a development condition needing to be met prior to the issue of a Building Permit or commencement of civil works, whichever comes first.

Percent for art

A condition is recommended to ensure the necessary per cent for art provision of Local Planning Policy 1.6 is met. There are a range of opportunities in which to address the per cent for art component of the development, including elements surrounding the main driveway and feature external fencing, for example.

Conclusion:

The application seeks approval for a Lifestyle Village in the form of a 'Grouped Dwelling' development. The proposal would provide residential accommodation and community facilities for the aging population of Byford. It is considered that the development is consistent with the planning framework and would not adversely impact the character or amenity of the locality. It is therefore recommended that the MODAP approve the application subject to conditions.

N

THOMAS ROAD

ROAD WIDENING RESERVE

ADDITIONAL ROAD WIDENING RESERVE

228.13

BOUNDARY

10m DRAINAGE RESERVE

EDGE OF BAL 29 ZONE

EDGE OF BAL 19 ZONE

ACOUSTIC WALL TO THOMAS ROAD BOUNDARY

ACOUSTIC WALL TO THOMAS ROAD BOUNDARY

ARTS & CRAFTS

FIRE PIT

21 m

COMMUNITY GARDEN

POTTING SHED

178.14

BLACK CYCLONE WIRE FENCE TO BOUNDARY

CLUBHOUSE

BRIGGS ROAD

GATE

REAR LOADED SITES

MAIN BOULEVARD

2m path

REAR LOADED SITES

BOWLS

3+2

122.07

21 m

BLACK CYCLONE WIRE FENCE TO BOUNDARY

BOUNDARY

EDGE OF BAL 29 ZONE

EDGE OF BAL 19 ZONE

WORKSHOP

STONE COLUMN & BLACK PALISADE FENCE TO BRIGGS RD

263.71

21 m

96.0

BOAT & CARAVAN STORAGE 31 BAYS

BLACK CYCLONE WIRE FENCE TO BOUNDARY

EMERGENCY EXIT VEHICLE GATE

9 m

PEDESTRIAN GATE

PEDESTRIAN GATE

EDGE OF BAL 19 ZONE

EDGE OF BAL 29 ZONE

28.65

STONE COLUMN & BLACK PALISADE FENCE

STONE COLUMN & BLACK PALISADE FENCE

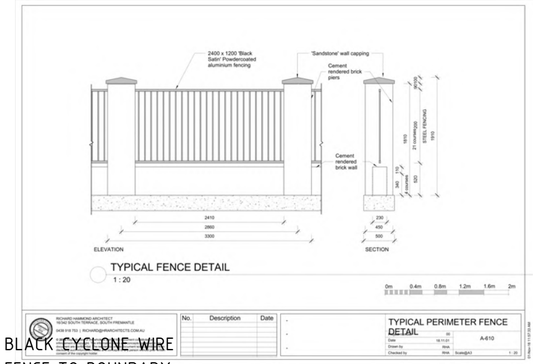
MULTI-USE CORRIDOR

341.95

EXISTING DRAINAGE CHANNEL

RAIN GARDENS & SILT TRAPS FOR SURFACE WATER RUNOFF PRIOR TO LINK TO EXISTING DRAIN

* TO FUTURE DETAIL



	ACOUSTIC WALL (THOMAS ROAD BOUNDARY) 2200mm HIGH MASONRY WALL
	1800mm HIGH BLACK CYCLONE WIRE FENCE
	1800mm RENDERED BRICK COLUMN & BLACK PALISADE FENCE

RICHARD HAMMOND ARCHITECT
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LEGEND

- NEW STREET TREES
- EXISTING TREES TO BE RETAINED

STANDARD SITES	164
REAR LOADED SITES	24
DUPLEX SITES	7 (14)
TOTAL	195 (202)

OVERALL SITE AREA	87,827.3m2
4m ADD. ROAD RESERVE	969.4m2
MULTI-USE CORRIDOR AREA	6875.5m2
DRAINAGE RESERVE AREA	2348.5m2
SITE AREA (EXCLUDING MULTI-USE CORRIDOR, DRAINAGE RESERVE & ADD. ROAD RESERVE)	77,633.9m2
TOTAL OPEN SPACE AREA (EXCLUDING MULTI-USE CORRIDOR, DRAINAGE RESERVE & ADD. ROAD RESERVE)	9,359.2m2

No.	Description	Date

PROPOSED RESIDENTIAL VILLAGE FOR EDENLIFE COMMUNITIES

CNR. THOMAS ROAD & BRIGGS ROAD, BYFORD W.A.

A.001 Masterplan Concept 2

Project number	-
Date	19.04.2023
Drawn by	RHA
Checked by	RHA
Scale @ A2	1 : 1000

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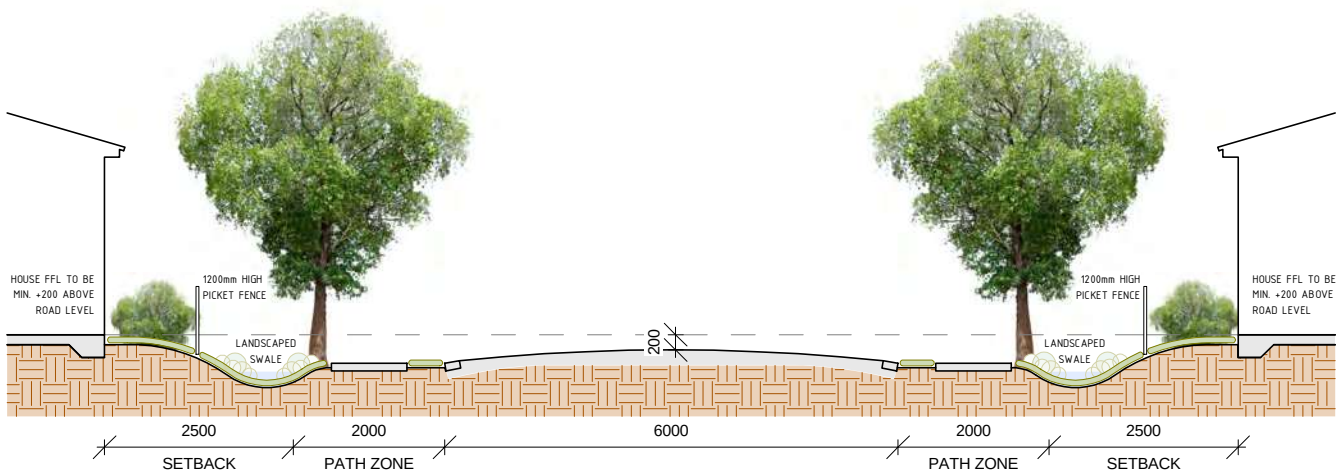
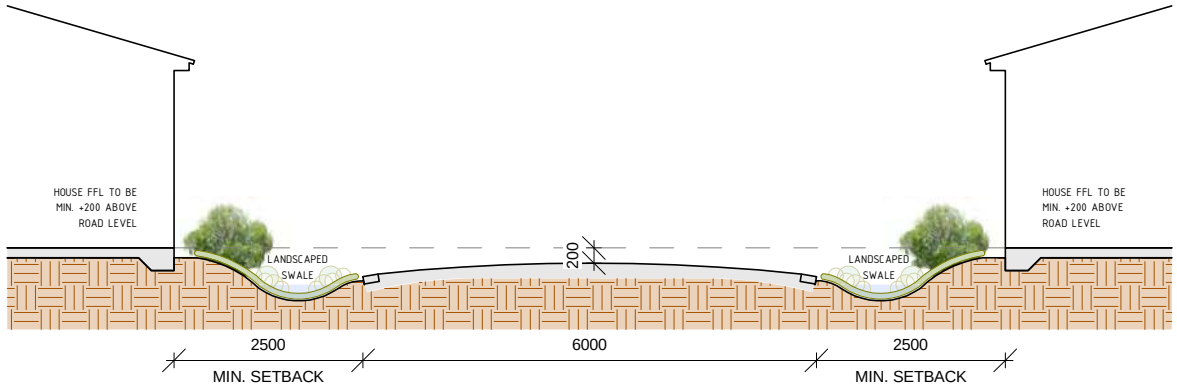


TYP. BOULEVARD SECTION



TYP. STREET SECTION

NOTE: LANSCAPED SWALE MAX. WIDTH 2.0m

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No.	Description	Date

PROPOSED RESIDENTIAL VILLAGE FOR EDENLIFE COMMUNITIES

CNR. THOMAS ROAD & BRIGGS ROAD, BYFORD W.A.

Street Sections

Project number	-
Date	19.04.2023
Drawn by	Author
Checked by	Checker

A.004

Scale@A4 1 : 100

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Typ. SITE PLAN

CNR. THOMAS RD & BRIGGS RD, BYFORD W.A.

Typ. SITE PLAN

Project number	-
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Checked by	RHA

A-100

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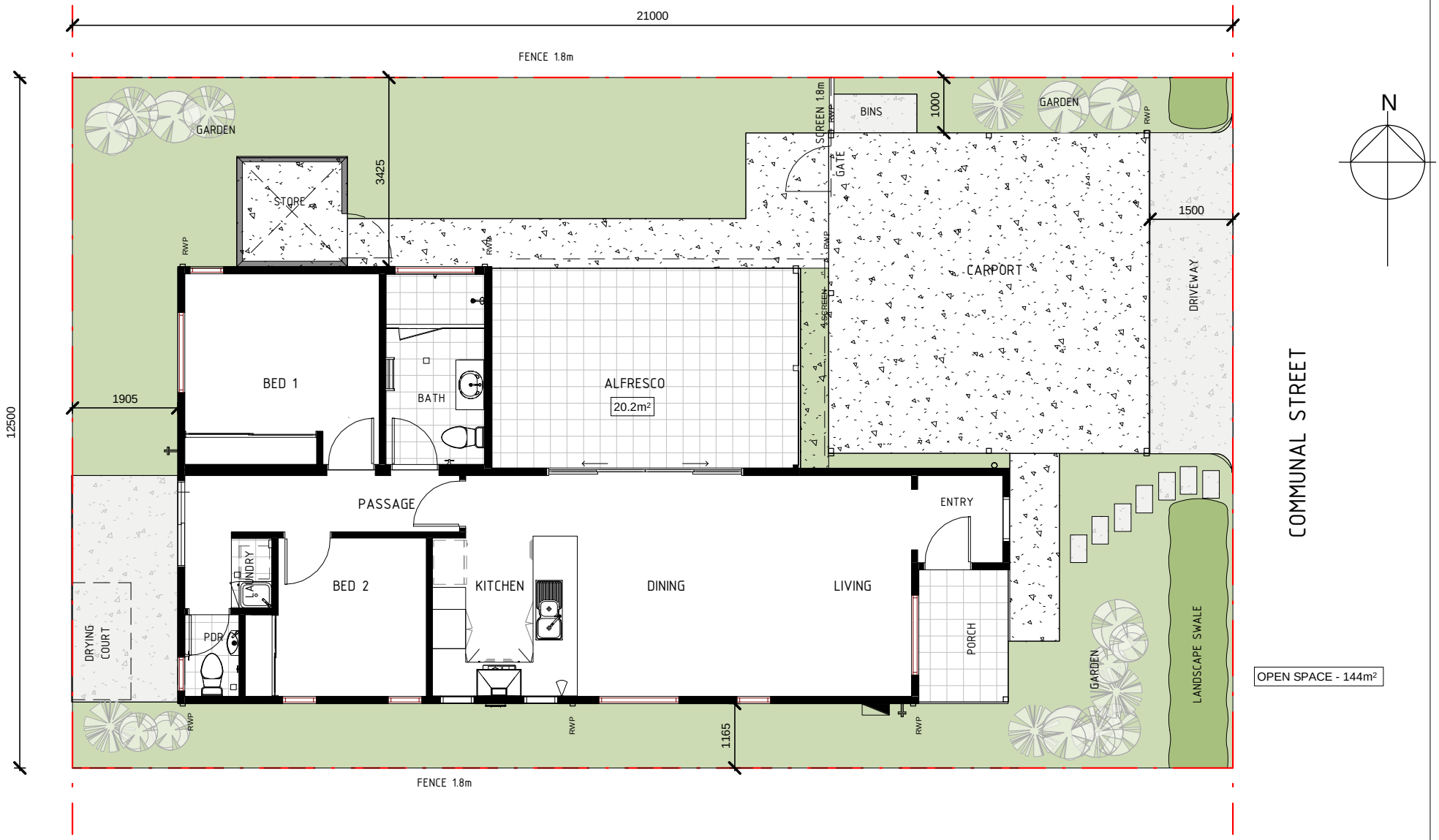

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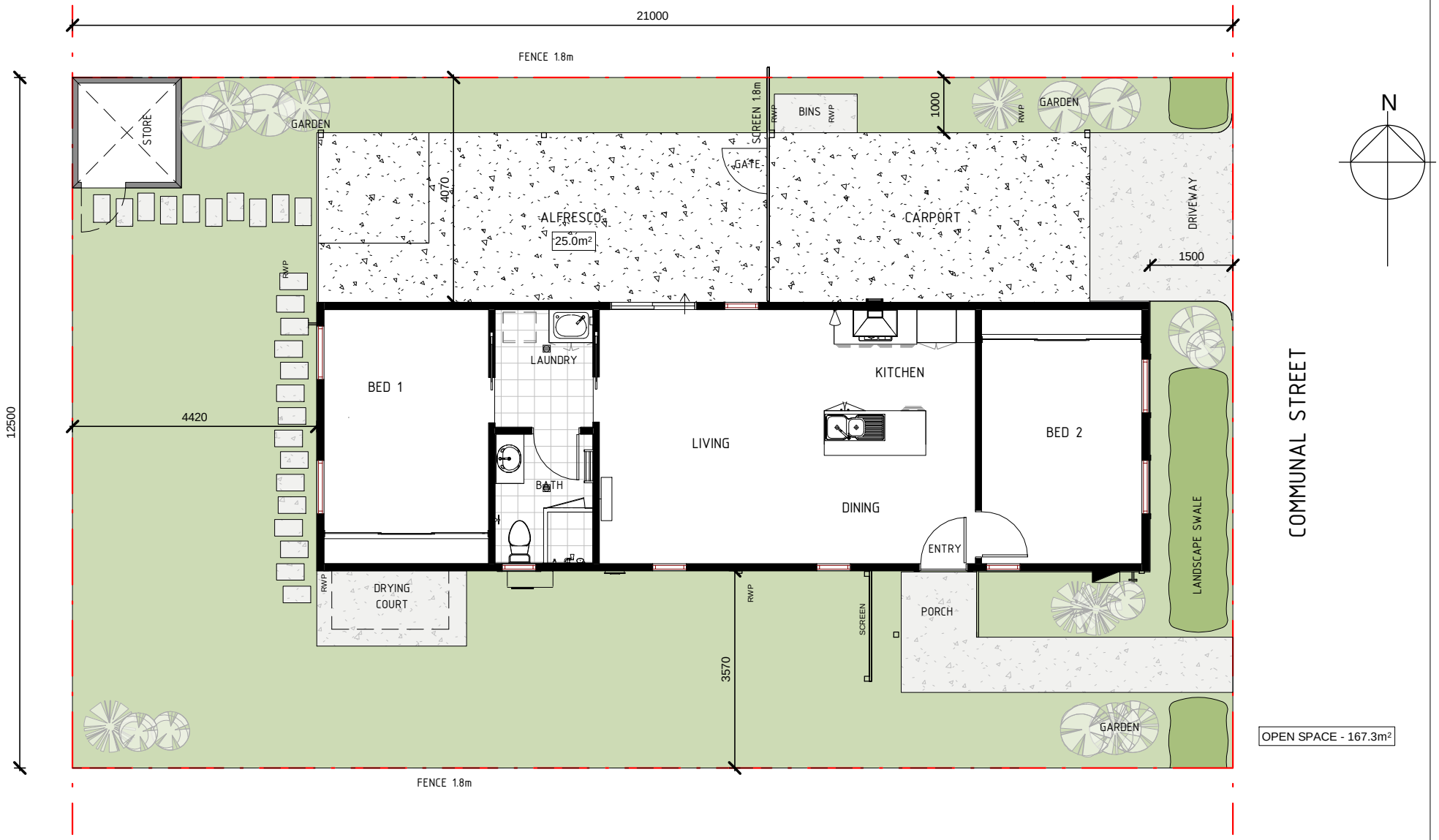

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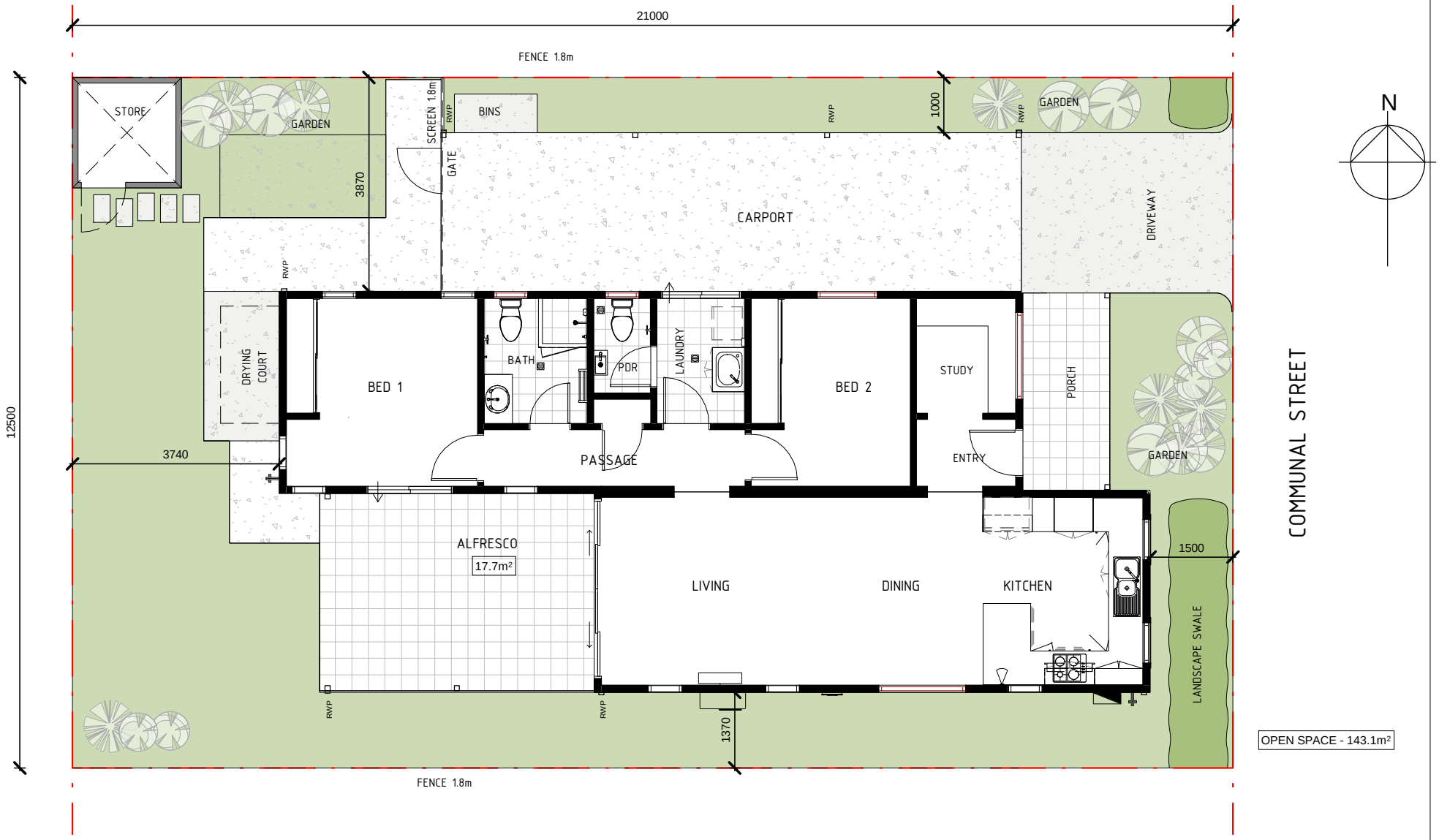

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REAR LOADED SITE PLAN

Project number	-
Date	19.04.2023
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Typ. SITE PLAN - Sandpiper

Project number	-
Date	19.04.2023
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Checked by	RHA

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Checked by	RHA

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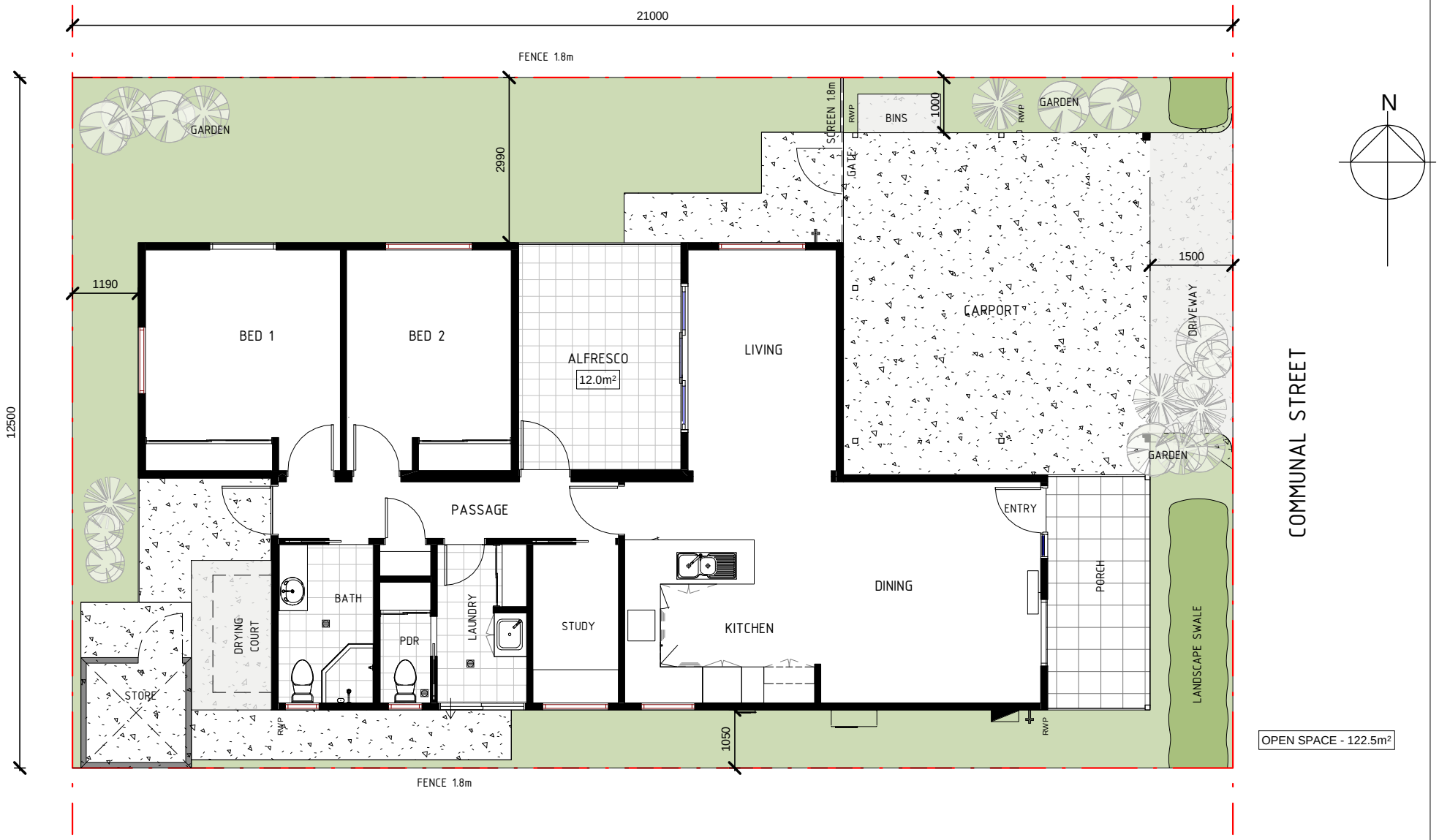

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Typ. SITE PLAN - Currawong

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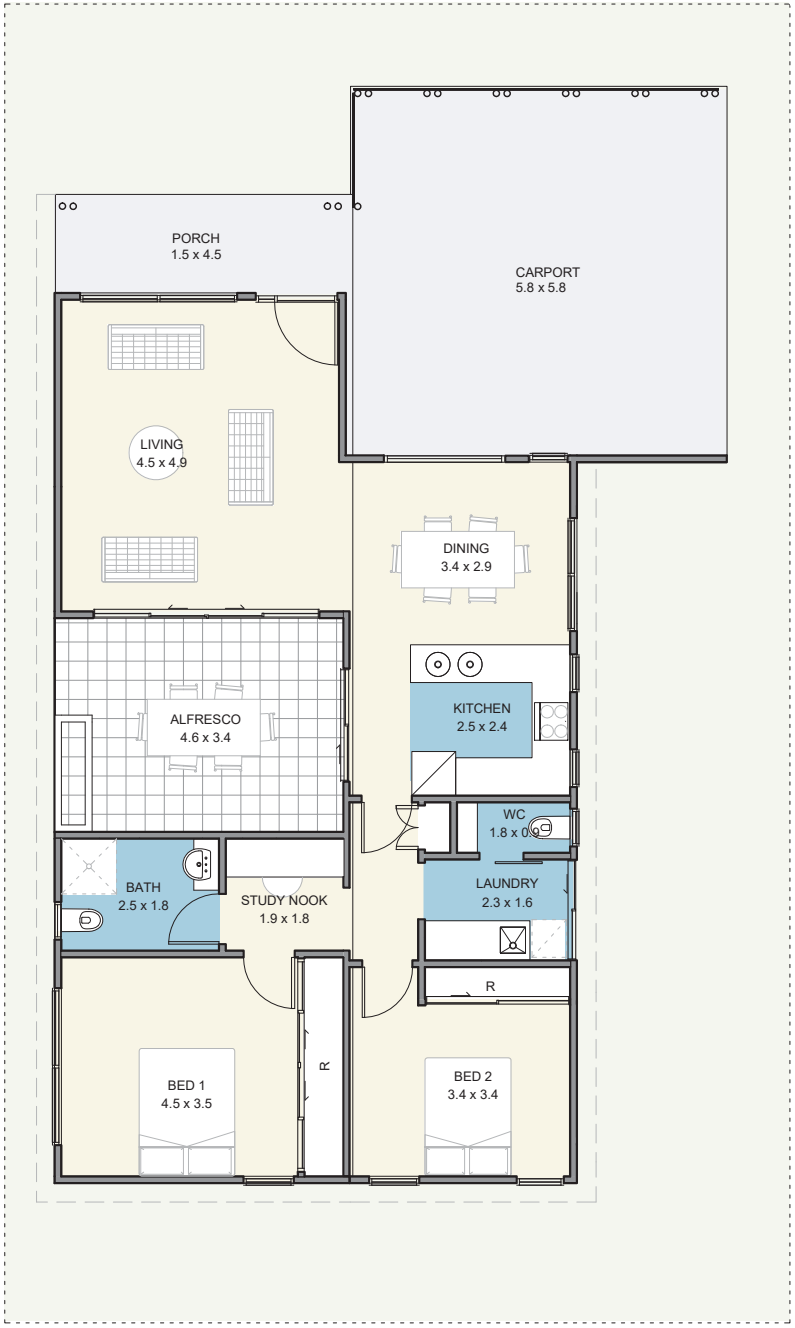

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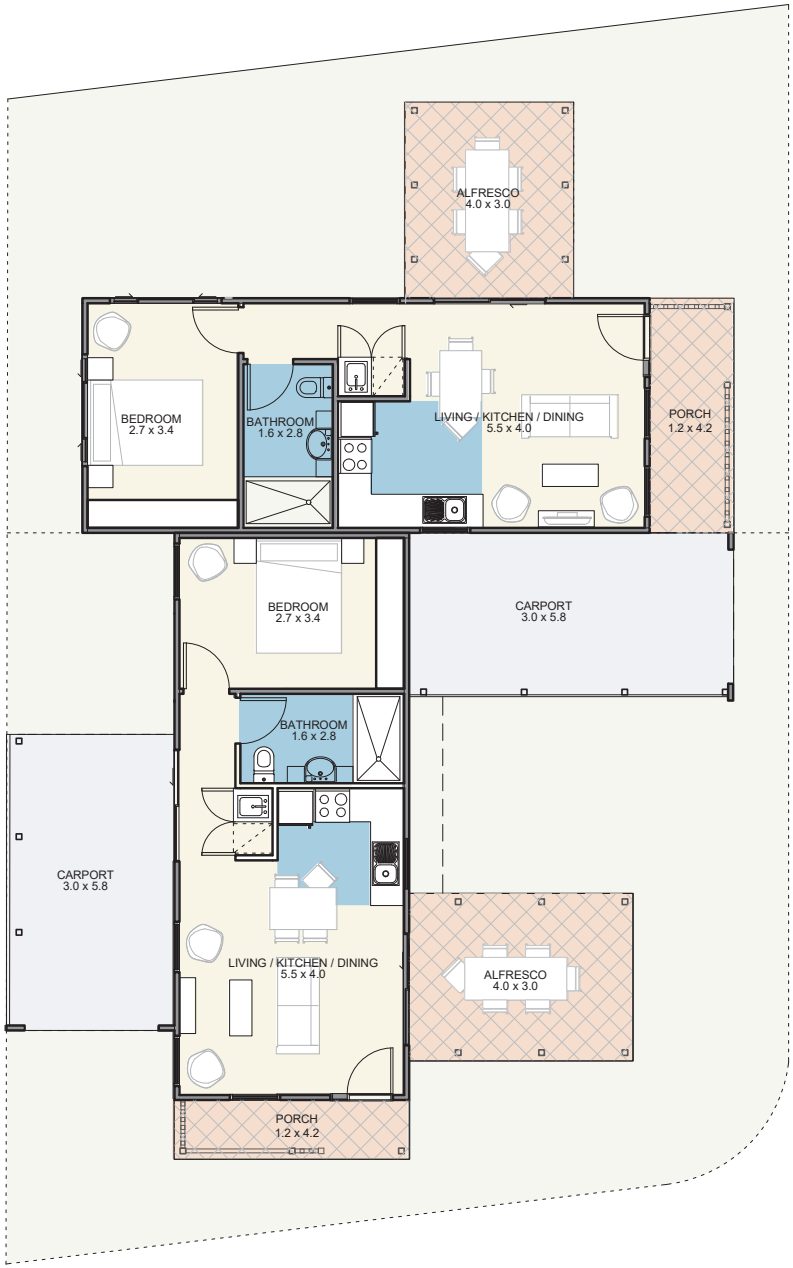

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BOOBOOK

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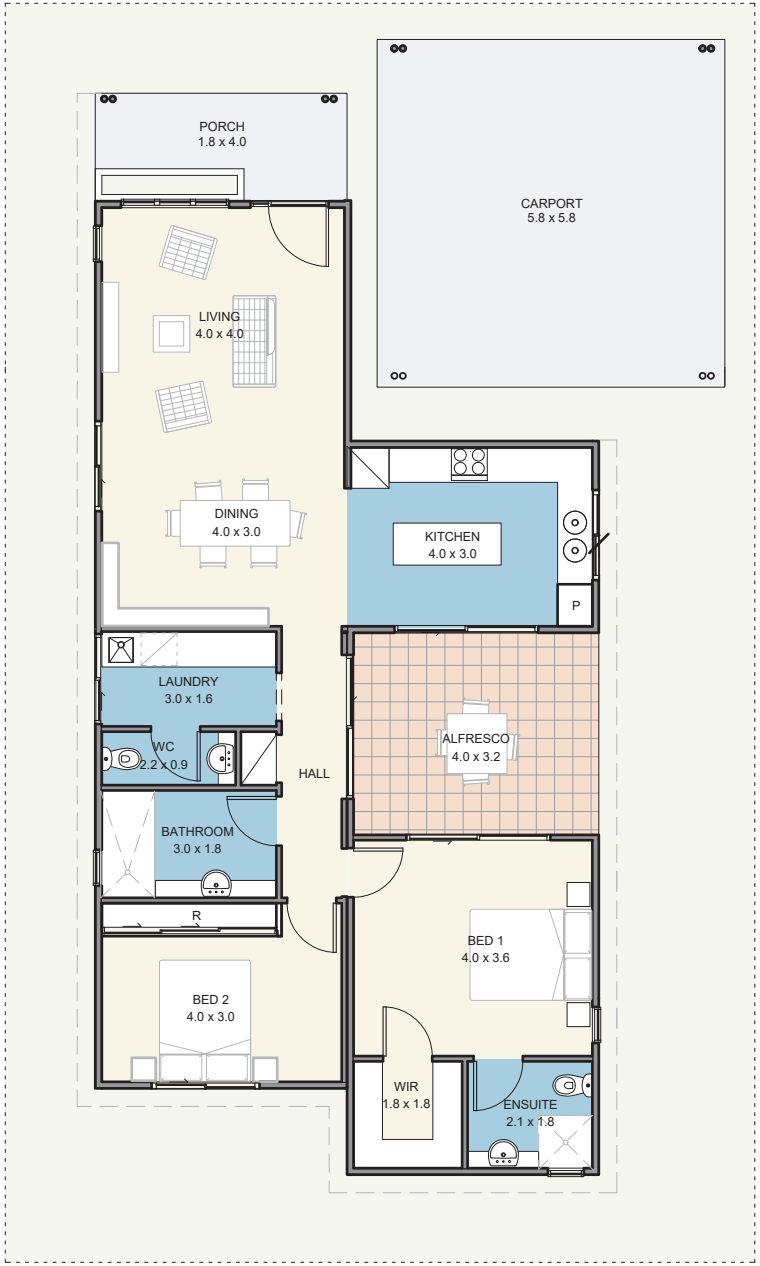
CORMORANT

2 2 2



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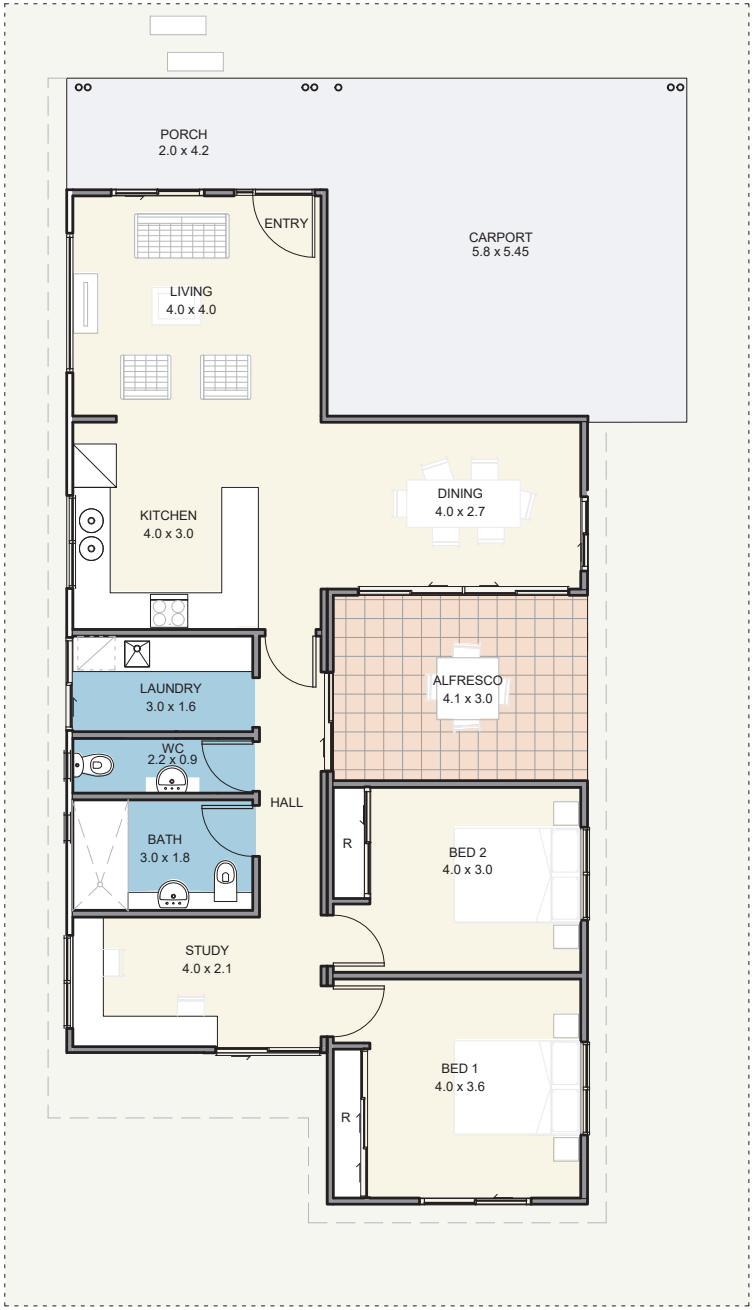

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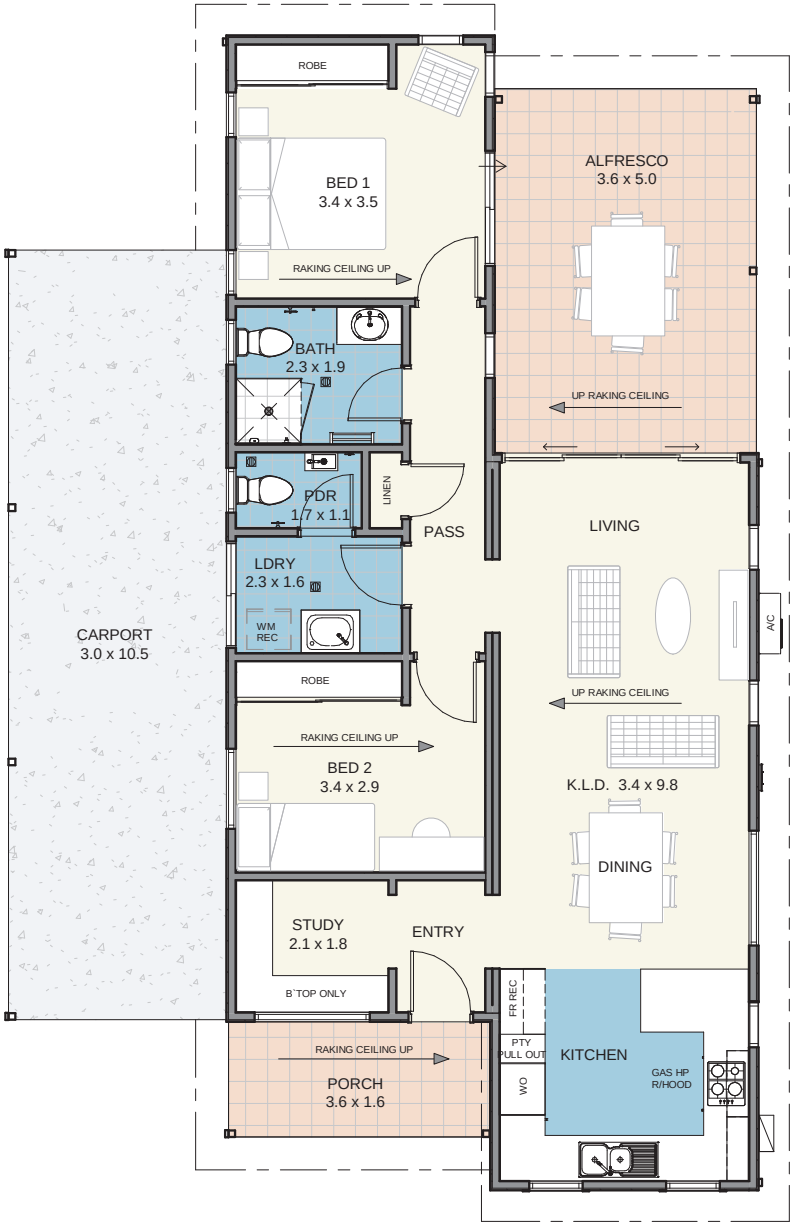

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HARRIER

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KINGFISHER

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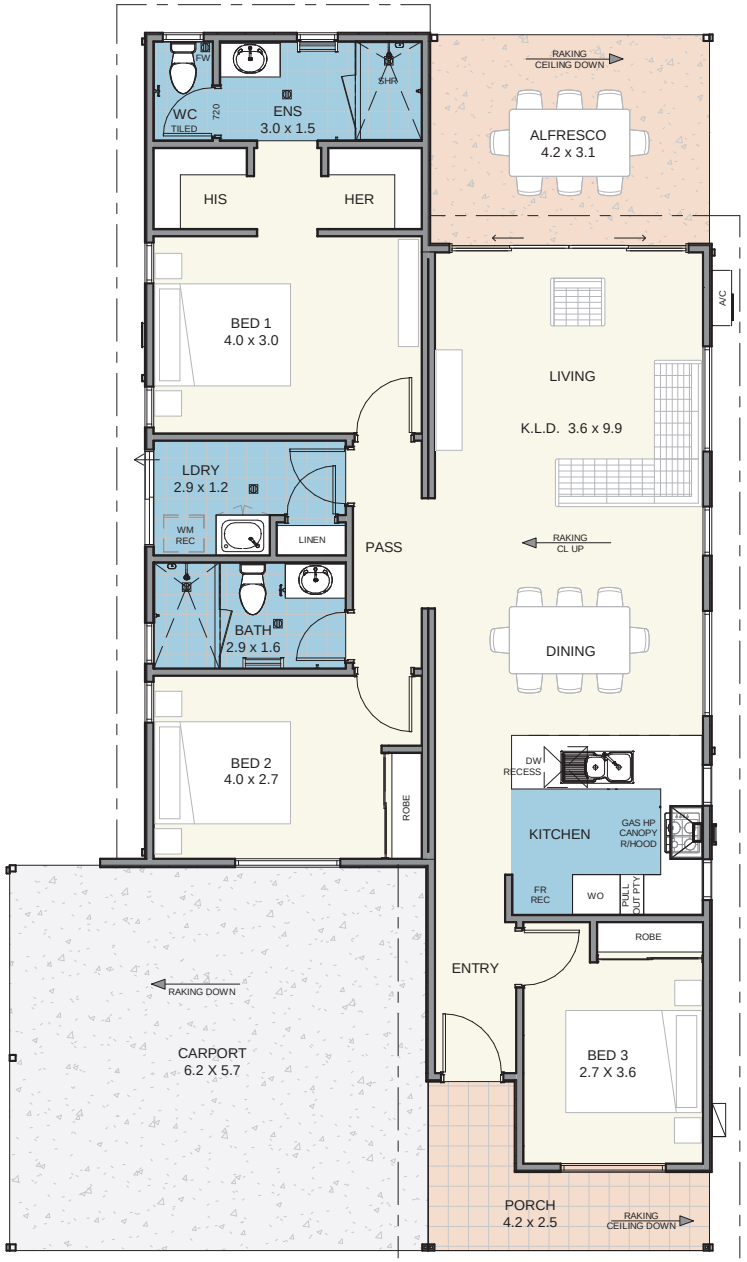

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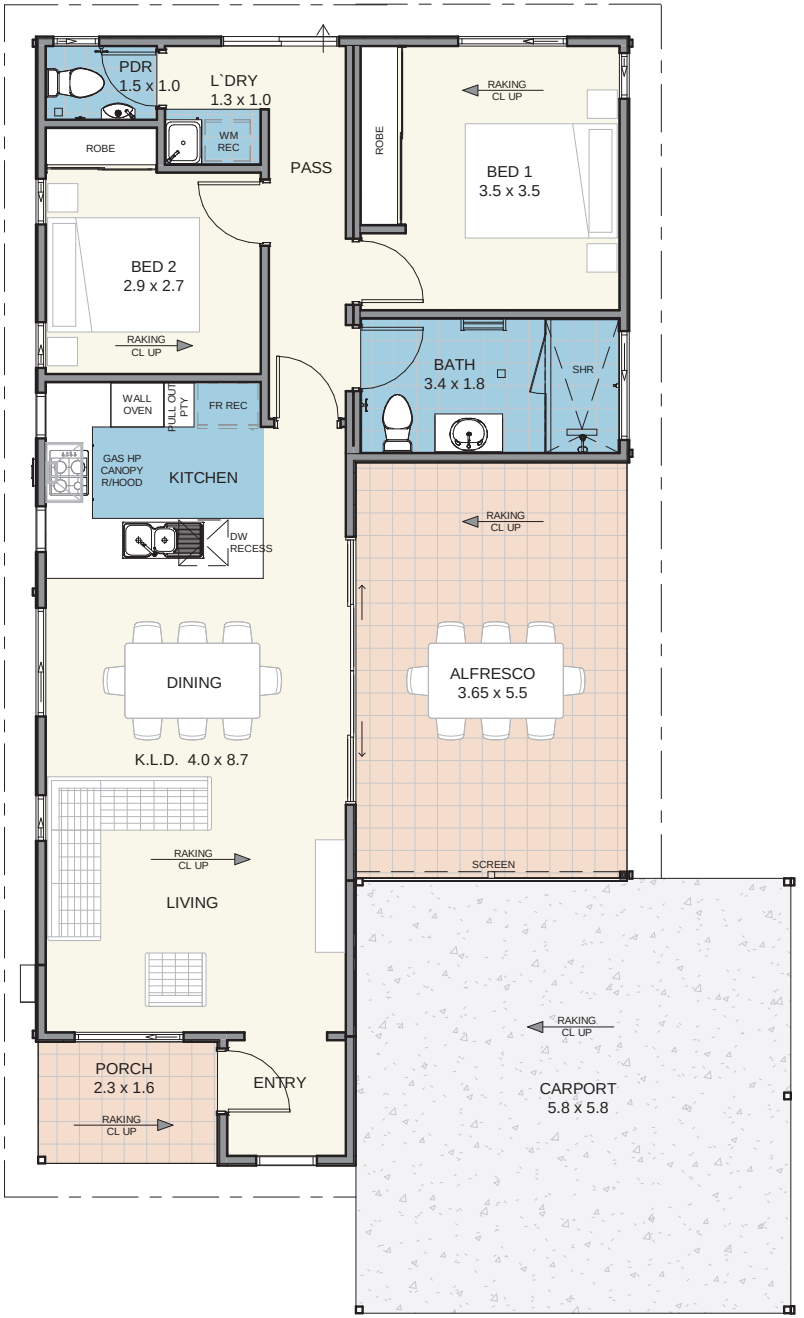

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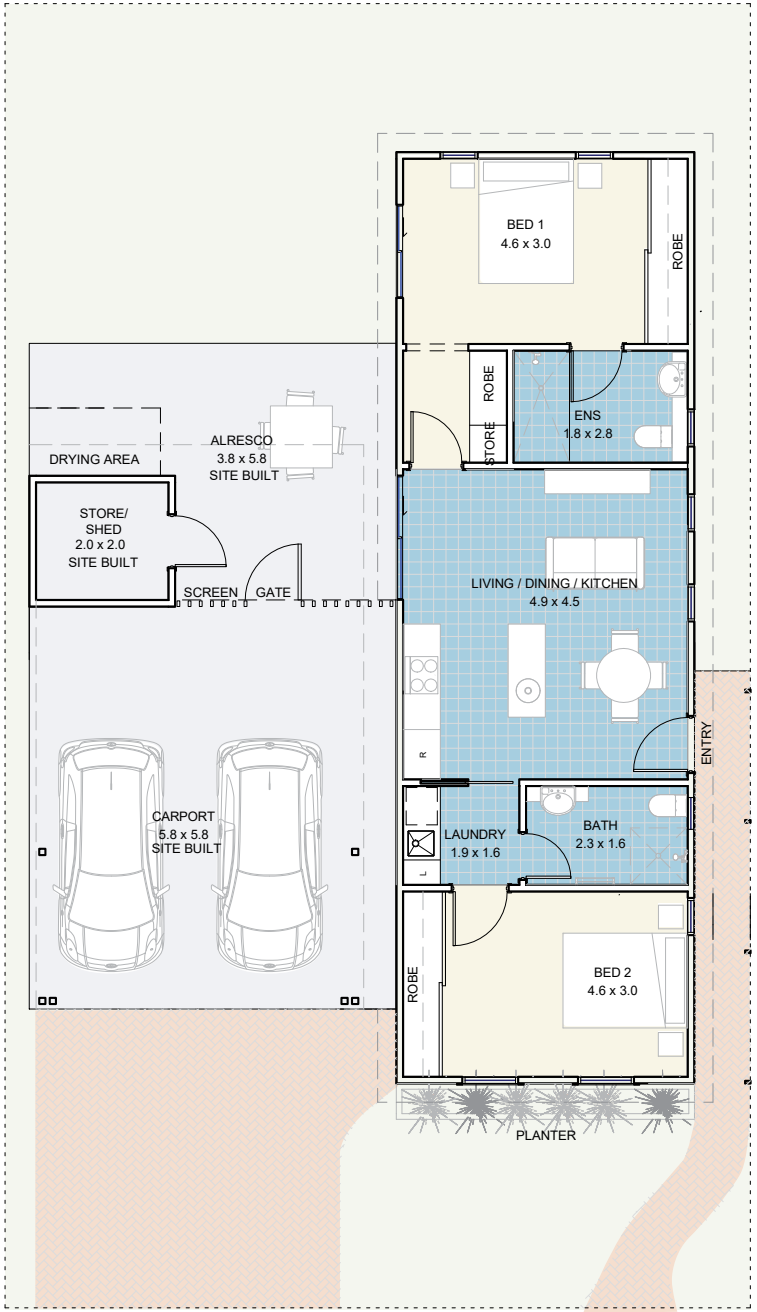

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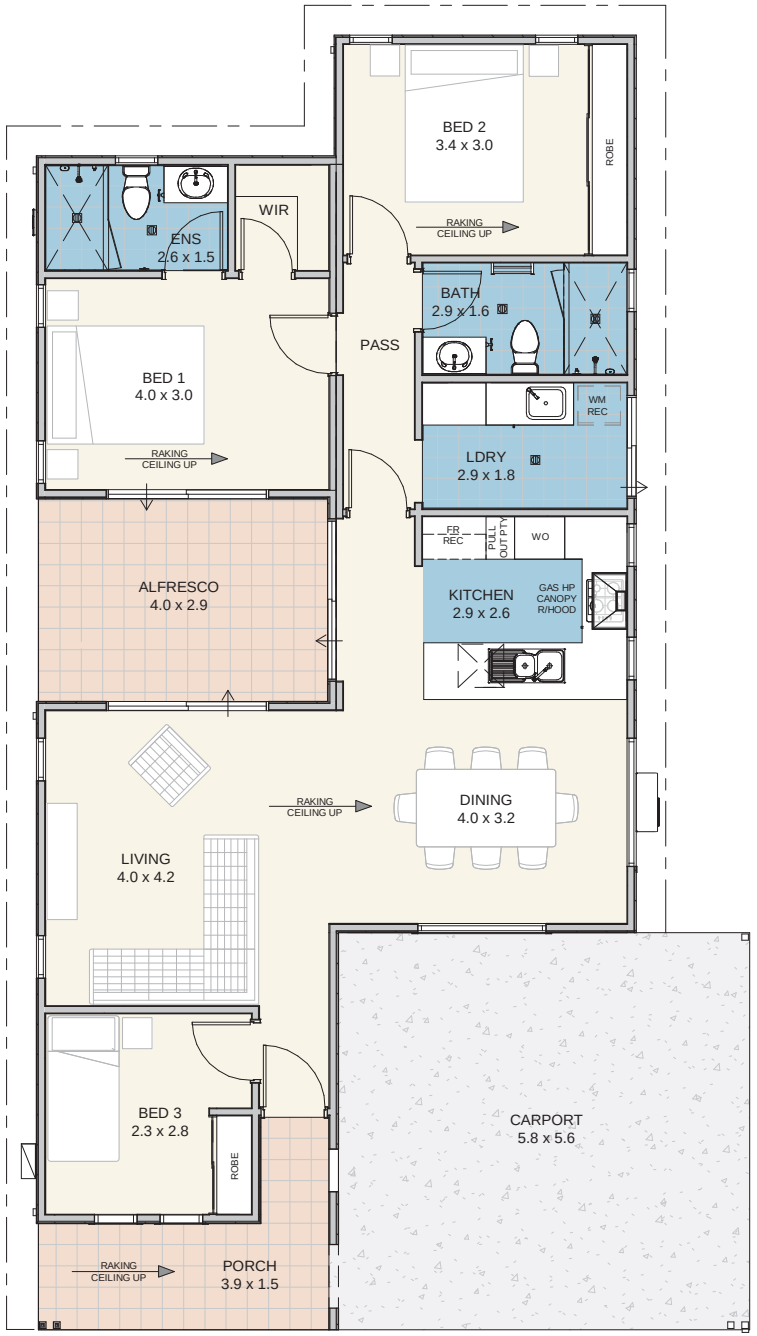

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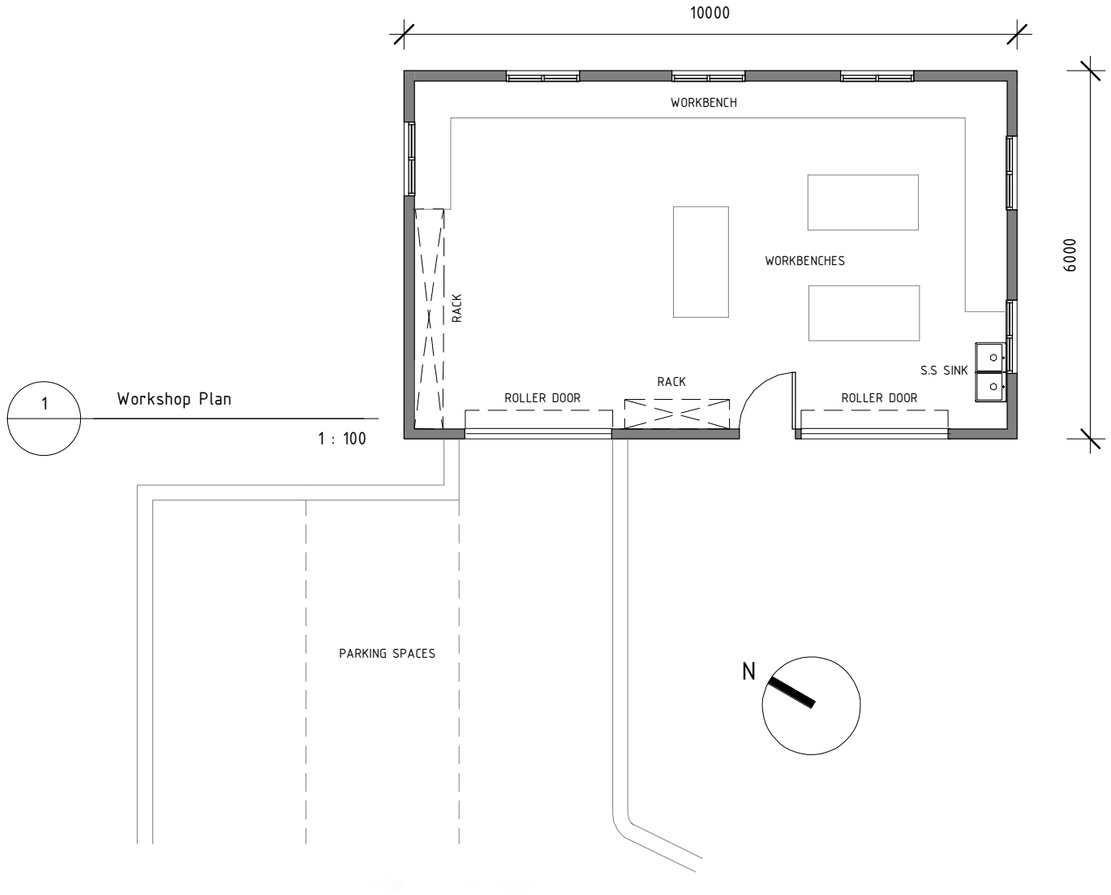

1 Workshop Plan

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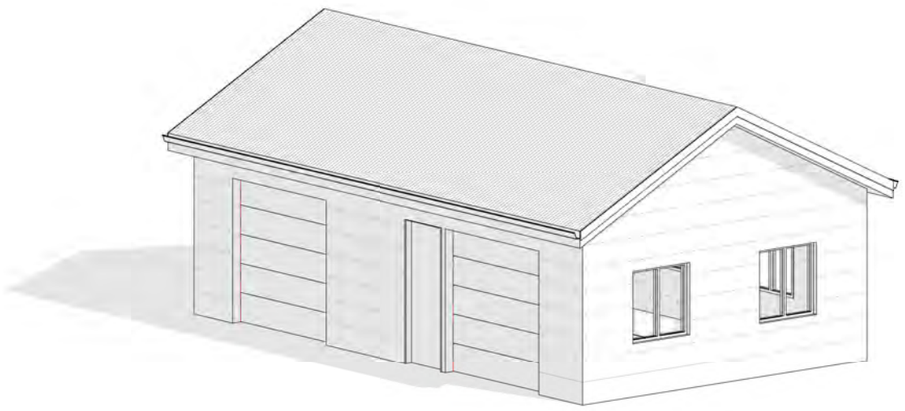

2 Workshop 3D View

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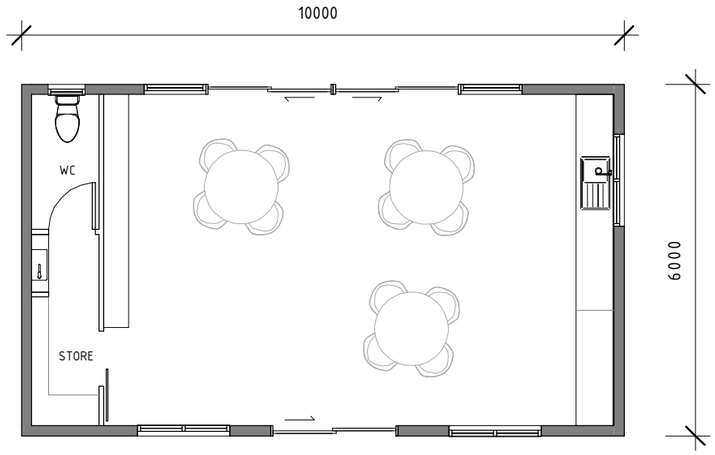

3 Arts & Crafts Plan

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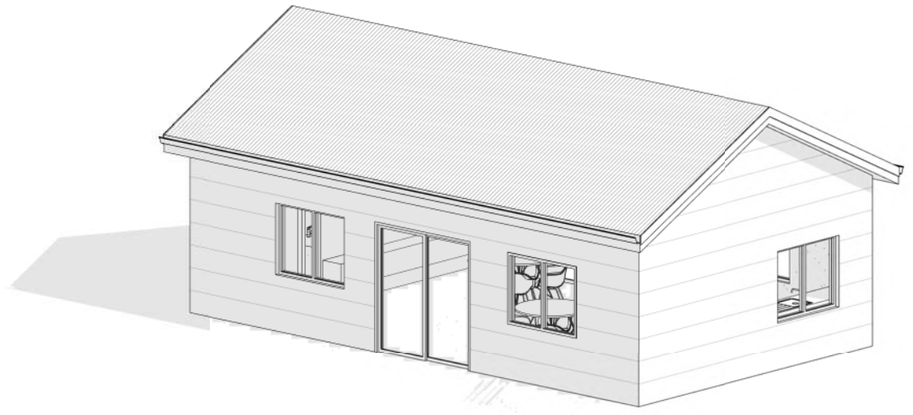

4 Arts & Crafts 3D View

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No.	Description	Date

EDENLIFE COMMUNITIES PTY LTD

PRELIMINARY WORKSHOP AND A&C

BRIGGS RD, BYFORD

Workshop and Arts & Crafts

Project number	0001	A3.02	
Date	19.04.23		
Drawn by	RHA		
Checked by	RHA	Scale@A3	1 : 100

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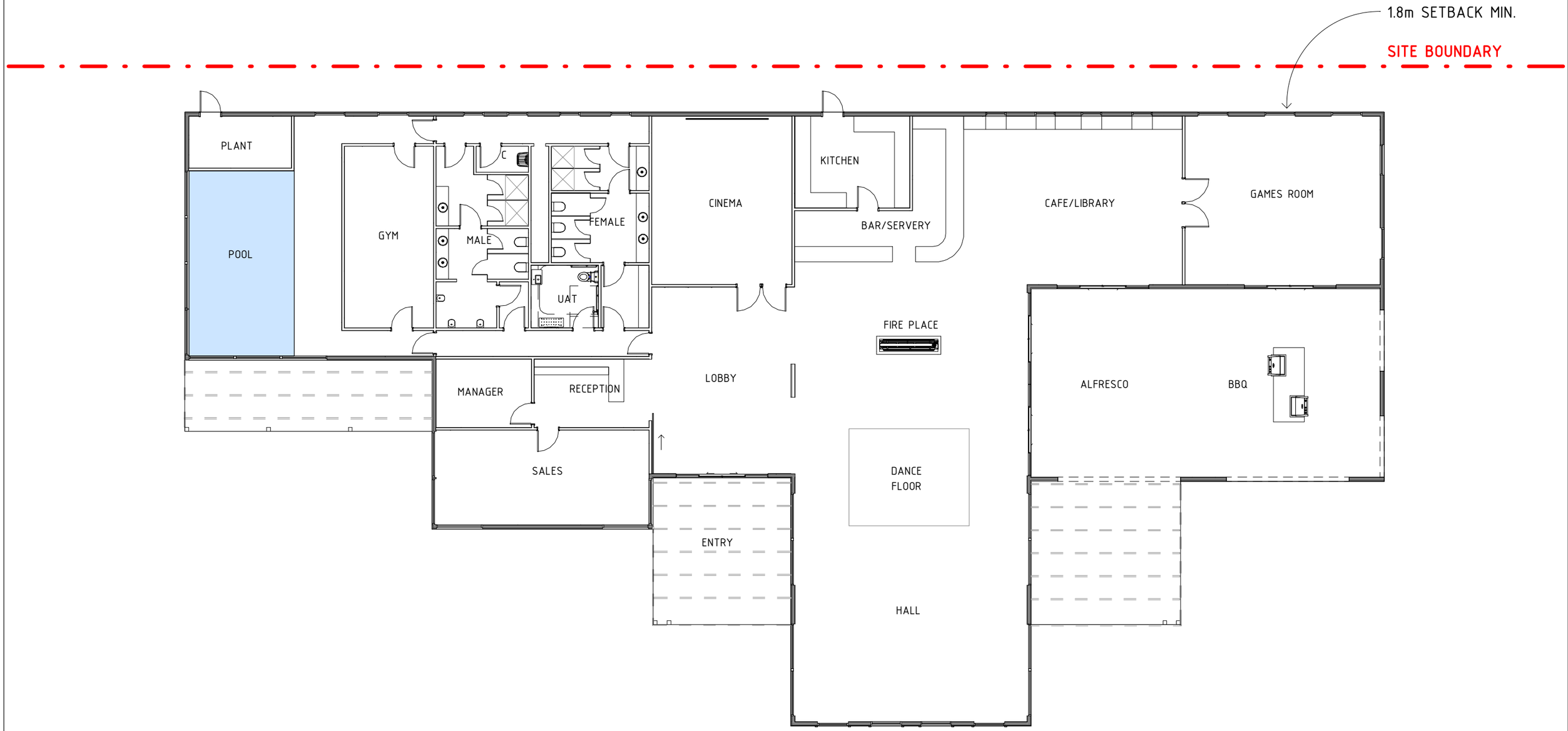

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No.	Description	Date

EDENLIFE COMMUNITIES PTY LTD

PRELIMINARY CLUBHOUSE

BRIGGS ROAD, BYFORD

CLUBHOUSE FLOOR PLAN

Project number	0001
Date	19.04.2023
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Checked by	RHA

A3.01

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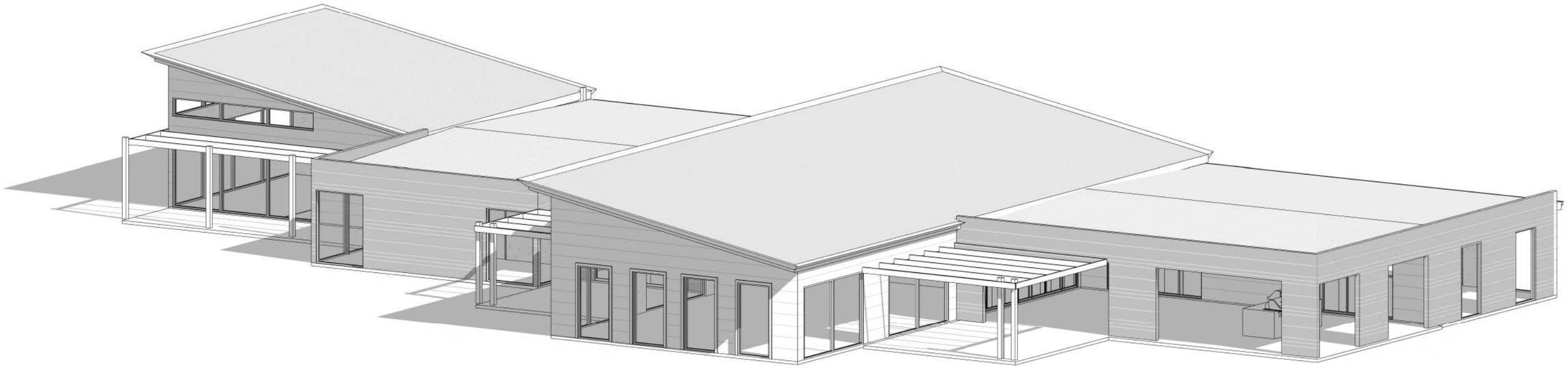

CLUBHOUSE WESTERN ELEVATION

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No.	Description	Date

EDENLIFE COMMUNITIES PTY LTD

PRELIMINARY CLUBHOUSE

BRIGGS ROAD, BYFORD

CLUBHOUSE 3D

Project number	0001	A3.02
Date	19.04.2023	
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Checked by	RHA	Scale@A3

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FPA AUSTRALIA | Fire Protection Association Australia | Life. Property. Environment.

BPAD Bushfire Planning & Design

Bushfire Management Plan Coversheet

This Coversheet and accompanying Bushfire Management Plan has been prepared and issued by a person accredited by Fire Protection Association Australia under the Bushfire Planning and Design (BPAD) Accreditation Scheme.

Bushfire Management Plan and Site Details

Site Address / Plan Reference: Lots 59, 60 and 61 Briggs Road and Lot 62 Thomas Road

Suburb: Byford **State:** WA **P/code:** 6122

Local government area: Shire of Serpentine-Jarrahdale

Description of the planning proposal: Development Application (Grouped Dwellings)

BMP Plan / Reference Number: EDE BRI ZB/2303 **Version:** 1 **Date of Issue:** 03/03/2023

Client / Business Name: Edenlife Communities Pty Ltd

Reason for referral to DFES	Yes	No
Has the BAL been calculated by a method other than method 1 as outlined in AS3959 (tick no if AS3959 method 1 has been used to calculate the BAL)?	☐	☒
Have any of the bushfire protection criteria elements been addressed through the use of a performance principle (tick no if only acceptable solutions have been used to address all of the BPC elements)?	☐	☒
Is the proposal any of the following special development types (see SPP 3.7 for definitions)?		
Unavoidable development (in BAL-40 or BAL-FZ)	☐	☒
Strategic planning proposal (including rezoning applications)	☐	☒
Minor development (in BAL-40 or BAL-FZ)	☐	☒
High risk land-use	☐	☒
Vulnerable land-use	☐	☒

If the development is a special development type as listed above, explain why the proposal is considered to be one of the above listed classifications (E.g. considered vulnerable land-use as the development is for accommodation of the elderly, etc.)?

NA

Note: The decision maker (e.g. local government or the WAPC) should only refer the proposal to DFES for comment if one (or more) of the above answers are ticked "Yes".

BPAD Accredited Practitioner Details and Declaration

Name	Accreditation Level	Accreditation No.	Accreditation Expiry
Tom Hockley	Level 2	BPAD39692	30/06/2023
Company		**Contact No.**	
Allerding & Associates		9382 3000	

I declare that the information provided within this bushfire management plan is to the best of my knowledge true and correct

Signature of Practitioner **Date** 03/03/2023

Bushfire Management Plan

Grouped Dwelling Development (Lifestyle Community)

Lot 59, 60 and 61 Briggs Road and Lot 62 Thomas Road, Byford

Shire of Serpentine-Jarrahdale

Prepared for: Edenlife Communities Pty Ltd

Prepared by: Allerding and Associates

March 2023

Allerding & Associates
Town Planners, Advocates and Subdivision Designers
ABN 24 044 036 646

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Document ID: EDE BRI ZB/2303

Issue	Date	Status	Prepared by		Approved by	
			Name	Initials	Name	Initials
1	03.03.23	Final	Tom Hockley	TH	Tom Hockley	TH
2						
3						
4						
Site Inspection:		13 December 2022				

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1.0 EXECUTIVE SUMMARY

This Bushfire Management Plan (BMP) has been prepared to accompany a development application which has been prepared for consideration by the Shire of Serpentine Jarrahdale (the Shire). The proposal involves a Lifestyle Community comprising approximately 202 grouped dwellings and associated incidental community and recreational facilities. The purpose of the BMP is to assess whether the proposal complies or can be made compliant with the relevant planning controls based on the assessed bushfire risk.

The subject site is located within an area designated as bushfire prone due to the nature of vegetation within 100m of the site. *State Planning Policy 3.7 – Planning in Bushfire Prone Areas* (SPP3.7) requires that planning proposals on land designated as bushfire prone must be accompanied by an assessment (in the form of a BMP) under the provisions of Clause 6.5 (for development applications) where a Bushfire Attack Level (BAL) rating above BAL-LOW applies. In this instance, due to the presence of classified vegetation within and surrounding the subject site, a BAL rating above BAL-LOW will apply. As the BAL ratings exceed BAL-LOW an assessment against the provisions of SPP3.7 and the *Guidelines for Planning in Bushfire Prone Areas version 1.4* (the Guidelines) has been undertaken.

This BMP demonstrates that the proposal can fully comply with the acceptable solutions of the Guidelines, subject to the requirements set out in Table 4 and Sections 6.0 and 7.0, including:

- The creation and ongoing maintenance of an Asset Protection Zone (APZ) within the subject site adjacent to the eastern in accordance with the provisions set out in this BMP;
- The construction and maintenance of the internal vehicular movement network in accordance with the provisions set out in this BMP;
- The construction and maintenance of an Emergency Access Way to service the proposed development in accordance with the provisions set out in this BMP; and
- The installation and maintenance of a reticulated water supply to service the development in accordance with the provisions set out in this BMP.

A BAL Contour Map has been prepared to determine the level of construction required for future dwellings within 100m of classified vegetation pursuant to Australian Standard AS3959-2018 *Construction of buildings in bushfire-prone areas* (AS3959). The applicable BAL ratings are set out as part of this BMP as a guideline for future construction standards having regard to the other management measures to be implemented as part of this plan. In preparing the BAL Contour Map, a post development scenario has been assessed, taking into account the areas of zoned land and reserved land within the structure plan area. This has assumed that the classified vegetation within the zoned land will either be removed or managed in a low threat standard. Existing and proposed vegetation outside the zoned land, but forming part of the reserved land within the structure plan area, has also been considered in assessing the post development scenario. All other classified vegetation outside of the boundaries of the subject site will remain the same as the pre-development assessment.

This BMP sets out the immediate and longer term management strategies for bushfire hazards within and surrounding the subject site and provides a basis for an ongoing commitment by the landowner to undertake bushfire risk management measures for the life of the development. When implemented, the management measures contained within this BMP will assist in the preservation of life and the reduction in the impacts of bushfire on property and infrastructure.

2.0 PROPOSAL DETAILS

2.1 Purpose of the BMP

This BMP has been prepared to accompany a development application which has been prepared for consideration by the Shire of Serpentine Jarrahdale (the Shire). The proposal involves a Lifestyle Community comprising approximately 202 grouped dwellings and associated incidental community and recreational facilities.

As the general form of future areas of residential development and reservations are known, the purpose of the BMP is to assess whether the development layout subject of this application complies or can be made compliant with the relevant planning controls based on the assessed bushfire risk.

The BMP has been prepared to identify the areas within the home sites subject of the development application which may present potential bushfire risk to future development based on the indicative BAL rating across the subject site as demonstrated within the BAL Contour Map and provides additional management measures to address identified risks. In addition, this BMP contains an identification of any bushfire hazard issues arising from the BAL Contour Map, as well as an assessment against the bushfire protection criteria requirements contained within the Guidelines demonstrating compliance within the boundary of the development site.

2.2 Location

The subject site is situated in the locality of Byford, approximately 40km south east of the Perth CBD.

A location plan is included at **Figure 1** which identifies the site as being located to the south-east of the intersection of Thomas Road and Briggs Road.

2.3 Zoning and Land Use

As outlined on the DFES Western Australian Map of Bush Fire Prone Areas, the site is designated as bush fire prone (refer **Figure 2**).

The subject site is presently zoned 'Urban Development' under the Shire of Serpentine Jarrahdale Local Planning Scheme No. 2 (LPS2). LPS2 also designates the land within a '*Structure Plan – Lots 61 and 62 Thomas Road and Lots 59 and 60 Briggs Road, Byford*' pursuant to Appendix 9 of the Scheme which contain provisions requiring that land use and development is to be in accordance with an approved Structure Plan. The approved Structure Plan for the site specifies that use be for aged or dependent persons' dwellings.

This BMP has therefore been prepared to accompany the development application which has been made to the Shire in line with the requirements of the Structure Plan Areas provisions for the subject site under LPS2. A Masterplan depicting the proposed development layout has been submitted as part of the development application and is included at **Figure 3**. The Masterplan has been considered as part of this assessment to inform the recommended bushfire management measures.

The subject site is currently held in private ownership.

The land contains a single dwelling with associated outbuildings, fenced paddocks and vegetated areas.

Figure 1 – Location Plan

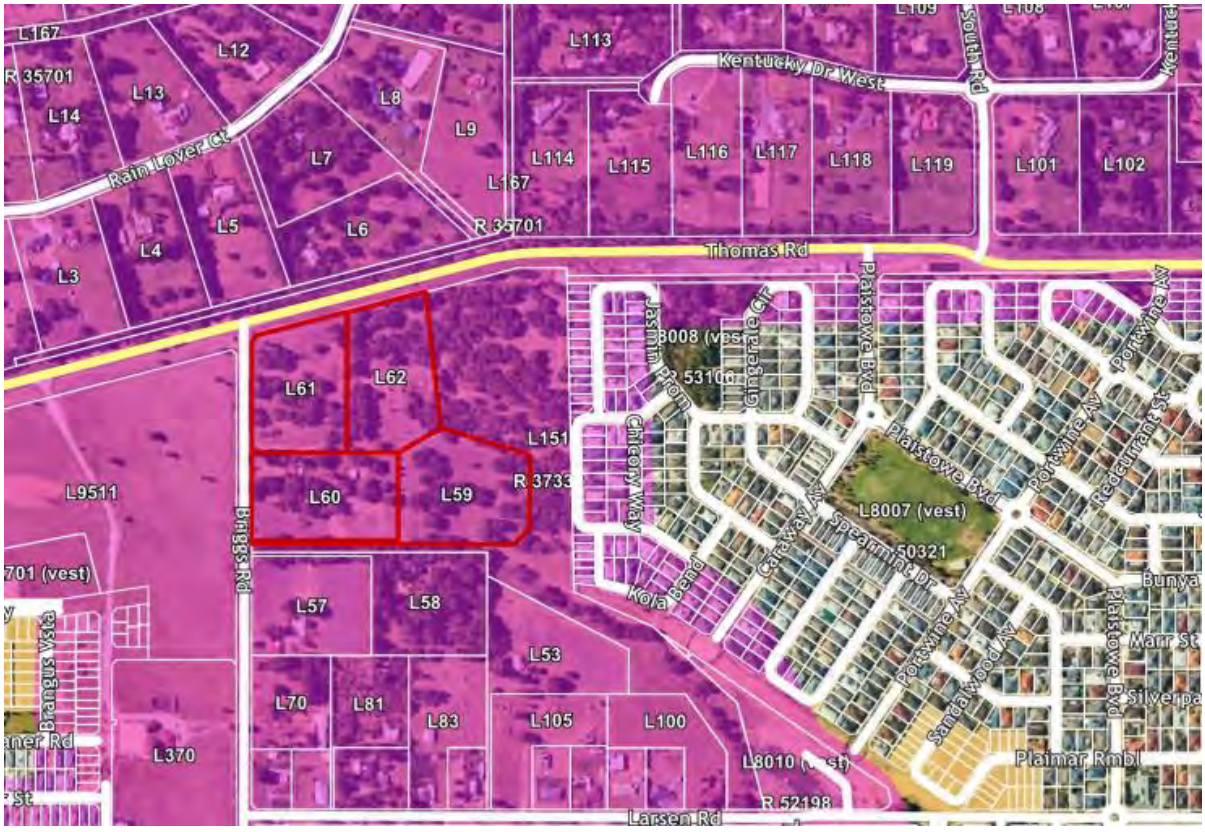

Figure 2 – Map of Bushfire Prone Areas (Source: DFES 2023)

2.4 Overview of Proposal

A Masterplan depicting the proposed development layout has been submitted as part of the Application for Development Approval and is included at **Figure 3**, with a copy of the supporting plans also included at **Appendix 1**. The design provides for the following:

- 202 grouped dwellings to be developed to an approximate residential density of R25;
- A central community building providing facilities for the exclusive use of residents in the Lifestyle Community. These incidental community facilities will include central management, foyer, cinema, indoor heated pool, bowling green, outside meeting and barbeque areas;
- Private Open Space within the Lifestyle Community that will incorporate visual buffers to Thomas Road, retention of existing endemic trees and passive recreation opportunities for residents;
- Creation of a Multiple Use Corridor (MUC) along the southern boundary of the subject site providing an accessible area of passive open space for the Lifestyle Community and public, as well as drainage function, connecting to existing living streams to the east and west; and
- A permeable grid road network connecting the subject site to Briggs Road via a main entry point and an emergency access point to the south west corner of the site.

This BMP has been prepared to accompany the development application to the Shire also prepared by Allerding & Associates, dated March 2023. That document has been considered in the preparation of this BMP.

2.5 Access

The subject site will be accessed via a crossover to Briggs Road to the west.

Proposed vehicle access includes two new connections to Briggs Road. The main designated entry will be directly to the west, whilst the emergency exit, which will also serve as a visitor carpark for the proposed publicly accessible Multiple Use Corridor, is located to the south west corner of the site. It is noted that Briggs Road is a 'Local Distributor' Road and Thomas Road, to which Briggs Road connects to the north, is a 'Primary Distributor'.

The proposed road layout and site permeability will be considered as part of this BMP.

2.6 Water and Power Supply

As review of the availability of essential infrastructure has confirmed that mains water and power exist in close proximity to the subject site.

2.7 Bushfire Response Capability

The Armadale Fire and Rescue Service is located at 438 Green Avenue, Armadale, approximately 8.8km north of the subject site which is approximately 10 minutes travel distance to the site. This closest responder is expected to provide a best-case emergency suppression response time of 30 minutes should a bushfire threaten lives or buildings on or adjacent to the site.

Figure 3 – Proposed Masterplan

3.0 ENVIRONMENTAL CONSIDERATIONS

The subject site contains a combination of existing native vegetation, cleared farmland, firebreaks and access tracks.

3.1 Native Vegetation – Modification and Clearing

The subject site will require clearing to facilitate the required earthworks and levelling to facilitate finished levels for future residential development and associated civil works. Where road layout and lot positioning allow, mature trees within the site will be retained within the Lifestyle Community, however the retained trees will be adequately spaced with no canopy overlap. Due to the location of proposed public open space and drainage areas, some of the existing vegetation around the perimeter of the Lifestyle Community development site will also be retained within communal areas. As a recommended requirement of this BMP, tree canopy within the communal areas to the perimeter of the development site will be managed to an APZ level to mitigate bushfire risk.

The Landscape Plan included at Annexure 5 of the Development Application report, reflects the positioning of retained trees within the Lifestyle Community development site. It is noted that the Structure Plan approved over the subject site assumed the clearing of all vegetation to facilitate the development, however in this instance there has been a focus on retaining significant vegetation where possible and incorporating it into the design of the facility. The tree species to be retained are Eastern State Eucalyptus, Corimbia Callophylla and Eucalyptus Marginata.

Existing vegetation surrounding the subject site will remain largely unaltered.

3.2 Revegetation and Landscape Plans

As outlined in the Landscape Plan included at Annexure 5 of the Development Application report (copy also provided at **Figure 4** below and at **Appendix 2** of this report), new plantings are intended to achieve the following outcomes:

- *Grand entrance to the community from Briggs Road, presenting an invitation to visitors and developing a sense of pride for community residents.*
- *Low maintenance approach to a design (i.e. light touch for gardening team).*
- *Use of planting (trees) as traffic calming along internal streets.*
- *Minimal use of grassed areas (to reduce environmental footprint).*
- *Focus on the achievement/contribution to a sense of place through planting/use of plants, particularly at congregation points, BBQ areas etc.*
- *Communal garden to provide for growth of fruit trees, vegetables etc to add to a sense of "community" and resident engagement.*

With respect to the landscape drawings, the Landscape Development Plan notes:

Particular attention has been paid to the entry to the community from Leisure Drive to achieve a layered (low to high) visual presentation to residents, visitors and the wider general community. In addition to this, connectivity through to the community via a pedestrian pathway (via a secure gateway after hours) to form part of the construction program for this community.

The MUC has been designed with a focus on creating accessible public walkways to provide the community with a sense of place in a natural environment, showcasing Western Australian indigenous species. Plant selection and formation for the MUC is intended to establish a nature reserve, with predominant species being selected to ensure maximum growth of between 1.0m and 1.5m at maturity in accordance with the Class C Shrubland classification under AS3959. A list of proposed plantings within the MUC and elsewhere throughout the subject site is included at **Appendix 2**.

Figure 4 – Landscape Plan

4.0 BUSHFIRE ASSESSMENT RESULTS

A Method 1 procedure in accordance with AS3959 has been undertaken to inform this bushfire assessment.

4.1 Assessment Inputs

4.1.1 Vegetation Classification

The vegetation classification has been determined within and surrounding the subject site in accordance with Clause 2.2.3 of AS3959. Each distinguishable vegetation plot with the potential to determine the BAL is identified in **Table 1** below with the plots mapped in **Figure 5. Figure 6** outlines the indicative post development scenario having regard to the Lifestyle Community development site and the revegetated open space to the north. This information has been used to develop the BAL Contour Map at **Figure 8.**

Figure 5 – Vegetation Classification

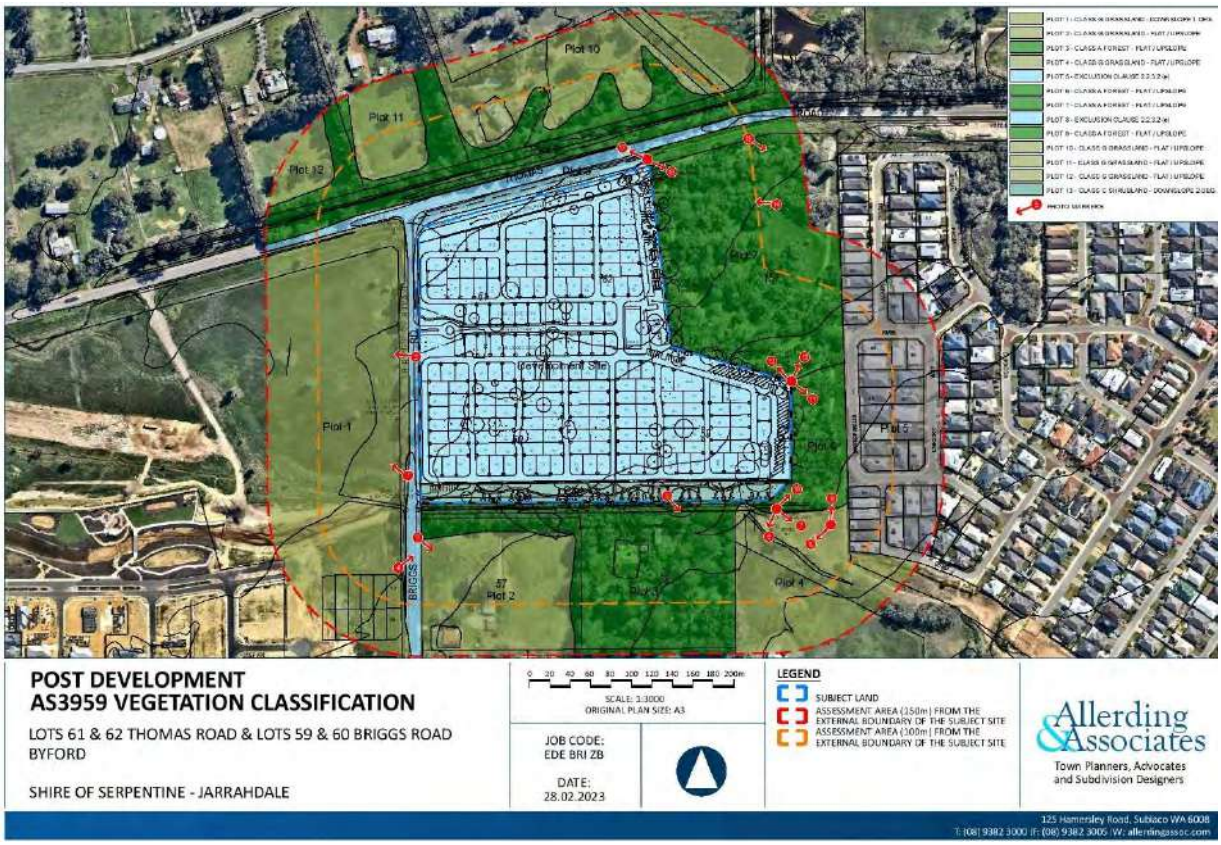

Figure 6 – Vegetation Classification (Indicative Post Development Scenario)

Table 1: Vegetation Classification

Photo ID	1	Plot	1
Vegetation Classification or Exclusion Clause			
Class G Grassland			
Description / Justification for Classification			
Plot 1 to the west of the subject site, contains pasture which is predominantly unmanaged. Isolated mature canopy trees exist within the plot, however the overstorey foliage cover is less than 10%.			

Photo ID	2	Plot	1
Vegetation Classification or Exclusion Clause			
Class G Grassland			
Description / Justification for Classification			
Plot 1 to the west of the subject site, contains pasture which is predominantly unmanaged. Isolated mature canopy trees exist within the plot, however the overstorey foliage cover is less than 10%.			

Photo ID	3	Plot	2
Vegetation Classification or Exclusion Clause			
Class G Grassland			
Description / Justification for Classification			
Plot 2 to the south of the subject site contains pasture which is predominantly unmanaged. Isolated mature canopy trees exist within the plot, however the overstorey foliage cover is less than 10%.			

Photo ID	4	Plot	3
Vegetation Classification or Exclusion Clause			
Class A Forest			
Description / Justification for Classification			
Plot 3 includes a strip of land immediately to the south of the subject site containing existing mature canopy trees ranging from 15m to 20m in height. Foliage cover within the plot is around 90% Understorey contains low trees and grasses in an unmanaged state.			

Photo ID	5	Plot	3
Vegetation Classification or Exclusion Clause			
Class A Forest			
Description / Justification for Classification			
Plot 3 includes a strip of land immediately to the south of the subject site containing existing mature canopy trees ranging from 15m to 20m in height. Foliage cover within the plot is around 90% Understorey contains low trees and grasses in an unmanaged state.			

Photo ID	6	Plot	4
Vegetation Classification or Exclusion Clause			
Class G Grassland			
Description / Justification for Classification			
Plot 4, comprising land to the south-east of the subject site contains open grassland which is predominantly unmanaged. Mature canopy trees exist within the plot along the drainage line, however the overstorey foliage cover is less than 10% of the plot area.			

Photo ID	7	Plot	4
Vegetation Classification or Exclusion Clause			
Class G Grassland			
Description / Justification for Classification			
Plot 4, comprising land to the south-east of the subject site contains open grassland which is predominantly unmanaged. Mature canopy trees exist within the plot along the drainage line, however the overstorey foliage cover is less than 10% of the plot area.			

Photo ID	8	Plot	4
Vegetation Classification or Exclusion Clause			
Class G Grassland			
Description / Justification for Classification			
Plot 4, comprising land to the south-east of the subject site contains open grassland which is predominantly unmanaged. Mature canopy trees exist within the plot along the drainage line, however the overstorey foliage cover is less than 10% of the plot area.			

Photo ID	9	Plot	6
Vegetation Classification or Exclusion Clause			
Class A Forest			
Description / Justification for Classification			
Plot 6, comprising land directly to the east of the subject site, contains existing mature canopy trees ranging in height from 12m-15m. Foliage cover within the plot is around 70%. Understorey contains long grasses in an unmanaged state.			

Photo ID	10	Plot	6
Vegetation Classification or Exclusion Clause			
Class A Forest			
Description / Justification for Classification			
Plot 6, comprising land directly to the east of the subject site, contains existing mature canopy trees ranging in height from 12m-15m. Foliage cover within the plot is around 70%. Understorey contains long grasses in an unmanaged state.			

Photo ID	11	Plot	6
Vegetation Classification or Exclusion Clause			
Class A Forest			
Description / Justification for Classification			
Plot 6, comprising land directly to the east of the subject site, contains existing mature canopy trees ranging in height from 12m-15m. Foliage cover within the plot is around 70%. Understorey contains long grasses in an unmanaged state.			

Photo ID	12	Plot	7
Vegetation Classification or Exclusion Clause			
Class A Forest			
Description / Justification for Classification			
Plot 7, comprising land directly to the east and north-east of the subject site, contains existing mature canopy trees ranging in height from 15m-17m. Foliage cover within the plot is around 70%. Understorey contains long grasses in an unmanaged state.			

Photo ID	13	Plot	7
Vegetation Classification or Exclusion Clause			
Class A Forest			
Description / Justification for Classification			
Plot 7, comprising land directly to the east and north-east of the subject site, contains existing mature canopy trees ranging in height from 15m-17m. Foliage cover within the plot is around 70%. Understorey contains long grasses in an unmanaged state.			

Photo ID	14	Plot	7
Vegetation Classification or Exclusion Clause			
Class A Forest			
Description / Justification for Classification			
Plot 7, comprising land directly to the east and north-east of the subject site, contains existing mature canopy trees ranging in height from 15m-17m. Foliage cover within the plot is around 70%. Understorey contains long grasses in an unmanaged state.			

Photo ID	15	Plot	7
Vegetation Classification or Exclusion Clause			
Class A Forest			
Description / Justification for Classification			
Plot 7, comprising land directly to the east and north-east of the subject site, contains existing mature canopy trees ranging in height from 15m-17m. Foliage cover within the plot is around 70%. Understorey contains long grasses in an unmanaged state.			

Photo ID	16	Plot	7
Vegetation Classification or Exclusion Clause			
Class A Forest			
Description / Justification for Classification			
Plot 7, comprising land directly to the east and north-east of the subject site, contains existing mature canopy trees ranging in height from 15m-17m. Foliage cover within the plot is around 70%. Understorey contains long grasses in an unmanaged state.			

Photo ID	17	Plot	9
Vegetation Classification or Exclusion Clause			
Class A Forest			
Description / Justification for Classification			
Plot 9, comprising land to the north of the subject site on the northern side of Thomas Road, contains mature canopy trees ranging in height from 15-18m. Foliage cover within the plot is up to 80% with the understorey containing unmanaged grassland, low trees and shrubs.			

Photo ID	18	Plot	9
Vegetation Classification or Exclusion Clause			
Class A Forest			
Description / Justification for Classification			
Plot 9, comprising land to the north of the subject site on the northern side of Thomas Road, contains mature canopy trees ranging in height from 15-18m. Foliage cover within the plot is up to 80% with the understorey containing unmanaged grassland, low trees and shrubs.			

Photo ID	19	Plot	13
Vegetation Classification or Exclusion Clause			
Class A Forest			
Description / Justification for Classification			
Plot 13 within the central portion of the subject site contains the existing dwelling and associated outbuildings. Vegetation within the plot contains existing mature canopy trees ranging in height from 12m-15m with a foliage cover of around 70%. Understorey contains a combination of maintained grasses and unmanaged grasses and low shrubs.			

Photo ID	20	Plot	13
Vegetation Classification or Exclusion Clause			
Class A Forest			
Description / Justification for Classification			
Plot 13 within the central portion of the subject site contains the existing dwelling and associated outbuildings. Vegetation within the plot contains existing mature canopy trees ranging in height from 12m-15m with a foliage cover of around 70%. Understorey contains a combination of maintained grasses and unmanaged grasses and low shrubs.			

Photo ID	21	Plot	14
Vegetation Classification or Exclusion Clause			
Excludable 2.2.3.2(f) Low Threat Veg			
Description / Justification for Classification			
Plot 14, comprising land within the south-west corner of the subject site, contains maintained paddock currently utilised for horse agistment.			

Photo ID	22	Plot	14
Vegetation Classification or Exclusion Clause			
Excludable 2.2.3.2(f) Low Threat Veg			
Description / Justification for Classification			
Plot 14, comprising land within the south-west corner of the subject site, contains maintained paddock currently utilised for horse agistment.			

Photo ID	23	Plot	15
Vegetation Classification or Exclusion Clause			
Class A Forest			
Description / Justification for Classification			
Plot 15, comprising land within the south-east of the subject site, contains existing mature canopy trees ranging in height from 12m-15m. Foliage cover within the plot is around 60%. Understorey contains long grasses in an unmanaged state.			

Photo ID	24	Plot	15
Vegetation Classification or Exclusion Clause			
Class A Forest			
Description / Justification for Classification			
Plot 15, comprising land within the south-east of the subject site, contains existing mature canopy trees ranging in height from 12m-15m. Foliage cover within the plot is around 60%. Understorey contains long grasses in an unmanaged state.			

Photo ID	25	Plot	16
Vegetation Classification or Exclusion Clause			
Class G Grassland			
Description / Justification for Classification			
Plot 16 within the central portion of the subject site contains open grassland which is predominantly unmanaged. Mature canopy trees exist within the plot, however the overstorey foliage cover is less than 10% of the plot area.			

Photo ID	26	Plot	16
Vegetation Classification or Exclusion Clause			
Class G Grassland			
Description / Justification for Classification			
Plot 16 within the central portion of the subject site contains open grassland which is predominantly unmanaged. Mature canopy trees exist within the plot, however the overstorey foliage cover is less than 10% of the plot area.			

Photo ID	27	Plot	19
Vegetation Classification or Exclusion Clause			
Class G Grassland			
Description / Justification for Classification			
Plot 19 within the north-western corner of the subject site contains open grassland which is predominantly unmanaged. Mature canopy trees exist within the plot, however the overstorey foliage cover is less than 10% of the plot area.			

Photo ID	28	Plot	18
Vegetation Classification or Exclusion Clause			
Class A Forest			
Description / Justification for Classification			
Plot 18 within the northern portion of the subject site contains existing mature canopy trees ranging in height from 15m-18m. Foliage cover within the plot is around 70%. Understorey contains long grasses in an unmanaged state.			

Photo ID	29	Plot	16
Vegetation Classification or Exclusion Clause			
Class G Grassland			
Description / Justification for Classification			
Plot 16 within the central portion of the subject site contains open grassland which is predominantly unmanaged. Mature canopy trees exist within the plot, however the overstorey foliage cover is less than 10% of the plot area.			

Photo ID	30	Plot	20
Vegetation Classification or Exclusion Clause			
Class A Forest			
Description / Justification for Classification			
Plot 20 in the north-western corner of the subject site contains existing mature canopy trees ranging in height from 12m-15m. Foliage cover within the plot is around 60%. Understorey contains long grasses in an unmanaged state.			

4.1.2 Site Topography and Slope

Based on site observations and available topographical mapping for the broader locality beyond 100m from the boundaries of the subject site, it has been verified that the landform of the subject site and surrounding land is characterised by a falling topography to the north-west across the subject site and towards the north-west beyond the boundaries of the site. A topographical plan is included at **Figure 7**.

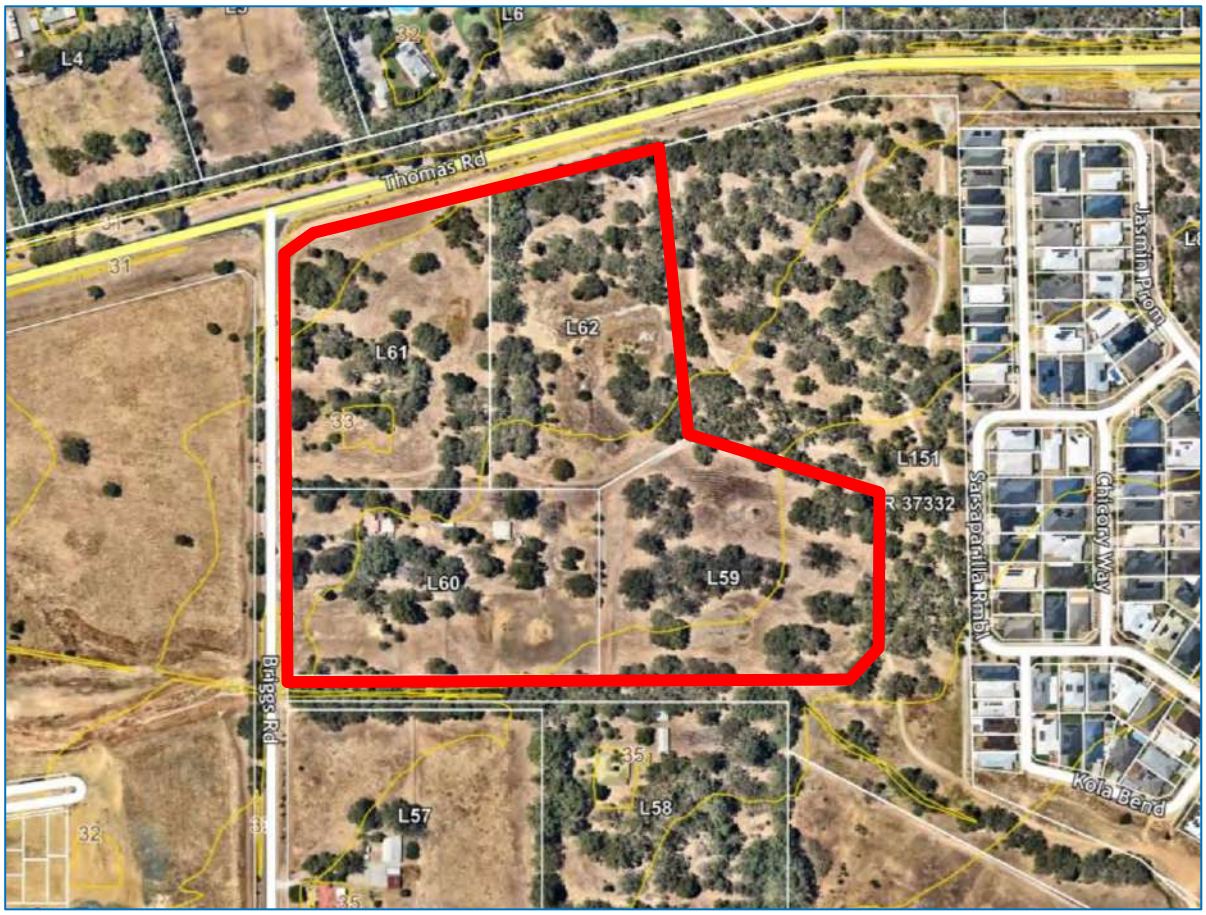

Figure 7 – Topographical Plan

4.2 Assessment Outputs

4.2.1 Bushfire Attack Level (BAL) Assessment

The BAL Assessment was undertaken in accordance with AS3959-2018 Methodology 1 to determine the potential worst case scenario radiant heat impact on the development. **Table 2** below outlines the worst case BAL for each of the vegetation plots, in the post-development scenario, based on separation distance to the closest proposed residential dwelling within the Lifestyle Community. The indicative BAL for each proposed residential dwelling is then provided in **Table 3**.

Table 2.1 of AS3959-2018 identifies a Fire Danger Index (FDI) of 80 for Western Australia. Therefore, Table 2.4.3 of AS3959-2018 has been used to develop the BAL Contour Map (refer **Figure 8**) to calculate the BAL for the proposed residential lots and inform the standard of building construction required for future habitable buildings on those proposed lots to withstand such impacts.

Table 2: Worst Case BAL Table for Proposed Development

Vegetation Plot	Applied Vegetation Classification	Effective Slope Under Classified Vegetation (degrees)	Minimum Separation Distance to Classified Vegetation (m)	Bushfire Attack Level*
Plot 1	Class G Grassland	Downslope 1°	28m	12.5
Plot 2	Class G Grassland	Flat/Upslope	56m	Low
Plot 3	Class A Forest	Flat/Upslope	28m	29
Plot 4	Class G Grassland	Flat/Upslope	28m	12.5
Plot 6	Class A Forest	Flat/Upslope	21m	29
Plot 7	Class A Forest	Flat/Upslope	21m	29
Plot 9	Class A Forest	Flat/Upslope	42m	12.5
Plot 13	Class C Shrubland	Downslope 2°	10m	29
			Worst case BAL	**29**

** - Assumes a 2m setback can be achieved between the dwelling and lot boundary at the interface with the classified vegetation.*

Table 3: Indicative BAL Ratings for Proposed Residential Dwellings	
Residential Lot Number	**BAL**
1–15, 45, 46, 94, 110–112, 128, 129	Low
17–35, 36A&B, 37–39, 40A&B, 41–44, 47–49, 50A&B, 51–61, 68, 76–82, 86–93, 95–100, 104–109, 113–118, 122–127, 130–136, 140–162, 168–171, 175–178, 183–185,	12.5
62, 69, 163, 165, 167, 179, 182, 189–192	19
70–74, 75A&B, 83–85, 101–103, 119–121, 137–139, 155–157, 164, 166, 172–174, 180A&B, 181, 186, 187 188A&B, 193A&B, 194, 195	29
NA	40/FZ

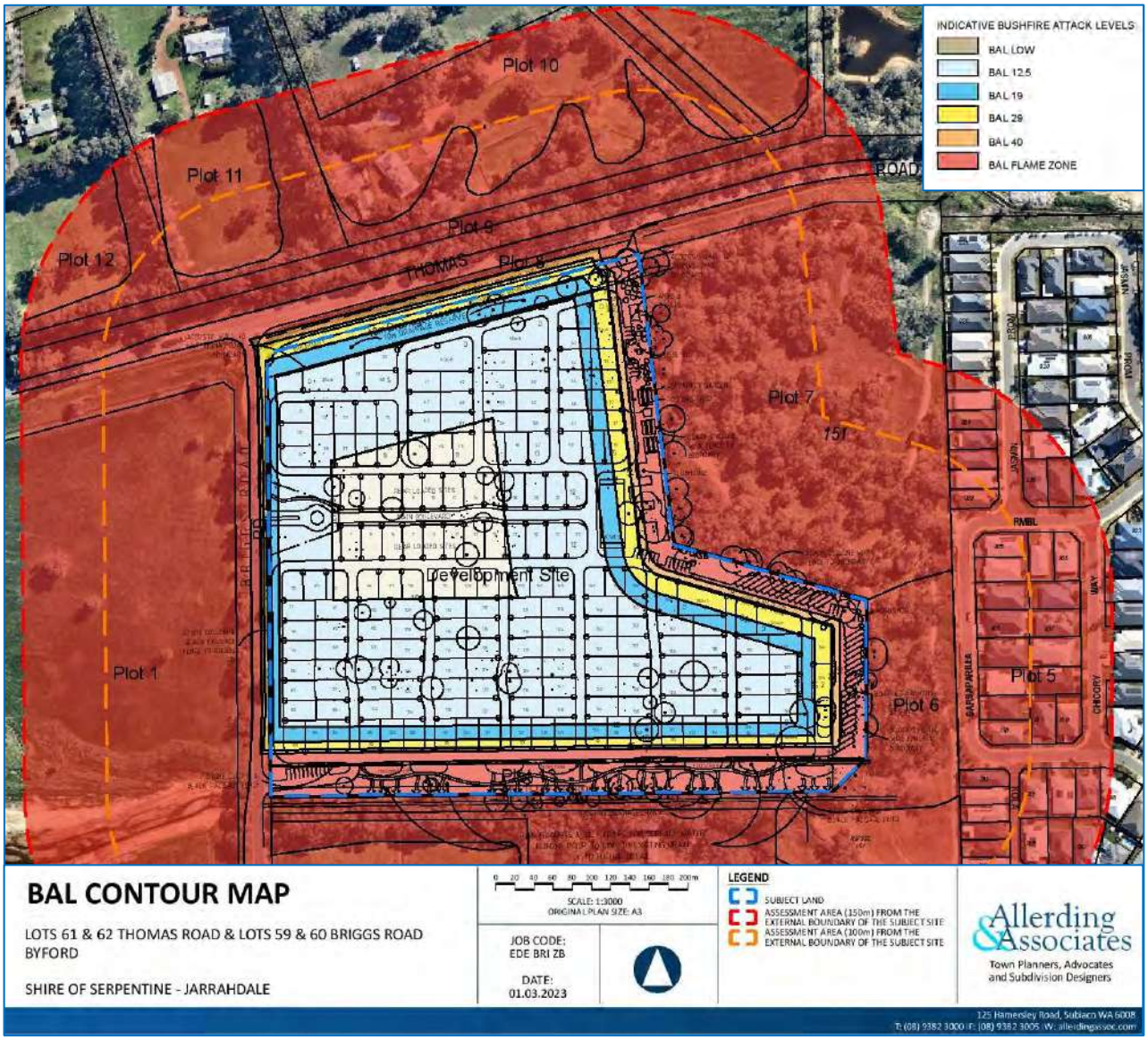

Figure 8 – BAL Contour Map

5.0 IDENTIFICATION OF BUSHFIRE HAZARD ISSUES

5.1 Overview

Based on the BAL assessment undertaken as part of this BMP, the highest determined BAL associated with those areas within the subject site where habitable development (grouped dwellings) is planned to occur is BAL29. This represents the highest fire risk area surrounding the subject site due to the existing Forest vegetation (Plots 6 and 7) to the east of the proposed Lifestyle Community development area. All existing external areas of classified vegetation, including vegetation to the north, south and west, will be separated from the proposed residential development on the subject site by an internal road network and will be accessible for fire suppression from different directions during a bushfire event. Future development to the north and west of the subject site will have additional separation provided by Thomas Road and Briggs Road, respectively. Additionally, within the communal areas along the eastern boundary of the subject site, it is recommended that mature tree canopy will be managed to an APZ level to ensure no canopy overlap occurs to vegetation surrounding the development site. The presence of this vegetation therefore does not pose a significant threat to the development.

Pursuant to the discretionary decision making provisions under Clause 2.6 of the Guidelines, the incidental community facilities positioned along the eastern boundary have been omitted from the BMP assessment on the basis that these structures are capable of exemption from the requirements of SPP3.7 as they involve incidental elements to the predominant grouped dwelling (Lifestyle Community) activity and will be used infrequently by residents. Having regard to the potential bushfire hazard arising from the positioning of the proposed incidental structures along the eastern boundary, it is noted that Lifestyle Communities, such as this Edenlife proposal, are better managed and less susceptible to risks arising from bushfire when compared to conventional residential development as they are required to have:

- An appointed fire warden;
- Community volunteers to assist with fire safety and response;
- Emergency evacuations plans in place with dedicated muster point locations;
- Appropriate fire detection systems (smoke and heat) within the buildings throughout the site, including the clubhouse.

Unlike conventional residential developments, these additional risk management measures provide the overall site with ongoing maintenance, education and community engagement to increase preparedness of such an event.

5.2 Consideration of Landscaping and Management Arrangements

Landscaping proposed within the subject site predominantly involves the retention of existing tree canopy, particularly adjacent to the eastern boundary of the site within the communal areas. Three key areas of landscaped open space are evident, noting the main vehicle entrance from Briggs Road to the west, the communal areas adjacent to the eastern boundary and the MUC to the south. Given this design approach, management of existing mature vegetation adjacent to the eastern boundary is necessary. The bushfire hazard issues arising from the proposed landscaping has been informed by the following assessment:

- Several existing mature canopy trees are proposed for retention within communal areas along the eastern boundary of the development site. As a result of any boundary fencing to be constructed as per the Masterplan, tree removal and/or pruning of trees may be required along and in close proximity to the boundary. Therefore, it has been assumed that as a result of these works, the establishment of an Asset Protection Zone (APZ) area adjacent to the eastern boundary of the subject site will be capable of achieving the APZ requirements through a combination of canopy reduction and separation, and understorey/groundcover management in line with Schedule 1: Standards for Asset Protection Zones under Element 2 of the Guidelines. In the event that vegetation in this location is not modified to the extent required to achieve APZ standards, further assessment of the resulting bushfire threat may be required; This is necessary to ensure that the BAL can be managed to a maximum of BAL29 in relation to the nearest dwellings (assuming a 2m dwelling setback from the respective lot boundaries);

- Plantings within the multi-use corridor (MUC) will not exceed a height of 2m at maturity and therefore, Plot 13 comprising land within the southern portion of the subject site has been classified as Class C Shrubland for the purposes of this assessment. Proposed plantings within Plot 13 of 0.3m-2m in height will form the predominant vegetation type in this plot. Although additional tree species are listed on the Landscaping Plan for the MUC, this list is indicative only and no additional trees (other than those existing) are proposed for planting within this plot unless BAL compliance can be demonstrated in relation to the dwellings proposed. On this basis, the potential impacts arising from the vegetation will be mitigated through separation to habitable dwellings and perimeter roads which assist in fire suppression in the event of a bushfire.

- All proposed habitable buildings within the site will therefore be capable of separation from surrounding classified vegetation either by roadways and non-vegetated areas or by the management of an APZ. In addition, pursuant to the Shire of Serpentine Jarrahdale Fire Hazard Reduction Notice 2022-2023 (refer **Appendix 4**), the operator will also be required to install or upgrade a continuous trafficable fire break as close as possible to the boundary for the entire perimeter of the site comprising a 3m wide by 4m high clearance to bare mineral earth.

5.3 Consideration of Broader Context

On completion of the Lifestyle Community development, the classified vegetation immediately surrounding the subject land to the north (Plot 9), south (Plot 13) and east (Plots 6 and 7) will represent areas of fragmented vegetation which are interspersed with the adjacent local road networks, existing urban areas, rural living areas and cleared farmland. The fragmented nature of this immediately surrounding classified vegetation plots significantly reduces the bushfire risk and intensity, particularly to the north and west. It is noted that within proximity of the subject lot to the east is a significant, single lot residential subdivision area with established dwellings. These areas are evident on the aerial image of the locality included at **Figure 9**.

In the immediate context, these existing areas of classified vegetation surrounding the Lifestyle Community will be separated from the site by maintained parkland and an internal road network which will be accessible for fire suppression from different directions during a bushfire event.

In the broader context, the subject land is serviced (through the entry point on Briggs Road) by Thomas Road to the north which connects to the wider Byford Centre locality to the east and south-east. Thomas Road connects to the South Western Highway (1.8km from the subject site) which provides direct access to the Byford Town Centre and associated amenities (total of 3.6km from the subject site). To the north east, the South Western Highway provides access to the Armadale Town Centre

(7.8km from the subject site). Thomas Road also connects to existing urban areas nearby to the west and future road connections to these areas will also be provided via Briggs Road once the Byford Meadows Estate is completed.

Pursuant to Clause 6.3 of SPP3.7, the proposal has been assessed against the bushfire protection criteria requirements contained within the Guidelines. Sections 6.0 and 7.0 of this report demonstrate that the proposal complies with the bushfire protection criteria of the Guidelines and it is therefore considered that the bushfire hazard issues can be effectively managed and mitigated.

Figure 9 – Locality Plan

6.0 ASSESSMENT AGAINST THE BUSHFIRE PROTECTION CRITERIA

An assessment of the proposal against the bushfire protection criteria of the Guidelines is contained in **Table 4** which demonstrates that the development meets all acceptable solutions.

6.1 Compliance Table

Table 4: Assessment Against the Bushfire Protection Criteria

Bushfire Protection Criteria	Intent	Method of Compliance Acceptable Solutions	Proposed Bushfire Management Strategies	Response
Element 1: Location	To ensure that strategic planning proposals, subdivision and development applications are located in areas with the least possible risk of bushfire to facilitate the protection of people, property and infrastructure.	A1.1 Development location The strategic planning proposal, subdivision and development application is located in an area that is or will, on completion, be subject to either a moderate or low bushfire hazard level, or BAL–29 or below.	The BAL Contour Map at **Figure 8** above demonstrates that the proposed habitable dwellings will be capable of separation from the adjacent bushfire hazard to achieve a BAL of BAL29 or lower. Accordingly, the development will be appropriately located.	The proposal meets the intent of Element 1 and achieves acceptable solution A1.1.
Element 2: Siting and Design of Development	To ensure that the siting and design of development minimises the level of bushfire impact.	A2.1 Asset Protection Zone (APZ) Every habitable building is surrounded by, and every proposed lot can achieve, an APZ depicted on submitted plans, which meets the following requirements: • Width: Measured from any external wall or supporting post or column of the proposed building, and of sufficient size to ensure the potential radiant heat impact of a bushfire	As demonstrated in the BAL Contour Map at **Figure 8** above, future habitable buildings on proposed lots will be appropriately sited to achieve a BAL rating of BAL29 or lower due to the separation provided to the surrounding classified vegetation.	The proposal meets the intent of Element 2 and achieves acceptable solution A2.1.

Bushfire Protection Criteria	Intent	Method of Compliance Acceptable Solutions	Proposed Bushfire Management Strategies	Response
		does not exceed 29kW/m² (BAL-29) in all circumstances. • Location: the APZ should be contained solely within the boundaries of the lot on which the building is situated, except in instances where the neighbouring lot or lots will be managed in a low-fuel state on an ongoing basis, in perpetuity (see explanatory notes). • Management: the APZ is managed in accordance with the requirements of 'Standards for Asset Protection Zones'. (see Schedule 1).	Proposed open space areas within the Lifestyle Community will be maintained in a low threat state by the operator and the APZs along the eastern boundary will be required to be managed in accordance with the requirements of Standards for Asset Protection Zones at Schedule 1 of the Guidelines (refer **Appendix 5** for an excerpt of Schedule 1). These management measures are also spatially demonstrated in **Figure 10** and included in Section 7.0.	
Element 3: Vehicular Access	To ensure that the vehicular access serving a subdivision / development is available and safe during a bushfire event.	*To achieve the intent, all applicable 'acceptable solutions' must be addressed:* * The acceptable solutions do not apply at every stage of the planning process. Refer to the annotations next to each acceptable solution to determine if they apply. The annotations are outlined below. SP – Strategic planning proposal and structure plan where the lot layout is not known Sb – Structure plan where the lot layout is known and subdivision application Dd – Development application for a single dwelling, ancillary dwelling or minor development	NA	The provisions for "Do" will be considered as part of this assessment.

Bushfire Protection Criteria	Intent	Method of Compliance Acceptable Solutions	Proposed Bushfire Management Strategies	Response
		Do – Development application for any other development		
		A3.1 Public roads (SP Sb **Do**) The minimum requirements under this acceptable solution are applicable to all proposed and existing public roads. Public roads are to meet the minimum technical requirements in Table 6, Column 1. The trafficable (carriageway/pavement) width is to be in accordance with the relevant class of road in the Local Government Guidelines for Subdivisional Development (IPWEA Subdivision Guidelines), Liveable Neighbourhoods, Austroad standards and/or any applicable standards for the local government area.	Briggs Road is the direct connecting road to the west which further connects to Thomas Road to the north. These roads represent the connecting public roads to the subject site which form part of the existing road network and are understood to comply with the standards contained within Appendix 4, Table 6, Column 1 of the Guidelines (refer **Appendix 6**). The internal road network will be retaining under the ownership and management of the future Lifestyle Community operator and therefore the roads will be maintained as private driveways. Notwithstanding the future internal road classification, the Lifestyle Community Masterplan (refer **Appendix 1**) provides for an internal road network comprising 6m wide roads which achieve the horizontal and vertical clearance	The proposal meets the intent of Element 3 and achieves acceptable solution A3.1 though compliance with the vehicular access technical requirements of Table 6.

Bushfire Protection Criteria	Intent	Method of Compliance Acceptable Solutions	Proposed Bushfire Management Strategies	Response
			requirements under Figure 20 of the Guidelines.	
		A3.2a Multiple access routes (SP Sb **Do**) Public road access is to be provided in two different directions to at least two different suitable destinations with an all-weather surface (two-way access). If the public road access to the subject site is via a no-through road which cannot be avoided due to demonstrated site constraints, the road access is to be a maximum of 200 metres from the subject lot(s) boundary to an intersection where two-way access is provided. The no-through road may exceed 200 metres if it is demonstrated that an alternative access, including an emergency access way, cannot be provided due to site constraints and the following requirements are met: • the no-through road travels towards a suitable destination; and • the balance of the no-through road, that is greater than 200 metres from the subject site, is wholly within BAL-LOW, or is within a residential built-out area – Figure 23.	The subject land gains vehicular access from two separate entry points to Briggs Road to the west. The southernmost entry point to Briggs Road is an emergency exit. Briggs Road provides safe access and egress via the public road network in two different locations from the subject land to at least two different suitable destinations with an all-weather surface. The proposed access arrangements are spatially demonstrated in **Figure 10**. The term "suitable destination" is defined in Appendix One (Definitions) of the Guidelines as follows: *An area that can provide shelter during a bushfire event and is either:*	The proposal meets the intent of Element 3 and achieves acceptable solution A3.2a.

Bushfire Protection Criteria	Intent	Method of Compliance Acceptable Solutions	Proposed Bushfire Management Strategies	Response
			- not classified as bushfire prone on the Map of Bushfire Prone Areas; or *- greater than 100m from classifiable vegetation.* Existing urban areas of the Byford locality are prevalent within proximity to the east and west of the subject site. These areas include residential estates, commercial precincts, the Byford Centre Hall, and the Marri Grove Primary School, all of which are not mapped as Bushfire Prone Areas. These areas are accessible from the two connection points to Briggs Road.	
		A3.2b Emergency access way (SP Sb **Do**) Where it is demonstrated that A3.2a cannot be achieved due to site constraints, or where an alternative design option does not exist, an emergency access way can be considered as an acceptable solution. An emergency access way is to meet all the following requirements: • requirements in Table 6, Column 2;	An Emergency Access Way (EAW) to the south west of the subject site is proposed to connect to Briggs Road as an alternate route providing connection to a public road. The EAW will be sealed and to a width of 6m, noting a distance of 50m between the location of the emergency exit and the boundary of Briggs Road.	The proposal meets the intent of Element 3 and achieves acceptable solution A3.2b.

Bushfire Protection Criteria	Intent	Method of Compliance Acceptable Solutions	Proposed Bushfire Management Strategies	Response
		• provides a through connection to a public road; • be no more than 500 metres in length; and • must be signposted and if gated, gates must open the whole trafficable width and remain unlocked.	Given the two entry points onto Briggs Road are separated by a distance of 160m and Briggs Road connects to Thomas Road to the north and several roads to the south, egress from the site is considered sufficient to achieve the Acceptable Solution. The EAW will be required to meet the requirements of Element 3 Vehicular Access, Acceptable Solution A3.2b (Emergency access ways). The indicative location of the EAW is spatially demonstrated in **Figure 10.**	
		A3.3 Through-roads (SP **Sb**) All public roads should be through-roads. No-through roads should be avoided and should only be considered as an acceptable solution where: • it is demonstrated that no alternative road layout exists due to site constraints; and • the no-through road is a maximum length of 200 metres to an intersection providing two-way access, unless it satisfies the exemption provisions in A3.2a of this table.	No public roads are proposed under this development.	NA

Bushfire Protection Criteria	Intent	Method of Compliance Acceptable Solutions	Proposed Bushfire Management Strategies	Response
		A no-through road is to meet all the following requirements: • requirements of a public road (Table 6, Column 1); and • turn-around area as shown in Figure 24		
		A3.4a Perimeter roads (SP Sb) A perimeter road is a public road and should be provided for greenfield or infill development where 10 or more lots are being proposed (including as part of a staged subdivision) with the aim of: • separating areas of classified vegetation under AS3959, which adjoin the subject site, from the proposed lot(s); and • removing the need for battle-axe lots that back onto areas of classified vegetation. A perimeter road is to meet the requirements contained in Table 6, Column 1. A perimeter road may not be required where: • the adjoining classified vegetation is Class G Grassland; • lots are zoned for rural living or equivalent; • it is demonstrated that it cannot be provided due to site constraints; or • all lots have frontage to an existing public road	NA	NA
		A3.4b Fire service access route (SP Sb)	NA	NA

Bushfire Protection Criteria	Intent	Method of Compliance Acceptable Solutions	Proposed Bushfire Management Strategies	Response
		Where proposed lots adjoin classified vegetation under AS3959, and a perimeter road is not required in accordance with A3.4a, a fire service access route can be considered as an acceptable solution to provide firefighter access, where access is not available, to the classified vegetation. A fire service access route is to meet all the following requirements: • requirements in Table 6, Column 3; • be through-routes with no dead-ends; • linked to the internal road system at regular intervals, every 500 metres; • must be signposted; • no further than 500 metres from a public road; • if gated, gates must open the required horizontal clearance and can be locked by the local government and/or emergency services, if keys are provided for each gate; and • turn-around areas designed to accommodate type 3.4 fire appliances and to enable them to turn around safely every 500 metres.		
		A3.5 Battle-axe access legs (Sb) Where it is demonstrated that a battle-axe cannot be avoided due to site constraints, it can be considered as an acceptable solution. There are no battle-axe technical requirements where the point the battle-axe access leg joins	NA	NA

Bushfire Protection Criteria	Intent	Method of Compliance Acceptable Solutions	Proposed Bushfire Management Strategies	Response
		the effective area of the lot, is less than 50 metres from a public road in a reticulated area. In circumstances where the above condition is not met, or the battle-axe is in a nonreticulated water area, the battle-axe is to meet all the following requirements: • requirements in Table 6, Column 4; and • passing bays every 200 metres with a minimum length of 20 metres and a minimum additional trafficable width of two metres (i.e. the combined trafficable width of the passing bay and constructed private driveway to be a minimum six metres).		

Bushfire Protection Criteria	Intent	Method of Compliance Acceptable Solutions	Proposed Bushfire Management Strategies	Response
		A3.6 Private driveways (Dd **Do**) There are no private driveway technical requirements where the private driveway is: • within a lot serviced by reticulated water; • no greater than 70 metres in length between the most distant external part of the development site and the public road measured as a hose lay; and • accessed by a public road where the road speed limit is not greater than 70 km/h. In circumstances where all of the above conditions are not met, or the private driveway is in a non-reticulated water area, the private driveway is to meet all the following require: • requirements in Table 6, Column 4; • passing bays every 200 metres with a minimum length of 20 metres and a minimum additional trafficable width of two metres (i.e. the combined trafficable width of the passing bay and constructed private driveway to be a minimum six metres); and • turn-around area as shown in Figure 28 and within 30 metres of the habitable building.	The internal road network within the Lifestyle Community development (as demonstrated in the Masterplan at **Appendix 1**) currently meets, or is capable of meeting, the requirements of Acceptable Solution A3.6 and Table 6, Column 4 of the Guidelines.	The proposal meets the intent of Element 3 and achieves acceptable solution A3.6.
Element 4: Water	To ensure that water is available to enable people, property and infrastructure to	*To achieve the intent, all applicable 'acceptable solutions' must be addressed:* SP – Strategic planning proposal and structure plan where the lot layout is not known Sb – Structure plan where the lot layout is known and subdivision application	NA	The provisions for "Do" will be considered as part of this assessment.

Bushfire Protection Criteria	Intent	Method of Compliance Acceptable Solutions	Proposed Bushfire Management Strategies	Response
	be defended from bushfire.	Dd – Development application for a single dwelling, ancillary dwelling or minor development **Do** – Development application for any other development that is not a single dwelling, ancillary dwelling or minor development.		
		A4.1 Identification of future water supply (SP) Evidence that a reticulated or sufficient non-reticulated water supply for bushfire fighting can be provided at the subdivision and/or development application stage, in accordance with the specifications of the relevant water supply authority or the requirements of Schedule 2. Where the provision of a strategic water tank(s) is required a suitable area within a road reserve or a dedicated lot the location should be identified, should be identified on the structure plan, to the satisfaction of the local government.	NA	NA
		A4.2 Provision of water for firefighting purposes (Sb Dd **Do**) Where a reticulated water supply is existing or proposed, hydrant connection(s) should be provided in accordance with the specifications of the relevant water supply authority. Where these specifications cannot be met, then the following applies:	The subject site is serviced by a reticulated water supply which will enable the installation of hydrants throughout the site in accordance with the Water Corporation Design Standard DS 63 (refer to **Figure 10**).	The proposal meets the intent of Element 4 and achieves acceptable solution A4.2.

Bushfire Protection Criteria	Intent	Method of Compliance Acceptable Solutions	Proposed Bushfire Management Strategies	Response
		• The provision of a water tank(s), in accordance with the requirements of Schedule 2; and • Where the provision of a strategic water tank(s) is applicable, then the following requirements apply: - land to be ceded free of cost to the local government for the placement of the tank(s); - the lot or road reserve where the tank is to be located is identified on the plan of subdivision; - tank capacity, construction, and fittings, provided in accordance with the requirements of Schedule 2; and - a strategic water tank is to be located no more than 10 minutes from the subject site (at legal road speeds). Where a subdivision includes an existing habitable building(s) that is to be retained, a water supply should be provided to this existing habitable building(s), in accordance with the requirements listed above.		
Element 5: Vulnerable Tourism Land Uses	To provide bushfire protection for tourism land uses relevant to the	Not applicable as vulnerable tourism land uses are not proposed.	NA	NA

Bushfire Protection Criteria	Intent	Method of Compliance Acceptable Solutions	Proposed Bushfire Management Strategies	Response
	characteristics of the occupants and/or the location, to preserve life and reduce the impact of bushfire on property and infrastructure.			

6.2 Additional Management Strategies

The following additional bushfire management strategies have been recommended for guiding future planning and development stages associated with the proposal. These strategies are based on best practice in bushfire protection and reflect the guidance provided by SPP3.7 and the Guidelines.

The bushfire risk management measures to be maintained on the subject site, including the relevant bushfire protection criteria are spatially demonstrated in **Figure 10**.

6.2.1 Notification(s) on Title

Pursuant to SPP3.7, in instances where land is assessed with a BAL rating above BAL-LOW, it is recommended that notifications be placed on title to advise on bushfire risk management implementation measures, including:

- To advise that the site is located in a bushfire prone area; and
- To advise that the site is subject to a Bushfire Management Plan.

6.2.2 Staging

In the event that Lifestyle Community development occurs in a staged manner, it will be necessary to ensure that appropriate interim bushfire management measures are provided, including:

- Interim access or emergency access ways;
- Creation of additional low fuel zones / cleared areas to ensure that the intended BAL ratings can be applied; or
- The provision of boundary firebreaks especially on any balance lot.

It is recommended that for any proposed stage of the future development, a statement and plan of the proposed interim fire management strategies be submitted and approved by the Shire to guide the management of the site until such a time that the complete suite of management measures can be implemented pursuant to **Figure 10**.

6.2.3 Compliance with the Shire of Serpentine Jarrahdale Fire Hazard Reduction Notice 2022-23

Shire of Serpentine Jarrahdale 2022-2023 (included at **Appendix 4**) contains the following land management practices:

Fire Breaks

Install or upgrade a 3-metre-wide by 4-metre-high clearance, bare mineral earth, continuous (no dead ends) trafficable fire break as close as possible inside the entire perimeter of the land.

Dead Flammable Material (DFM)

Reduce and/or maintain all dead flammable material below 8 tonne per hectare (see definition Fuel Load).

Slashing

IF UNSTOCKED, Slash, mow, or trim grasses, to a height no greater than 50mm and remove cuttings/swath across the entire property.

Asset Protection Zone

Maintain a fuel reduced zone around all buildings and assets which extends 20 metres from the outermost point of all buildings and assets.

- *Gutters, roofs, and walls of all buildings to be free of flammable matter and maintained.*
- *Fuel load within the 20-metre zone is reduced and maintained to no more than 2 tonne per hectare.*
- *Trees over 5 metres in height within the 20-metre zone to be under pruned up to 2 metres.*
- *Trees or shrubs within 2 metres of a building / asset shall be pruned to a height no greater than 2 metres and/or pruned away from the building / asset to a distance greater than 2 metres.*

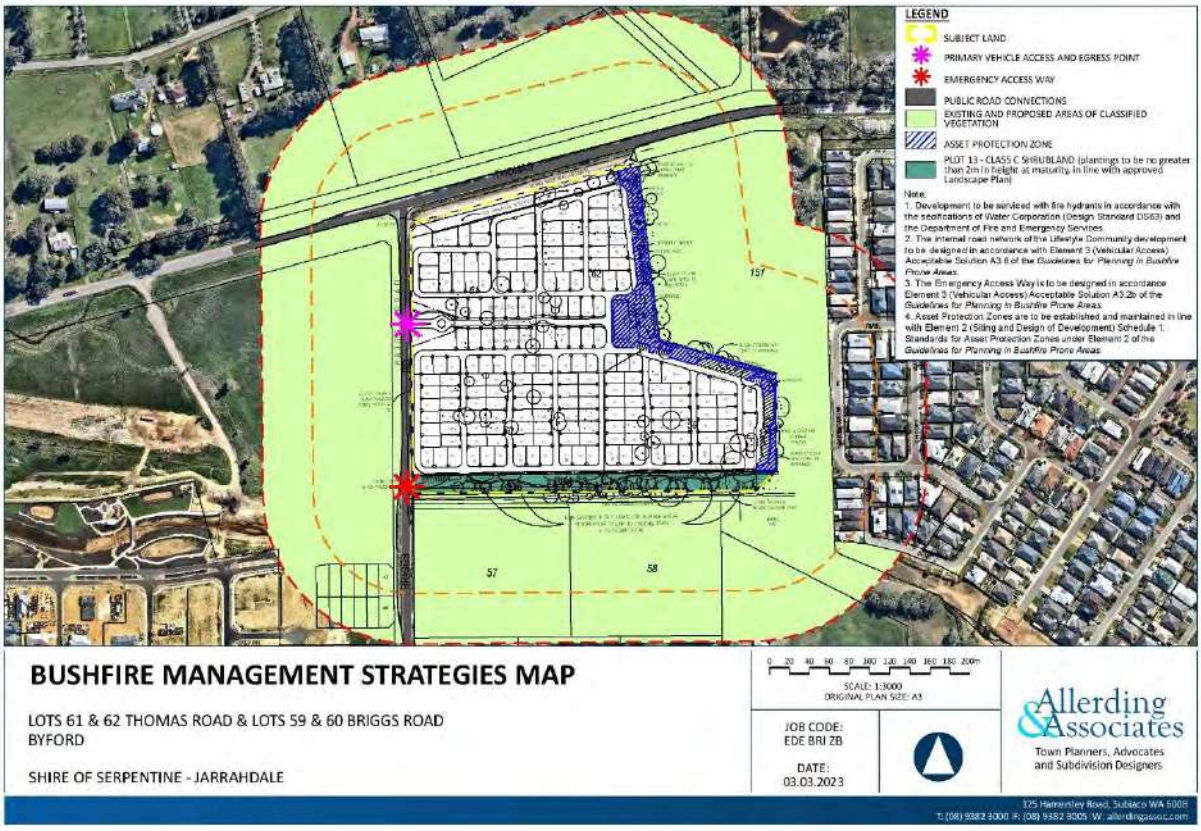

Figure 10 – Bushfire Management Strategies

7.0 RESPONSIBILITIES FOR IMPLEMENTATION AND MANAGEMENT

The following tables set out the responsibilities of the developer, landowner, and local government with regard to the initial implementation and ongoing maintenance of the required actions as contained within this BMP.

No.	Action	Implementation		Management	
		Responsible	Timing	Responsible	Timing
1	Construction of buildings to AS3959.	Landowner / Developer	Prior to the occupation of proposed buildings	NA	NA
2	Install and maintain vehicular access routes to the required surface condition and clearances as stated in the BMP.	Landowner / Developer	Prior to the occupation of proposed buildings	Landowner / Operator	Ongoing
3	Install and maintain reticulated water supply to the required standards as stated in the BMP.	Landowner / Developer	Prior to the occupation of proposed buildings	Landowner / Operator	Ongoing
5	Establish and maintain Asset Protection Zone to the required standards as stated in the BMP	Landowner / Developer	Prior to occupancy of proposed buildings	Landowner / Operator	Ongoing
6	Notification on Title notifying that the site/lot is located in a bushfire prone area and is subject to a BMP.	Landowner / Developer	Prior to issue of titles	NA	NA
7	Comply with the relevant local government annual firebreak notice issued under s33 of the Bush Fires Act 1954.	Landowner	Ongoing	Landowner / Operator	Ongoing
8	Inspection and compliance action.	NA	NA	Local Government	Ongoing
9	Future revisions / amendments to BMP.	NA	NA	Landowner / Developer	Prior to any future development outside the scope of this BMP.

8.0 REFERENCES

Allerding & Associates 2023, *Application for Development Approval – Grouped Dwelling Development (Lifestyle Community),* March 2023.

Department of Fire and Emergency Services 2023, *Mapping standard for bush fire prone areas,* Government of Western Australia, <https://www.dfes.wa.gov.au/waemergencyandriskmanagement/obrm/Documents/OBRM-Mapping-Standard-for-Bush-Fire-Prone-Areas.pdf>.

Shire of Serpentine Jarrahdale 2023, *Fire Hazard Reduction Notice 2022-2023* <https://www.sjshire.wa.gov.au/Profiles/sj/Assets/ClientData/23265_-_Fire_Hazard_Reduction_Notice_-_2022-23_FINAL.pdf>

Standards Australia Online 2018, *Construction of buildings in bushfire-prone areas*, AS 3959:2018.

Western Australian Planning Commission 2021, *Guidelines for planning in bushfire prone areas version 1.4,* <https://www.wa.gov.au/system/files/2021-12/Guidelines-for-planning-in-bushfire-prone-areas-version-1.4.pdf>.

Western Australian Planning Commission 2015, *State planning policy 3.7 planning in bushfire prone areas,* <https://www.planning.wa.gov.au/dop_pub_pdf/SPP_3.7_Planning_in_Bushfire_Prone_Areas.pdf>.

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LEGEND

- NEW STREET TREES
- EXISTING TREES TO BE RETAINED

STANDARD SITES	164
REAR LOADED SITES	24
DUPLEX SITES	7 (14)
TOTAL	195 (202)

OVERALL SITE AREA	87,827.3m2
4m ADD. ROAD RESERVE	969.4m2
MULTI-USE CORRIDOR AREA	6875.5m2
DRAINAGE RESERVE AREA	2348.5m2
SITE AREA (EXCLUDING MULTI-USE CORRIDOR, DRAINAGE RESERVE & ADD. ROAD RESERVE)	77,633.9m2
TOTAL OPEN SPACE AREA (EXCLUDING MULTI-USE CORRIDOR, DRAINAGE RESERVE & ADD. ROAD RESERVE)	9,359.2m2

No.	Description	Date

PROPOSED RESIDENTIAL VILLAGE FOR EDENLIFE COMMUNITIES

CNR. THOMAS ROAD & BRIGGS ROAD, BYFORD W.A.

A.001 Masterplan Concept 2

Project number	-
Date	27.02.2023
Drawn by	RHA
Checked by	RHA
Scale @ A2	1 : 1000

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No.	Description	Date

EDENLIFE COMMUNITIES

Typ. SITE PLAN

CNR. THOMAS RD & BRIGGS RD, BYFORD W.A.

Typ. SITE PLAN

Project number	-
Date	24.02.2023
Drawn by	RHA
Checked by	RHA

A-100

Scale@A4 1 : 100

24/02/2023 4:14:34 PM

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No.	Description	Date

EDENLIFE COMMUNITIES

Typ. REAR LOADED SITE PLAN

CNR. THOMAS RD & BRIGGS RD, BYFORD W.A.

REAR LOADED SITE PLAN

Project number	-
Date	24.02.2023
Drawn by	RHA
Checked by	RHA

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APPENDIX 3 –
BUSHFIRE MANAGEMENT PLAN MAPPING

AS3959 VEGETATION CLASSIFICATION

LOTS 61 & 62 THOMAS ROAD & LOTS 59 & 60 BRIGGS ROAD
BYFORD

SHIRE OF SERPENTINE - JARRAHDALE

0 20 40 60 80 100 120 140 160 180 200m

SCALE: 1:3000
ORIGINAL PLAN SIZE: A3

JOB CODE:
EDE BRI ZB

DATE:
04.10.2022

LEGEND

- SUBJECT LAND
- ASSESSMENT AREA (150m) FROM THE EXTERNAL BOUNDARY OF THE SUBJECT SITE
- ASSESSMENT AREA (100m) FROM THE EXTERNAL BOUNDARY OF THE SUBJECT SITE

Allerding & Associates
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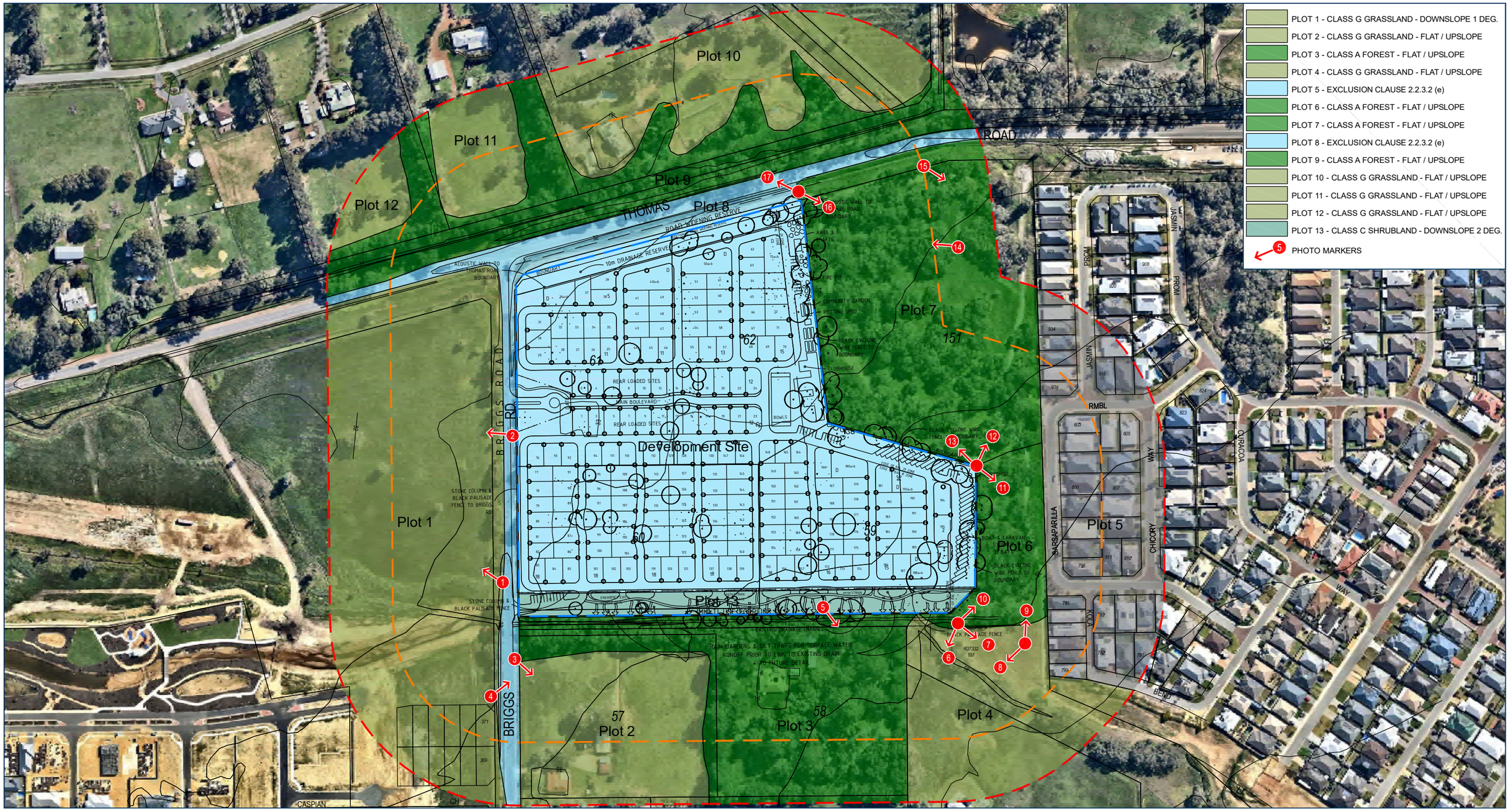

POST DEVELOPMENT
AS3959 VEGETATION CLASSIFICATION

LOTS 61 & 62 THOMAS ROAD & LOTS 59 & 60 BRIGGS ROAD
BYFORD

SHIRE OF SERPENTINE - JARRAHDALE

0 20 40 60 80 100 120 140 160 180 200m

SCALE: 1:3000
ORIGINAL PLAN SIZE: A3

JOB CODE:
EDE BRI ZB

DATE:
28.02.2023

LEGEND

- SUBJECT LAND
- ASSESSMENT AREA (150m) FROM THE EXTERNAL BOUNDARY OF THE SUBJECT SITE
- ASSESSMENT AREA (100m) FROM THE EXTERNAL BOUNDARY OF THE SUBJECT SITE

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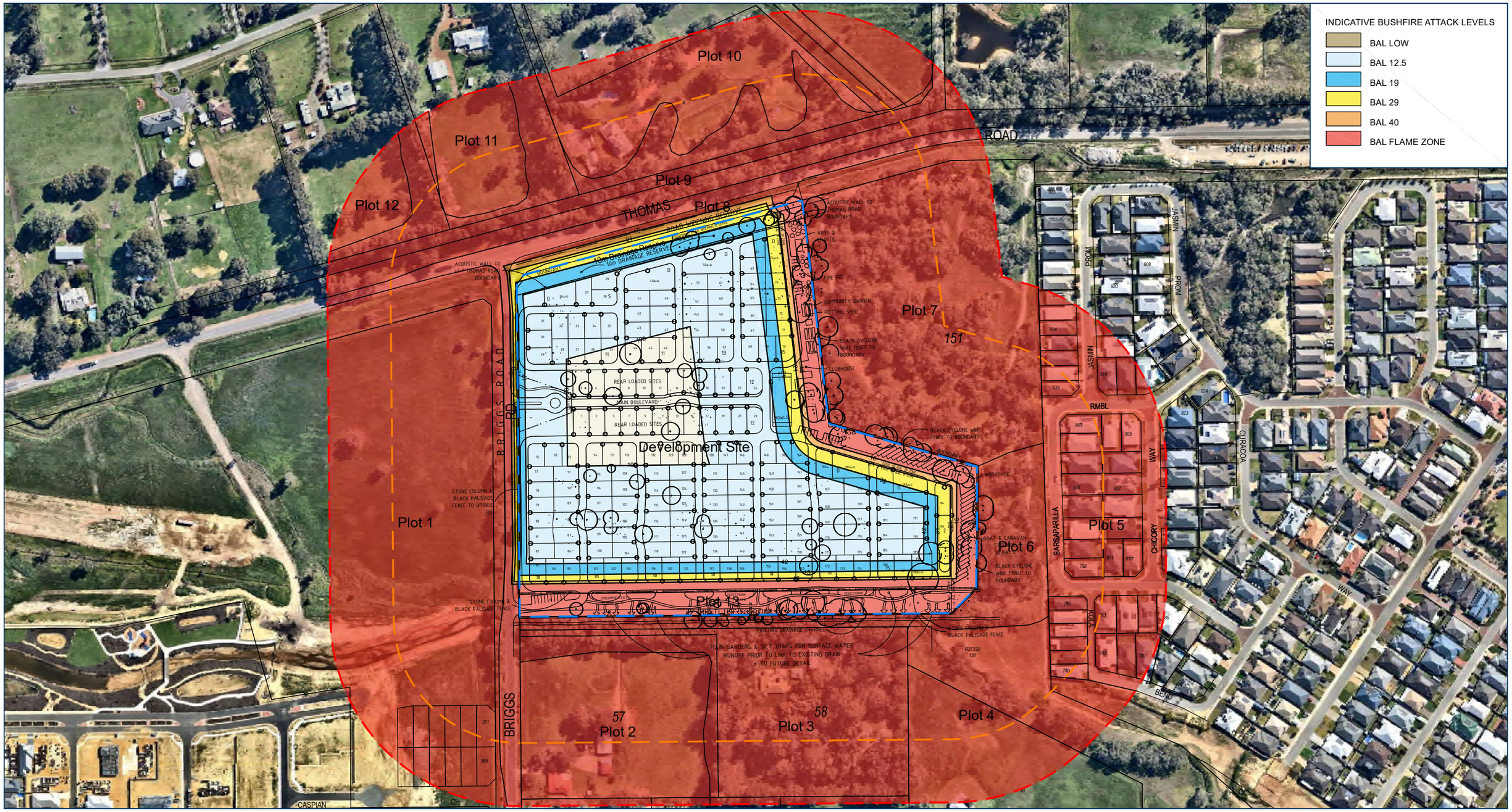

BAL CONTOUR MAP

LOTS 61 & 62 THOMAS ROAD & LOTS 59 & 60 BRIGGS ROAD
BYFORD

SHIRE OF SERPENTINE - JARRAHDALE

0 20 40 60 80 100 120 140 160 180 200m

SCALE: 1:3000
ORIGINAL PLAN SIZE: A3

JOB CODE:
EDE BRI ZB

DATE:
01.03.2023

LEGEND

- SUBJECT LAND
- ASSESSMENT AREA (150m) FROM THE EXTERNAL BOUNDARY OF THE SUBJECT SITE
- ASSESSMENT AREA (100m) FROM THE EXTERNAL BOUNDARY OF THE SUBJECT SITE

Allerding & Associates
Town Planners, Advocates and Subdivision Designers

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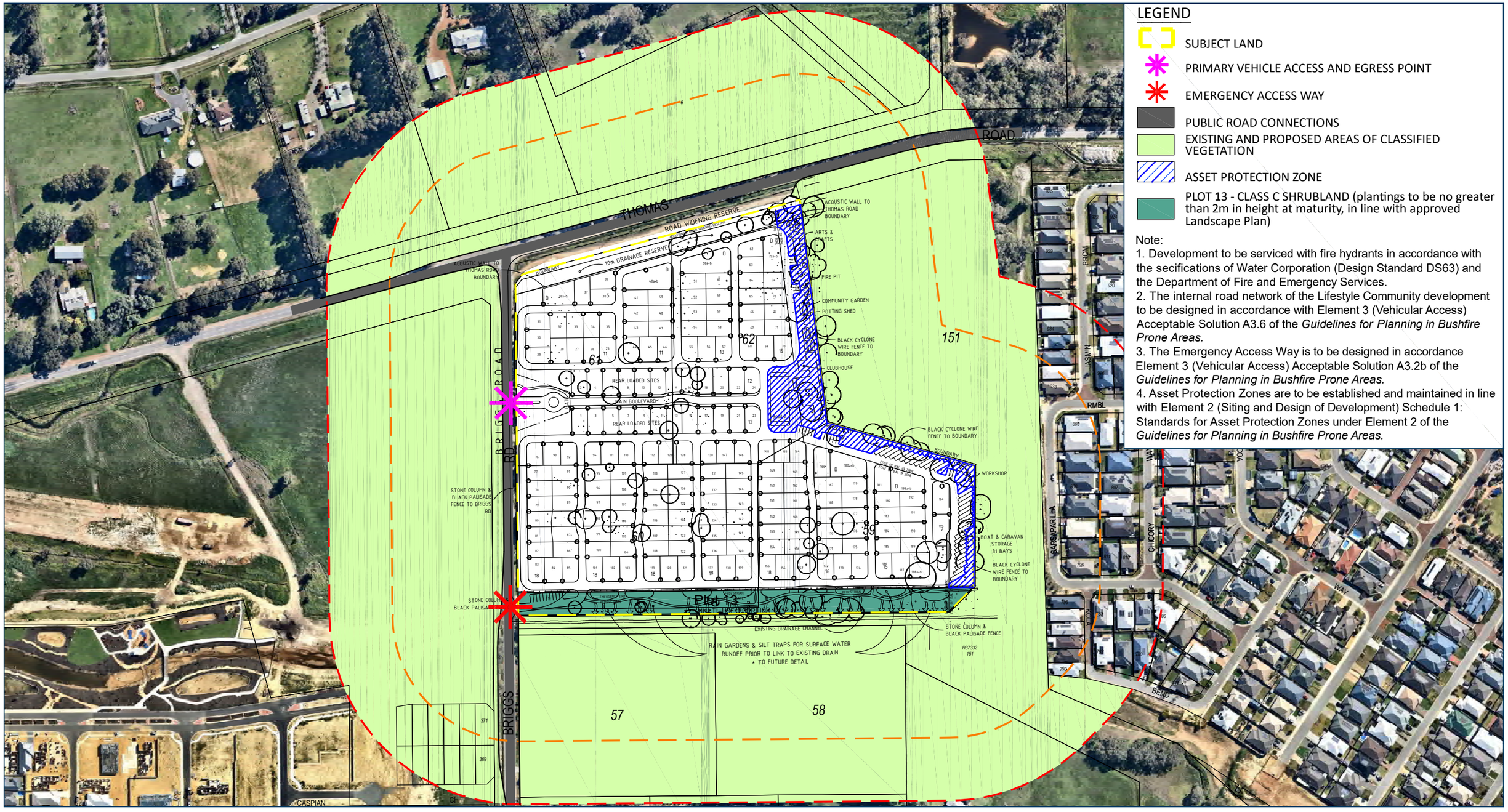

LEGEND

- SUBJECT LAND
- PRIMARY VEHICLE ACCESS AND EGRESS POINT
- EMERGENCY ACCESS WAY
- PUBLIC ROAD CONNECTIONS
- EXISTING AND PROPOSED AREAS OF CLASSIFIED VEGETATION
- ASSET PROTECTION ZONE
- PLOT 13 - CLASS C SHRUBLAND (plantings to be no greater than 2m in height at maturity, in line with approved Landscape Plan)

Note:

1. Development to be serviced with fire hydrants in accordance with the secifications of Water Corporation (Design Standard DS63) and the Department of Fire and Emergency Services.
2. The internal road network of the Lifestyle Community development to be designed in accordance with Element 3 (Vehicular Access) Acceptable Solution A3.6 of the *Guidelines for Planning in Bushfire Prone Areas.*
3. The Emergency Access Way is to be designed in accordance Element 3 (Vehicular Access) Acceptable Solution A3.2b of the *Guidelines for Planning in Bushfire Prone Areas.*
4. Asset Protection Zones are to be established and maintained in line with Element 2 (Siting and Design of Development) Schedule 1: Standards for Asset Protection Zones under Element 2 of the *Guidelines for Planning in Bushfire Prone Areas.*

BUSHFIRE MANAGEMENT STRATEGIES MAP

LOTS 61 & 62 THOMAS ROAD & LOTS 59 & 60 BRIGGS ROAD
BYFORD

SHIRE OF SERPENTINE - JARRAHDALE

0 20 40 60 80 100 120 140 160 180 200m

SCALE: 1:3000
ORIGINAL PLAN SIZE: A3

JOB CODE:
EDE BRI ZB

DATE:
03.03.2023

Allerding & Associates
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EDENLIFE
LOCAL STRUCTURE PLAN
LOT 59 TO 62 BRIGGS STREET, BYFORD

ROAD TRAFFIC AND FREIGHT RAIL (SPP 5.4)
ACOUSTIC ASSESSMENT

MARCH 2023

OUR REFERENCE: 30740-1-22320

Rochdale Holdings Pty Ltd A.B.N. 85 009 049 067 trading as:
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DOCUMENT CONTROL PAGE

ACOUSTIC ASSESSMENT
LOCAL STRUCTURE PLAN

Job No: 22320

Document Reference: 30740-1-22320

FOR

EDENLIFE

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Author:	Paul Daly	**Checked By:**	George Watts
Date of Issue :	3 March 2023		

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APPENDICIES

A Local Structure Plan

B Noise Contour Plots

C "Quiet House" Design – General Information

1. INTRODUCTION

Herring Storer Acoustics was commissioned by Edenlife to undertake an acoustical assessment of noise received within the proposed Local Structure Plan (LSP) for Lots 59 to 62 Briggs Road, Byford.

The proposed LSP contains residential land use, being a Lifestyle Community for over 50s.

As part of the study, the following was carried out:

- Measurement of the current traffic noise levels for Thomas Road, at the proposed development.
- Determine by noise modelling the noise levels that would be received within the LSP from traffic travelling on the future Thomas Road.
- Assess the predicted noise levels received at residence for compliance with the requirements of the WAPC State Planning Policy 5.4 *"Road and Rail Noise"* (SPP 5.4).
- If exceedances are predicted, comment on possible noise amelioration options for compliance with the appropriate criteria.

For information, the local structure plan is attached in Appendix A.

2. SUMMARY

Under the WAPC State Planning Policy 5.4, for this development, the appropriate "Noise Targets" to be achieved under SPP 5.4, external to a residence are:

External

Day	Maximum of 55 dB(A) L_{Aeq}
Night	Maximum of 50 dB(A) L_{Aeq}

The policy states that the "outdoor targets are to be met at all outdoor areas as far as reasonable and practical to do so using the various noise mitigation measures outlined in the guidelines". The Policy also states, under Section 6 – Policy Measures that "a reasonable degree of acoustic amenity for living areas on each residential lot". The policy recognises that "it may not be practicable to meet the outdoor noise targets".

The Policy states the following acceptable internal noise levels:

Internal

Living and Work Areas	$L_{Aeq(Day)}$ of 40 dB(A)
Bedrooms	$L_{Aeq(Night)}$ of 35 dB(A)

For this development, compliance with the requirements of SP 5.4, noise modelling and assessment are based on the day period for residence located adjacent to the Thomas Road.

This assessment is provided to provide overall guidance for the LSP, once detailed information is available at subdivision stage, such as final heights, Lot placements etc, more detailed acoustic advice can be provided.

The results of the acoustic assessment indicate that noise received at residences located adjacent to Thomas Road would exceed the "Noise Targets" as outlined in SPP 5.4.

For lots which are to contain residential development the possible noise amelioration options that are normally considered are setbacks or buffer areas, Noise bunds and / or Barriers. and "Quiet

House" design. Therefore, two forms of noise amelioration options have been included for consideration:

Option 1. 2.4m Noise wall at the development Boundary facing Thomas Road.

Option 2. Design considerations as to Lot placement and Public Open Space, combined with individual design consideration in the form of Quiet House Design.

SETBACKS OR BUFFER AREAS

Using the above options, the distance for separation (buffer) of the boundary and residential premises with no noise amelioration (wall or bund).

The minimum setback (with no noise wall) would be 50 metres for there to be no other noise amelioration such as Quiet House Design.

The buffer would effectively isolate significant amounts of land, hence, not be practical for residential areas such as those proposed. However, if realignment of Public Open Space (POS) can be incorporated into the Lot design, then this maybe an affectual design.

NOISE BUNDS AND / OR BARRIERS

Noise control in the form of barriers, such as noise wall have been investigated as a way of ameliorating the noise levels for future development.

The noise contour plot for a 2.4 metre noise wall at the northern boundary of development (facing Thomas Road) is contained within Appendix B as Figure 3.

With the inclusion of a barrier, noise levels are attenuated sufficiently to enable residential development behind the wall with no further acoustic requirements.

QUIET HOUSE DESIGN

If considering residential development within areas above 55 dB(A) as per the previous two scenarios, quiet house design as outlined in SPP 5.4 guidance would be required to further ameliorate noise levels to meet internal noise level criteria.

The package requirement depends on the external noise levels, however, for guidance, the table below details the extent of the noise for the future noise levels associated with Thomas Road, without any noise control in the form of barriers.

ROAD AND RAIL NOISE GUIDELINES SEPTEMBER 2019 (TABLE 2) : NOISE EXPOSURE FORECAST

Forecast Excess Noise Level, dB	Exposure Category	Policy requirements for noise-sensitive land-use and/or development
0 or less	**-**	No further measures Noise-sensitive land-use and/or development is acceptable, subject to: Mitigation measures in accordance with an approved noise management plan; Or quiet house package as specified
1 to 3	**A**	
4 to 7	**B**	
8 to 11	**C**	

Information on the deemed to satisfy constructions for the various "Quiet House Design" packages are contained in Appendix D.

Notes:

1 Given the location of the development and the projected market (lifestyle village), we understand that 2 storey residences are unlikely, hence the Quiet House Design is for single storey residence only. If double storey residences are proposed, then it is recommended that specialist acoustic advice be sought by the proponent.

2 We understand that the development is a Local Structure Plan stage, hence the information contained in Appendix D regarding areas requiring "Quiet House" design will need to be refined once the lots have been defined and final heights are established. Additionally, any modifications to the Structure Plan, would vary the noise mitigation requirements relating to barriers and "Quiet House" design outlined in Appendix C.

3 The summary of the Quiet House Design Packages attached in Appendix D, are "Deemed to Satisfy" constructions. Alternative constructions would be acceptable, provided they are supported by an acoustic report prepared by a suitably qualified acoustic consultant.

4 Quiet House Design requirements are likely to lessen for residential premises set back from Thomas Road, as the façade residences will barrier those behind.

5 Additionally, these residences also require Notifications on Titles, however it is understood that Lifestyle Villages have different applications similar to Strata titles, hence this will need to be "as applicable" to this Village.

3. CRITERIA

3.1 ROAD AND RAIL TRAFFIC NOISE

The Western Australian Planning Commission (WAPC) released on 6th September 2019 State Planning Policy 5.4 *"Road and Rail Noise".* The requirements of State Planning Policy 5.4 are outlined below.

POLICY APPLICATION (Section 4)

When and where it applies (Section 4.1)

SPP 5.4 applies to the preparation and assessment of planning instruments, including region and local planning schemes; planning strategies, structure plans; subdivision and development proposals in Western Australia, where there is proposed:

*a) noise-sensitive land-use within the policy's trigger distance of a transport corridor as specified in **Table 1**;*

*b) New or major upgrades of roads as specified in **Table 1** and maps **(Schedule 1,2 and 3);** or*

*c) New railways or major upgrades of railways as specified in maps (**Schedule 1, 2 and 3);** or any other works that increase capacity for rail vehicle storage or movement and will result in an increased level of noise.*

Policy trigger distances (Section 4.1.2)

***Table 1** identifies the State's transport corridors and the trigger distances to which the policy applies.*

*The designation of land within the trigger distances outlined in **Table 1** should not be interpreted to imply that land is affected by noise and/or that areas outside the trigger distances are un-affected by noise.*

*Where any part of the lot is within the specified trigger distance, an assessment against the policy is required to determine the likely level of transport noise and management/ mitigation required. An initial screening assessment (**guidelines: Table 2: noise exposure forecast**) will determine if the lot is affected and to what extent."*

TABLE 1: TRANSPORT CORRIDOR CLASSIFICATION AND TRIGGER DISTANCES

Transport corridor classification	*Trigger distance*	*Distance measured from*
Roads		
Strategic freight and major traffic routes *Roads as defined by Perth and Peel Planning Frameworks and/or roads with either 500 or more Class 7 to 12 Austroads vehicles per day, and/or 50,000 per day traffic volume*	*300 metres*	*Road carriageway edge*
Other significant freight/traffic routes *These are generally any State administered road and/or local government road identified as being a future State administered road (red road) and other roads that meet the criteria of either >=23,000 daily traffic count (averaged equivalent to 25,000 vehicles passenger car units under region schemes)*	*200 metres*	*Road carriageway edge*
Passenger railways		
	100 metres	*Centreline of the closest track*
Freight railways		
	200 metres	*Centreline of the closest track*

Proponents are advised to consult with the decision making authority as site specific conditions (significant differences in ground levels, extreme noise levels) may influence the noise mitigation measures required, that may extend beyond the trigger distance.

POLICY MEASURES (Section 6)

The policy applies a performance-based approach to the management and mitigation of transport noise. The policy measures and resultant noise mitigation will be influenced by the function of the transport corridor and the type and intensity of the land-use proposed. Where there is risk of future land-use conflict in close proximity to strategic freight routes, a precautionary approach should be applied. Planning should also consider other broader planning policies. This is to ensure a balanced approach takes into consideration reasonable and practical considerations.

Noise Targets (Section 6.1)

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

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

- *indoor noise levels as specified in **Table 2** in noise sensitive areas (for example, 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 child care 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.

TABLE 2: NOISE TARGETS

Proposals	***New/Upgrade***	***Noise Targets***		
		Outdoor		***Indoor***
		Day (L_{Aeq}(Day) dB) (6 am-10 pm)	***Night (L_{Aeq}(Night)dB) (10 pm-6 am)***	***(L_{Aeq} dB)***
Noise-sensitive land-use and/or development	*New noise sensitive land use and/or development within the trigger distance of an existing/proposed transport corridor*	*55*	*50*	*L_{Aeq} (Day) 40(Living and work areas)* *L_{Aeq} (Night) 35 (bedrooms)*
Roads	*New*	*55*	*50*	*N/A*
	Upgrade	*60*	*55*	*N/A*
Railways	*New*	*55*	*50*	*N/A*
	Upgrade	*60*	*55*	*N/A*

Notes:

- *The noise target is to be measured at one metre from the most exposed, habitable façade of the proposed building, which has the greatest exposure to the noise-source. A habitable room has the same meaning as defined in State Planning Policy 3.1 Residential Design Codes.*
- *For all noise-sensitive land-use and/or development, indoor noise targets for other room usages may be reasonably 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.*
- *The 5dB difference in the criteria between new and upgrade infrastructure proposals acknowledges the challenges in achieving noise level reduction where existing infrastructure is surrounded by existing noise-sensitive development.*
- *Outdoor targets are to be met at all outdoor areas as far as is reasonable and practical to do so using the various noise mitigation measures outlined in the guidelines. For example, it is likely unreasonable for a transport infrastructure provider to achieve the outdoor targets at more than 1 or 2 floors of an adjacent development with direct line of sight to the traffic.*

Noise Exposure Forecast (Section 6.2)

*When it is determined that SPP 5.4 applies to a planning proposal as outlined in Section 4, proponents and/or decision makers are required to undertake a preliminary assessment using **Table 2**: noise exposure forecast in the guidelines. This will provide an estimate of the potential noise impacts on noise-sensitive land-use and/ or development within the trigger distance of a specified transport corridor. The outcomes of the initial assessment will determine whether:*

- *no further measures is required;*
- *noise-sensitive land-use and/or development is acceptable subject to deemed-to- comply mitigation measures; or*
- *noise-sensitive land-use and/or development is not recommended. Any noise-sensitive land-use and/ or development is subject to mitigation measures outlined in a noise management plan."*

4. MONITORING

Noise monitoring was undertaken at the boundary of the proposed development between the 13th and 16th February 2023. From these measurements, the noise received at the development from vehicles travelling along Thomas Road was determined.

The results of the noise data logging are summarised in Table 4.1.

TABLE 4.1 – DETERMINATION OF TRANSPORTATION NOISE AT LOGGER, dB(A)

Location	$L_{A10\ 18hr}$	$L_{Aeq(day)}$	$L_{Aeq(night)}$
Boundary of Development (20 metres from the road edge)	60.2	57.6	49.8

Based on the noise monitoring, the calculated difference between the $L_{A10,18hour}$ and $L_{Aeq,8hour}$, and the $L_{Aeq10,18hr}$ and $L_{Aeq,16\ hr}$ is -10.4 and -2.6 dB. As the difference between day and night L_{Aeq} noise levels is greater than 5 dB(A) (i.e. 7.8 dB(A)), the day period is the critical period for compliance.

For information, the results of the monitoring are shown graphically in Appendix E, with Figure 4.1 showing the location map, Figure 4.2 showing the monitor in situ and Figure 4.3 showing the road surface.

FIGURE 4.1 - NOISE MONITOR LOCATION PLAN

FIGURE 4.2 NOISE MONITOR INSITU

FIGURE 4.3 – ROAD SURFACE

5. MODELLING

To determine the requirements of any noise amelioration, acoustic modelling was carried out using the computer program 'SoundPlan'. Acoustic modelling was carried out for road traffic flows 20 years in the future.

The parameters utilised in the noise modelling are listed in Table 5.1 below.

TABLE 5.1 - NOISE MODELLING INPUT DATA

Parameter	Thomas Road	
	Latest Count 2021	Future 2041
Traffic flows VPD	21,006	36,200
Heavy Vehicles (%)	11.3%	10.0%
Traffic Speed km/hr	70	70
Road Surface	14mm Chip Seal	DGA
Façade Correction	+2.5	+2.5

The future road traffic volumes were based on information provided by the MRWA traffic maps and by the MRWA ROM Department. Advice from the department is as provided in Appendix E.

Other input data for the model included:

- Traffic data from MRWA (https://mrapps.mainroads.wa.gov.au/TrafficMap/)
- Noise source heights for the three road source strings (Passenger Vehicles, Heavy Vehicles Engine and Heavy Vehicle Exhausts) are +0.5, +1.5 and +3.6m, with a noise correction of -0.8 and -8.0 applied to the heavy vehicles engine and exhaust noise sources.
- Topographical data, with the ground level within the development based on natural ground levels as per surveys conducted.
- A +2.5 dB adjustment to allow for façade reflection.
- Development receiver heights at 1.4m above ground level.
- Calculations based on CoRTN algorithms.
- Other parameter listed in SPP 5.4 as to guidance for modelling road traffic noise / assessment.

To determine the noise that would be received within the development from the surrounding road network, acoustic modelling was carried out using the computer program 'SoundPlan'.

The following scenarios were modelled:

1. Current Traffic volumes, for calibration purposes.
2. Scenario 1 – Future Thomas Road alignment and traffic volumes, no noise control.
3. Scenario 2 – Future Thomas Road alignment and traffic volumes, 2.4m Noise Wall at northern boundary of the development.

Based on the above, the noise contours plots for day period for the above modelling scenario 2 (ie: recommended option) are attached in Appendix B, with the resultant noise levels discussed further in the next section.

6. DISCUSSION / RECOMMENDATION

Under the WAPC State Planning Policy 5.4, for this development, the appropriate "Noise Targets" to be achieved under SPP 5.4, external to a residence are:

External	
Day	Maximum of 55 dB(A) L_{Aeq}
Night	Maximum of 50 dB(A) L_{Aeq}

The policy states that the "outdoor targets are to be met at all outdoor areas as far as reasonable and practical to do so using the various noise mitigation measures outlined in the guidelines". The Policy also states, under Section 6 – Policy Measures that "a reasonable degree of acoustic amenity for living areas on each residential lot". The policy recognises that "it may not be practicable to meet the outdoor noise targets".

The Policy states the following acceptable internal noise levels:

Internal

Living and Work Areas	$L_{Aeq(Day)}$ of 40 dB(A)
Bedrooms	$L_{Aeq(Night)}$ of 35 dB(A)

For this development, compliance with the requirements of SP 5.4, noise modelling and assessment are based on the day period for residence located adjacent to the Thomas Road.

This assessment is provided to provide overall guidance for the LSP, once detailed information is available at subdivision stage, such as final heights, Lot placements etc, more detailed acoustic advice can be provided.

The results of the acoustic assessment indicate that noise received at residences located adjacent to Thomas Road would exceed the "Noise Targets" as outlined in SPP 5.4.

For lots which are to contain residential development the possible noise amelioration options that are normally considered are setbacks or buffer areas, Noise bunds and / or Barriers. and "Quiet House" design. Therefore, two forms of noise amelioration options have been included for consideration:

Option 1. 2.4m Noise wall at the development Boundary facing Thomas Road.

Option 2. Design considerations as to Lot placement and Public Open Space, combined with individual design consideration in the form of Quiet House Design.

SETBACKS OR BUFFER AREAS

Using the above options, the distance for separation (buffer) of the boundary and residential premises with no noise amelioration (wall or bund).

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The buffer would effectively isolate significant amounts of land, hence, not be practical for residential areas such as those proposed. However, if realignment of Public Open Space (POS) can be incorporated into the Lot design, then this maybe an affectual design.

NOISE BUNDS AND / OR BARRIERS

Noise control in the form of barriers, such as noise wall have been investigated as a way of ameliorating the noise levels for future development.

Details the noise contour plot for a 2.4 metre noise wall at the northern boundary of development (facing Thomas Road) is contained within Appendix B as Figure 3.

With the inclusion of a barrier, noise levels are attenuated sufficiently to enable residential development behind the wall with no further acoustic requirements.

QUIET HOUSE DESIGN

If considering residential development within areas above 55 dB(A) as per the previous two scenarios, quiet house design as outlined in SPP 5.4 guidance would be required to further ameliorate noise levels to meet internal noise level criteria.

The package requirement depends on the external noise levels, however, for guidance, the table below details the extent of the noise for the future noise levels associated with Thomas Road, without any noise control in the form of barriers. with a summary contained in Table 5.1 below.

TABLE 5.1 - ROAD AND RAIL NOISE GUIDELINES SEPTEMBER 2019 (TABLE 2) : NOISE EXPOSURE FORECAST

Forecast Excess Noise Level, dB	Exposure Category	Policy requirements for noise-sensitive land-use and/or development
0 or less	-	No further measures
1 to 3	A	Noise-sensitive land-use and/or development is acceptable, subject to:
4 to 7	B	Mitigation measures in accordance with an approved noise management plan;
8 to 11	C	Or quiet house package as specified

Information on the deemed to satisfy constructions for the various “Quiet House Design” packages are contained in Appendix D.

Notes:

1 Given the location of the development and the projected market (lifestyle village), we understand that 2 storey residences are unlikely, hence the Quiet House Design is for single storey residence only. If double storey residences are proposed, then it is recommended that specialist acoustic advice be sought by the proponent.

2 We understand that the development is a Local Structure Plan stage, hence the information contained in Appendix D regarding areas requiring “Quiet House” design will need to be refined once the lots have been defined and final heights are established. Additionally, any modifications to the Structure Plan, would vary the noise mitigation requirements relating to barriers and “Quiet House” design outlined in Appendix C.

3 The summary of the Quiet House Design Packages attached in Appendix D, are “Deemed to Satisfy” constructions. Alternative constructions would be acceptable, provided they are supported by an acoustic report prepared by a suitably qualified acoustic consultant.

4 Quiet House Design requirements are likely to lessen for residential premises set back from Thomas Road, as the façade residences will barrier those behind.

5 Additionally, these residences also require Notifications on Titles, however it is understood that Lifestyle Villages have different applications similar to Strata titles, hence this will need to be “as applicable” to this Village.

APPENDIX A

Herring Storer Acoustics
Job No - 22320

HERRING STORER ACOUSTICS

EDENLIFE LIFESTYLE VILLAGE
LOT 59 to 62 BRIGGS ROAD, BYFORD

Figure A1

APPENDIX B

FIGURES B1, B2 and B3
$L_{Aeq(16hr)}$ DAY
NOISE CONTOURS FOR THOMAS ROAD

Herring Storer Acoustics
Job No - 22320

HERRING STORER ACOUSTICS

EDENLIFE LIFESTYLE VILLAGE
Current Traffic Volumes - Thomas Road
LAeq (16hour) Day Noise Level Contour

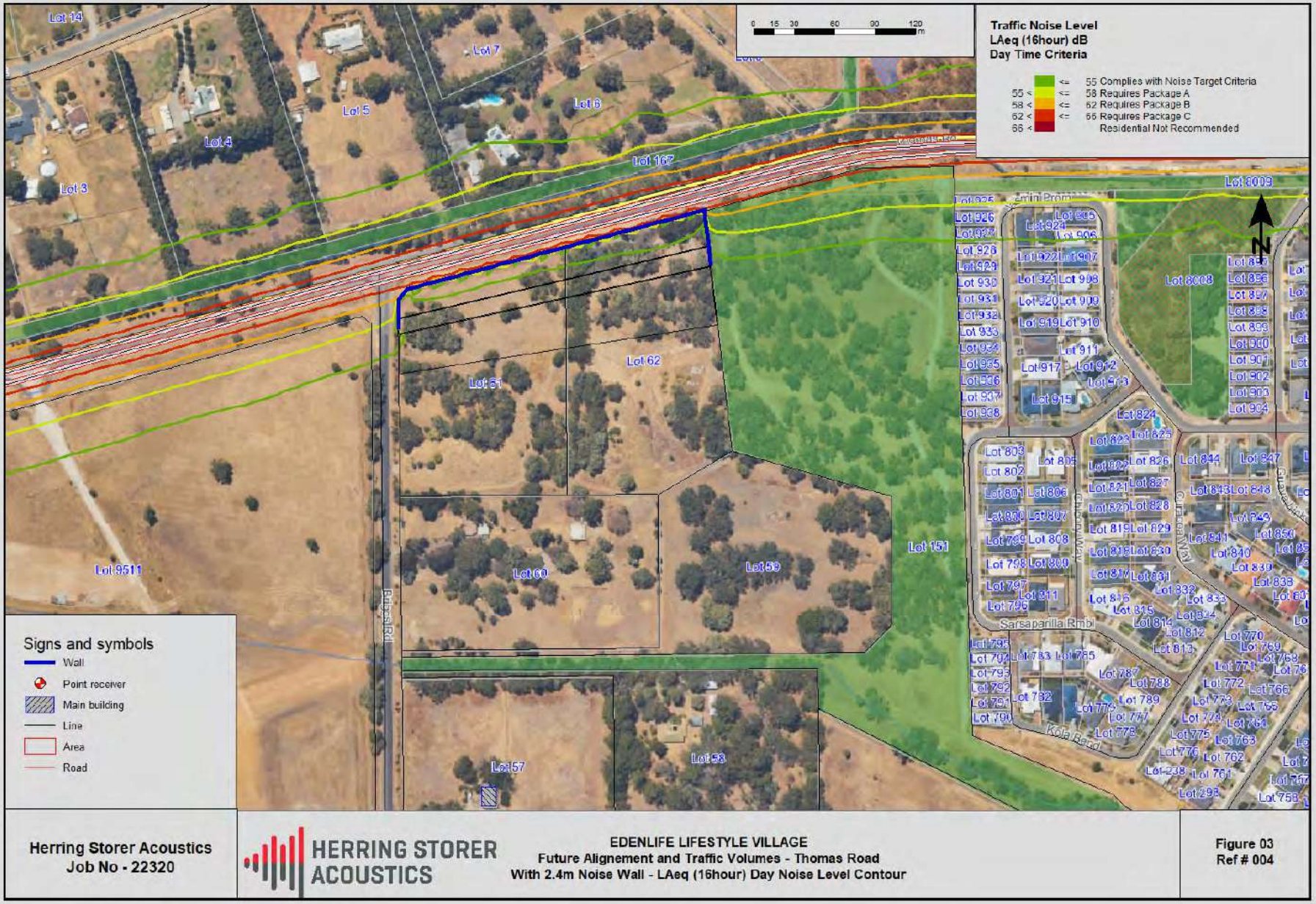
Figure 01
Ref # 003

Herring Storer Acoustics
Job No - 22320

HERRING STORER ACOUSTICS

EDENLIFE LIFESTYLE VILLAGE
Future Alignement and Traffic Volumes - Thomas Road
No Noise Control - LAeq (16hour) Day Noise Level Contour

Figure 02
Ref # 002


0 15 30 60 90 120 m
Traffic Noise Level
LAeq (16hour) dB
Day Time Criteria
<= 55 Complies with Noise Target Criteria
55 < <= 58 Requires Package A
58 < <= 62 Requires Package B
62 < <= 66 Requires Package C
66 < Residential Not Recommended
Signs and symbols
Wall
Point receiver
Main building
Line
Area
Road
Lot 14
Lot 7
Lot 5
Lot 6
Lot 4
Lot 3
Lot 167
Lot 62
Lot 61
Lot 9511
Lot 60
Lot 59
Lot 151
Lot 57
Lot 58
Lot 8009
Lot 8008
Bilpin Rd
Sarsaparilla Rmbl
Kola Road
Herring Storer Acoustics
Job No - 22320
HERRING STORER ACOUSTICS
EDENLIFE LIFESTYLE VILLAGE
Future Alignement and Traffic Volumes - Thomas Road
With 2.4m Noise Wall - LAeq (16hour) Day Noise Level Contour
Figure 03
Ref # 004

APPENDIX C

"QUIET HOUSE" DESIGN INFORMATION

Road Traffic and Passenger Rail
Quiet House Requirements
(*Based on Table 3 of State Planning Policy 5.4 2019*)

Exposure Category	Orientation to corridor	Acoustic rating and example constructions					Mechanical ventilation/air conditioning considerations
		Walls	**External doors**	**Windows**	**Roofs and ceilings of highest floors**	**Outdoor Living areas**	
A **Quiet House A**	**Facing**	**Bedroom and Indoor Living and work areas to Rw + Ctr 45dB** **Stud Frame Walls** ➢ One row of 92mm studs at 60mm centres with: ➢ Resilient steel channels fixed to the outside of the studs; and ➢ 9.5mm hardboard or 9mm fibre cement weatherboards or one layer of 19mm board cladding fixed to the outside of the channels; and ➢ 75mm glass wool (11kg/m3) or 75mm polyester (14kg/m3) insulation, positioned between the studs; and ➢ -Two layers of 16mm fire-protective grade plasterboard fixed to the inside face of the studs. **Brick Walls** ➢ Single leaf of 150mm brick masonry with 13mm cement render on each face: **OR** ➢ Double brick: two leaves of 90 mm clay brick masonry with a 20mm cavity between leaves.	**Bedrooms**: ➢ Fully glazed hinged door with certified **R_w+C_{tr} 28dB** rated door and frame including seals and 6mm glass **Indoor Living and work areas:** ➢ 35mm solid core timber hinged door and frame system certified to **Rw 28dB** including seals**: OR** ➢ Glazed sliding door with 10 mm glass and weather seals	**Bedrooms**: ➢ Total external door and window system area up to 40% of room floor area: Sliding or double hung with minimum 10 mm single or 6mm-12mm-10mm double insulted glazing (**R_w+C_{tr} 28 dB**). Sealed awning or casement windows may use 6 mm glazing instead**: OR** ➢ Up to 60% floor area: as per above but must be sealed awning or casement type windows (**R_w+C_{tr} 31dB**). **Indoor Living and work areas** ➢ Up to 40% floor area: Sliding, awning, casement or double hung with minimum 6mm single pane or 6mm-12mm-6mm double insulted glazing (**R_w+C_{tr} 25dB**)**: OR** ➢ Up to 60% floor area: As per Bedrooms at up to 40% area (**Rw+Ctr28 dB : OR** ➢ Up to 80% floor area: As per Bedrooms at up to 60% area (**R_w+C_{tr} 31 dB**).	**To R_w+C_{tr} 35dB** ➢ Concrete or terracotta tile or metal sheet roof with sarking and at least 10mm plasterboard ceiling	➢ 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	➢ Acoustically rated openings and ductwork to provide a minimum sound reduction performance of **Rw 40dB** 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
	Side On		As per "Facing" above, except R_w+C_{tr} values may be 3dB less, e.g. glazed sliding door with 10 mm glass and weather seals for bedrooms	As above, except R_w+C_{tr} values may be 3dB less, or max % area increased by 20%			
	Opposite		No specific requirements	No specific requirements			

Road Traffic and Passenger Rail
Quiet House Requirements
(*Based on Table 3 of State Planning Policy 5.4 2019*)

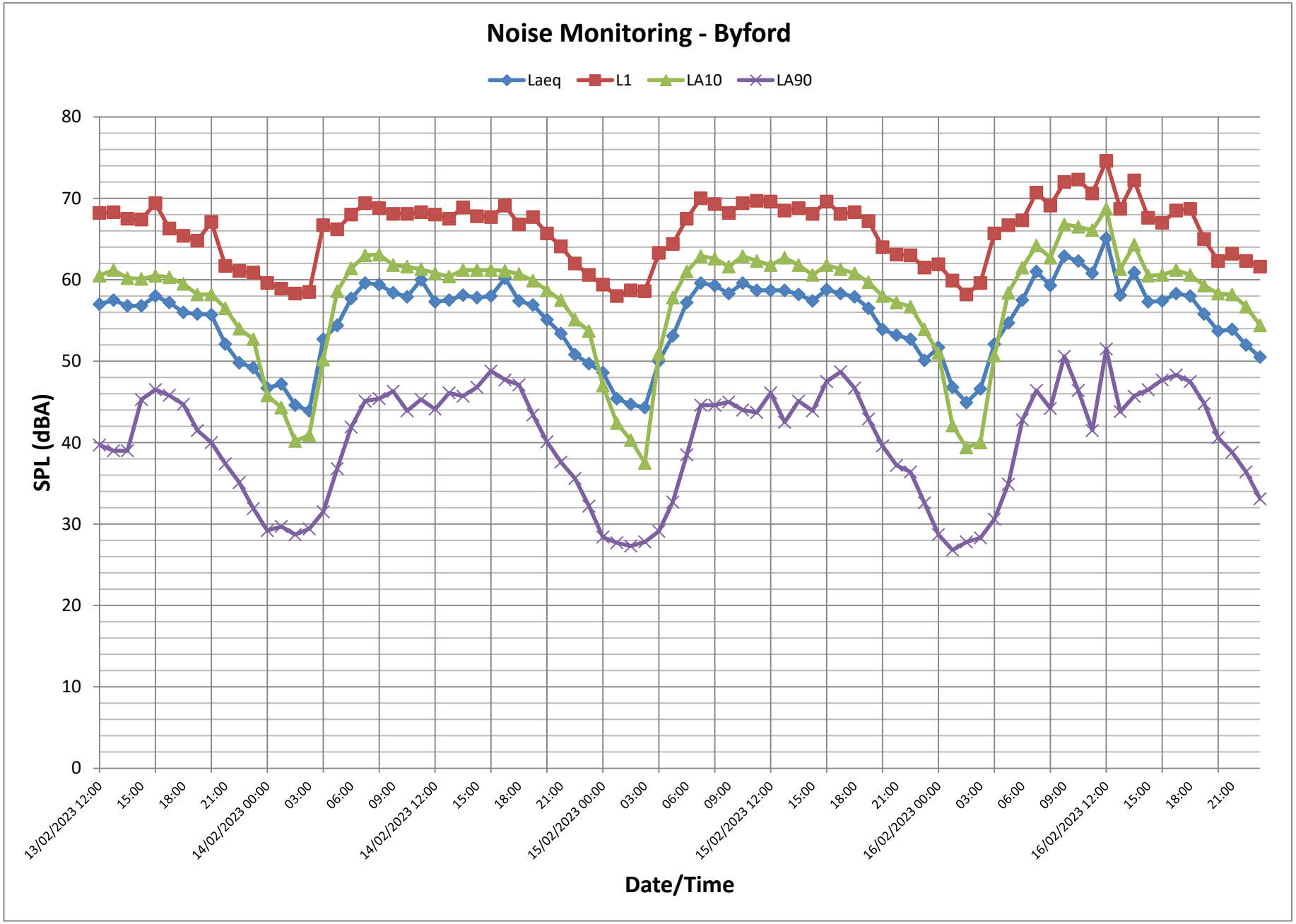
Exposure Category	Orientation to corridor	Acoustic rating and example constructions					Mechanical ventilation/air conditioning considerations
		Walls	**External doors**	**Windows**	**Roofs and ceilings of highest floors**	**Outdoor Living areas**	
B **Quiet House B**	**Facing**	**Bedroom and indoor living and work areas to R_w+C_{tr} 50dB** **Single leaf of 90 mm clay brick masonry with:** ➢ A row of 70 mm x 35 mm timber studs or 64 mm steel studs at 600 mm centres; ➢ A cavity of 25 mm between leaves; ➢ 50 mm glass wool or polyester cavity insulation (R2.0+) insulation between studs; and ➢ One layer of 10mm plasterboard fixed to the inside face ➢ 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 **Double brick: two leaves of 90mm clay brick masonry with:** ➢ A 50mm cavity between leaves ➢ 50mm glass wool or polyester cavity insulation (R2.0+) ➢ Resilient ties where required to connect leaves **Double brick: two leaves of 110mm clay brick masonry with** ➢ 50mm cavity between leaves and R2.0+ cavity insulation	**Bedrooms** ➢ Fully glazed hinged door with certified **R_w+C_{tr} 31dB** rated door and frame including seals and 10mm glass **Indoor Living and work areas** ➢ 35mm solid core timber hinged door and frame system certified to **Rw 28dB** including seals**: OR** ➢ Glazed sliding door with 10 mm glass and weather seals	**Bedrooms**: ➢ Total external door and window system area up to 40% of room floor areas: Fixed sash, awning or casement with minimum 6mm single or 6mm-12mm-6mm double insulted glazing (**Rw+Ctr 31dB**). ➢ Up to 60% floor area: as per above but must be minimum10mm single or 6mm-12mm-10mm double insulated glazing (**Rw+Ctr 34dB**) **Indoor Living and work areas** ➢ Up to 40% floor area; Sliding or double hung with minimum 6mm single pane or 6mm-12mm-6mm double insulted glazing (R_w+C_{tr} 28dB). Sealed awning or casement windows may use 6mm glazing instead. **: OR** ➢ Up to 60% floor area: As per Bedrooms at up to 40% area (**R_w+C_{tr} 31dB**). **: OR** ➢ Up to 80% floor area: As per Bedrooms at up to 60% area (**R_w+C_{tr} 34dB).**	**To R_w+C_{tr} 35dB** ➢ Concrete or terracotta tile sarking and at least 10mm plasterboard ceiling, R3.0+ insulation **OR** ➢ Metal sheet roof, sarking and at least 10mm plasterboard ceiling, R3.0+ insulation	➢ At least one outdoor living area located on the opposite side of the building from the 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	➢ Acoustically rated openings and ductwork to provide a minimum sound reduction performance of **Rw 40dB** 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
	Side-On		**Bedrooms**: ➢ Fully glazed hinged door with certified **R_w+C_{tr} 28dB** rated door and frame including seals and 6mm glass **Indoor Living and work areas:** ➢ 35mm solid core timber hinged door and frame system certified to **Rw 28dB** including seals**: OR** ➢ Glazed sliding door with 10 mm glass and weather seals	**Bedrooms**: ➢ Total external door and window system area up to 40% of room floor area: Sliding or double hung with minimum 10 mm single or 6mm-12mm-10mm double insulted glazing (**R_w+C_{tr} 28 dB**). Sealed awning or casement windows may use 6 mm glazing instead. **: OR** ➢ Up to 60% floor area: as per above but must be sealed awning or casement type windows (**R_w+C_{tr} 31dB**). **Indoor Living and work areas** ➢ Up to 40% floor area: Sliding, awning, casement or double hung with minimum 6mm single pane or 6mm-12mm-6mm double insulted glazing (**R_w+C_{tr} 25dB**). **: OR** ➢ Up to 60% floor area: As per Bedrooms at up to 40% area (**Rw+Ctr28 dB**) **: OR** ➢ Up to 80% floor area: As per Bedrooms at up to 60% area (**R_w+C_{tr} 31 dB**).			
	Opposite		As above, except R_w+C_{tr} values may be 3dB less, or max % area increased by 20%	As above, except R_w+C_{tr} values may be 3dB less, or max % area increased by 20%			

Road Traffic and Passenger Rail
Quiet House Requirements
(*Based on Table 3 of State Planning Policy 5.4 2019*)

Exposure Category	Orientation to corridor	Acoustic rating and example constructions					
		Walls	**External doors**	**Windows**	**Roofs and ceilings of highest floors**	**Outdoor Living areas**	**Mechanical ventilation/air conditioning considerations**
C **Quiet House C**	**Facing**	**Bedroom and indoor living and work areas to R_w+C_{tr} 50dB** **Single leaf of 90 mm clay brick masonry with:** ➢ A row of 70 mm x 35 mm timber studs or 64 mm steel studs at 600 mm centres; ➢ A cavity of 25 mm between leaves; ➢ 50 mm glass wool or polyester cavity insulation (R2.0+) insulation between studs; and ➢ One layer of 10mm plasterboard fixed to the inside face	**Bedrooms** ➢ External doors to bedrooms facing the corridor are not recommended. **Indoor Living and work areas** ➢ Fully glazed hinged door with certified **Rw+Ctr 31dB** rated door and frame including seals and 10mm glass**: OR** 40mm solid core timber frame and door (without glass or with glass inserts not less than 6mm), side hinged with certified **Rw 32dB** acoustically rated door and frame system including seals	**Bedrooms**: ➢ Total external door and window system area up to 20% of room floor area: Fixed sash, awning or casement with minimum 6mm single or 6mm-12mm-6mm double insulted glazing (**R_w+C_{tr} 31dB): OR** ➢ Up to 40% floor area; as per above but must be minimum 10mm single or 6mm-12mm-10mm double insulted glazing (**R_w+C_{tr} 34dB**). **Indoor Living and work areas** ➢ Up to 40% floor area: Sliding or double hung with minimum 6mm single pane or 6mm-12mm-6mm double insulated glazing (**R_w+C_{tr} 31dB**). Sealed awning or casement windows may use 6mm glazing instead**: OR** ➢ Up to 60% floor area: As per Bedrooms at up to 40% area (**Rw+Ctr 34dB)**	**To R_w+C_{tr} 40dB** ➢ To al bedrooms, 2 layers of 10mm plasterboard, or one layer 13mm high density sealed plasterboard (minimum surface density of 12.5 kg/m2), affixed using steel furring channels beneath ceiling rafters/supports**: and** ➢ R3.0+ insulation batts laid in cavity **: and** ➢ Concrete or terracotta tile roof with sarking, or metal sheet roof with foil backed R2.0+ fibre insulation between steel sheeting and roof battens	➢ At least one outdoor living area located on the opposite side of the building from the 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	➢ Acoustically rated openings and ductwork to provide a minimum sound reduction performance of Rw 40dB into sensitive spaces. ➢ Evaporative systems require attenuated ceiling air cents 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, close or relocated to building sides facing away from the corridor where practicable.
	Side-on	➢ 150mm thick unlined concrete panel or 200mm thick concrete panel with one layer of 13mm plasterboard or 13mm cement render on each face **Double brick: two leaves of 90mm clay brick masonry with:** ➢ A 50mm cavity between leaves ➢ 50mm glass wool or polyester cavity insulation (R2.0+) ➢ Resilient ties where required to connect leaves	**Bedrooms** ➢ Fully glazed hinged door with certified **R_w+C_{tr} 31dB** rated door and frame including seals and 10mm glass **Indoor Living and work areas** ➢ 35mm solid core timber hinged door and frame system certified to **Rw 28dB** including seals**: OR** ➢ Glazed sliding door with 10 mm glass and weather seals				
	Opposite	**Double brick: two leaves of 110mm clay brick masonry with** ➢ 50mm cavity between leaves and R2.0+ cavity insulation	**Bedrooms**: ➢ Fully glazed hinged door with certified **R_w+C_{tr} 28dB** rated door and frame including seals and 6mm glass **Indoor Living and work areas:** ➢ 35mm solid core timber hinged door and frame system certified to **Rw 28dB** including seals**: OR** ➢ Glazed sliding door with 10 mm glass and weather seals	**Bedrooms**: ➢ Total external door and window system area up to 40% of room floor area: Sliding or double hung with minimum 10 mm single or 6mm-12mm-10mm double insulted glazing (**R_w+C_{tr} 28 dB**). Sealed awning or casement windows may use 6 mm glazing instead**: OR** ➢ Up to 60% floor area: as per above but must be sealed awning or casement type windows (**R_w+C_{tr} 31dB**). **Indoor Living and work areas** ➢ Up to 40% floor area: Sliding, awning, casement or double hung with minimum 6mm single pane or 6mm-12mm-6mm double insulted glazing (**R_w+C_{tr} 25dB): OR** ➢ Up to 60% floor area: As per Bedrooms at up to 40% area (**Rw+Ctr28 dB : OR** ➢ Up to 80% floor area: As per Bedrooms at up to 60% area (**R_w+C_{tr} 31 dB**).			

APPENDIX D

Monitoring Data


Noise Monitoring - Byford
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APPENDIX E

MRWA Traffic Data

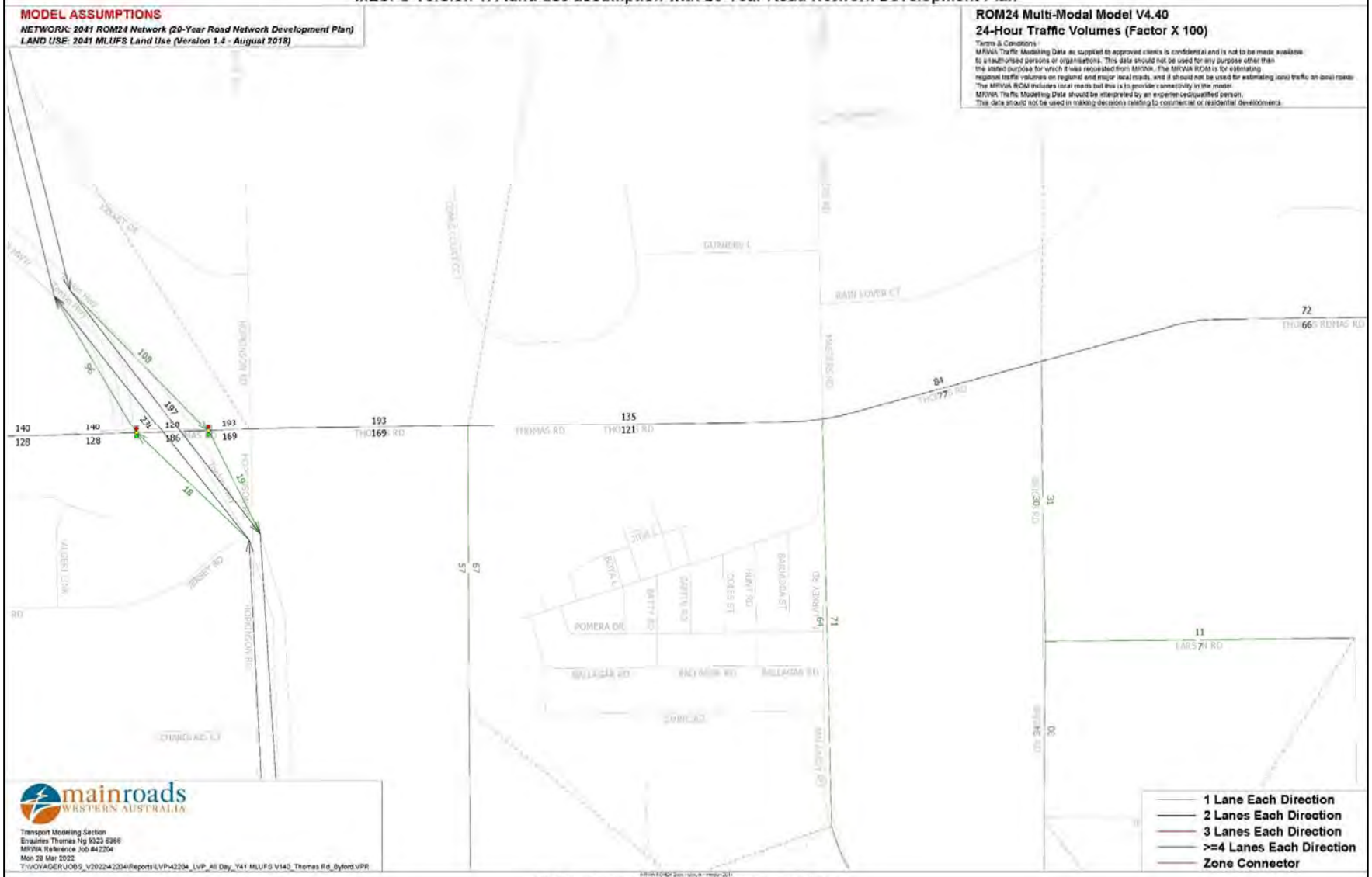
2041 ROM24 Scenario - Link Volume Plot for Thomas Road, Byford Noise Assessment
All Day
MLUFS Version 1.4 land use assumption with 20-Year Road Network Development Plan

MODEL ASSUMPTIONS

NETWORK: 2041 ROM24 Network (20-Year Road Network Development Plan)
LAND USE: 2041 MLUFS Land Use (Version 1.4 - August 2018)

ROM24 Multi-Modal Model V4.40
24-Hour Traffic Volumes (Factor X 100)

Terms & Conditions :
MRWA Traffic Modelling Data as supplied to approved clients is confidential and is not to be made available to unauthorised persons or organisations. This data should not be used for any purpose other than the stated purpose for which it was requested from MRWA. The MRWA ROM is for estimating regional traffic volumes on regional and major local roads, and it should not be used for estimating local traffic on local roads. The MRWA ROM includes local roads but this is to provide connectivity in the model.
MRWA Traffic Modelling Data should be interpreted by an experienced/qualified person.
This data should not be used in making decisions relating to commercial or residential developments.



mainroads WESTERN AUSTRALIA

Transport Modelling Section
Enquiries Thomas Ng 9323 6366
MRWA Reference Job #42204
Mon 28 Mar 2022
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cube

(Licensed to)

Annexure 8:

Water Management Strategy

RICHARD HAMMOND
REG. No 953
ARCHITECT

Briggs Road Lifestyle Village

Storm Water Management Strategy

An Edenlife Communities Project.

February 2023

Introduction

The Briggs Road Lifestyle Village design, proposed for Lots 59,60,61 & 62 by Edenlife Communities, employs a number of integrated strategies for urban stormwater flows, managing storm events, minimising erosion and protecting groundwater quality.

All the strategies undertaken by Edenlife demonstrate their effectiveness in containing and managing all stormwater and drainage on-site.

Unlike standard residential subdivisions, the entire land title remains in the ownership and management of Edenlife. This is significant in the context of the requirement for urban water management plans for conventional residential subdivision. In Lifestyle Villages there is a significantly greater capacity to control built form outcomes and management of drainage networks compared with conventional subdivisions. The Edenlife management ensures stewardship of the land and landscape to maintain a high quality residential environment.

The major underlying principle of all proposed stormwater strategies is the improvement of water quality prior to infiltration, through conveying and bio-retention.

At each home stormwater from roofs will be directed to the swale system which runs throughout the village. The swales will fall to bio retention basins, or “rain gardens” located around the site, eventually linking to the Council drainage system – to the north in the 10 metre wide drainage easement running along Thomas Road and to the south to the Multi Use Corridor and the existing Council drain. Run off from paving around the homes is either distributed by sheeting across vegetated areas, or in the case of driveways, directed to the swale system that runs along the road system.

At a village level, stormwater run-off from roads is directed into the roadside swales which form the front gardens of the homes. The swales fall very gradually, at approximately 1% in their length, to maximise infiltration, and are heavily vegetated to maximise water purification.

This site plan illustrates the flow patterns of water on site and illustrates the extent of swales and the location of the Bio-retention basins.

Soil Permeability

The Briggs Road Lifestyle Village site was subject to a geotechnical investigation by Brown Geotechnical and Environmental Pty Ltd in 2007. Part of that survey reported on ground water levels and measured suitability for on-site stormwater disposal.

Of 10 pits dug across the site, ground water was experienced in 3 of them, between 1200mm and 1600mm below natural ground levels. It should be noted that this investigation was at the end of winter. In terms of stormwater disposal on site, the following is an excerpt from that report:

Subsurface materials on site are either of insufficient thickness or of too low a permeability to be suitable for the installation of soakwells. Disposal off-site into the council scheme or an alternate method of stormwater disposal is recommended.

This stormwater strategy provides that alternative.

Comparison of Nutrient Inputs

Table 1 below has been prepared with data from the Department of Water's *Survey of urban nutrient input on the Swan Coastal Plain* publication which provides for a range of nutrient input rates from rural and urban nutrient surveys. The three land uses below are representative of the type of land uses which may be expected to occur at the Briggs Road site, either under its current rural use or as a result of future urbanisation of the land:

Table 1: Comparison Table:

Land Use	Nitrogen (kg/ha/yr)	Phosphorus (kg/ha/yr)
Mixed Grazing	79.5	9.9
Horses	70.1	13.2
Urban (< 400m²)	23.4	6.9

Source: Survey of urban inputs on the Swan Coastal Plain (Department of Water, 2010)

The Department of Water's survey results do not include Park Home Parks, however as demonstrated in Table 2 below, it is expected that a Lifestyle Village development would produce far less nitrogen and phosphorus than a standard urban lot due to a number of factors including the high level of indigenous planting within common areas, limited garden space within park home sites, the waterwise processes employed as standard throughout Edenlife developments and the common landscaped areas being managed and maintained exclusively by Edenlife staff.

The Department of Water's publication identifies the main sources of phosphorus and nitrogen as follows:

	Nitrogen (%)	***Phosphorus (%)***
Garden	*70*	*81*
Lawn	*21*	*12*
Pets	*9*	*7*

Source: Table 4.2 of Survey of urban inputs on the Swan Coastal Plain (Department of Water, 2010)

The figures presented above are based upon the rate of fertiliser usage for lawn and garden areas within conventional urban lots, as well as pet waste. As outlined below, there is very little use of grass within Edenlife villages and the majority of garden areas are planted with indigenous species requiring very low levels of fertiliser. In addition, whilst residents are permitted to keep pets, the overall nutrient loading of pets is far less than that caused by the maintenance of garden and lawn areas with standard fertilisers.

One of the key issues expressed are the risks associated with subdivided lot landowners keeping chemicals and fertilisers in garden sheds, washing vehicles and the like and the corresponding contribution to groundwater risks and nutrient input. However, those risks are significantly mitigated under this proposed use and development because there is no practical basis for those risks to apply here as discussed below.

Table 2: Risk and Practice Table:

Practice	Risk (Conventional Urban)	Risk (Lifestyle Village)
Use of fertiliser on lawns and gardens	No control of fertiliser use in conventional urban settings. High risk of increased nutrient input as a result.	Landscaping and garden areas (including the front gardens of the homes) only provided within common areas and managed exclusively by village staff. Low risk of nutrient input as a result. All landscaped species are indigenous. A low fertiliser regime is required for maintenance which results in a low risk of nutrient input. Residents are permitted to keep exotic plants, however these must be kept in pots. Risk of nutrient input is low.
Use of herbicides and insecticides	No control of use in conventional urban settings. Higher risk of pollution as a result.	As common landscaped areas are managed by village staff, the use of herbicides and insecticides are strictly controlled and rarely used.
Washing of vehicles	In conventional urban settings the washing of private vehicles can occur anywhere at any time. This results in a uncontrolled use of chemicals and detergents which can freely permeate into the ground.	The washing of vehicles is only permitted in specific washdown bays with collection sumps. This limits the uncontrolled release of chemicals and detergents into the ground.
Stormwater from roofs	In some instances, stormwater from roofs is not correctly diverted into purpose built stormwater drains and soak wells. Nutrients from stormwater therefore has potential to freely permeate into the surrounding ground without proper treatment. There is a higher risk that increased levels of nitrogen will penetrate the soil if untreated.	Stormwater from roofs is directed into purpose built swales designed to strip nitrogen from stormwater. This reduces the risk of nitrogen inputs.

Stormwater from roads	In conventional urban settings heavy metals and hydrocarbons from roads will drain into district drains and open space sumps during a storm event. Generally water in these catchment areas will infiltrate into the soil without the correct stripping mechanisms which result in higher levels of nutrient inputs and contamination.	Roadside swales and bioretention basins within the village strip these elements from stormwater prior to infiltration. This limits contamination in addition to reducing nutrient loading.

It is both the built form elements and governance as described above that have resulted in Edenlife's urban water management practices. Taking a stewardship approach to management has enabled Edenlife to innovate the manner in which these management controls can take place which is unique to the Lifestyle Village model and not capable of being replicated under a conventional residential sub-division.

Nutrient Run-off

The landscape design for the Briggs Road Lifestyle Village will be based on indigenous cultivars which will grow well on the site because they are endemic to it. There will be very little turf in the village, and no use of chemical fertilisers or herbicides.

This minimises nutrient run off to wetlands and greatly assists water quality. Information from the *Stormwater Management Manual for WA* lists the following species for swales, bio-retention basin/rain gardens and the Multi Use Corridor, which will grow well on this site and assist in stripping nutrients, providing an environment for limiting pollution.

Vegetation types for wetlands on the Swan Coastal Plain (adapted from Department of Water & Swan River Trust, in preparation)

Channel and shallow permanent basins Closed sedgeland and rushes *Eleocharis acuta, Baumea juncea, Baumea articulata, Juncus kraussii*

Near-permanent basins Scattered sedgeland with submergents *Triglochin huegelii, Villarsia spp*, *Schoenoplectus validus*

Lower swale/floodplain Melaleuca woodlands *Melaleuca rhaphiophylla, Melaleuca preissiana*

Upper swale (dryland) Closed rushland, sedgeland and heathland *Melaleuca preissiana, Kunzea ericifolia, Baumea juncea*

Swales

Swales are very important for disconnecting impervious areas from downstream surface water bodies and receiving environments.

Swales convey stormwater, promote infiltration, reduce stormwater peak flow, velocity and volume, and remove course and medium sediments, including suspended solids and trace metals.

A vegetated swale is a broad, shallow channel with vegetation covering the side slopes and base. Vegetation can range from grass to native sedges and shrubs, depending on hydraulic and landscape requirements. Vegetated swales are used instead of the conventional piped system as part of stormwater conveyance. In the Briggs Road Lifestyle Village, the swales form the front garden of the homes, providing an attractive streetscape and high capacity – 5.4 cubic metres per house of retention and conveyance.

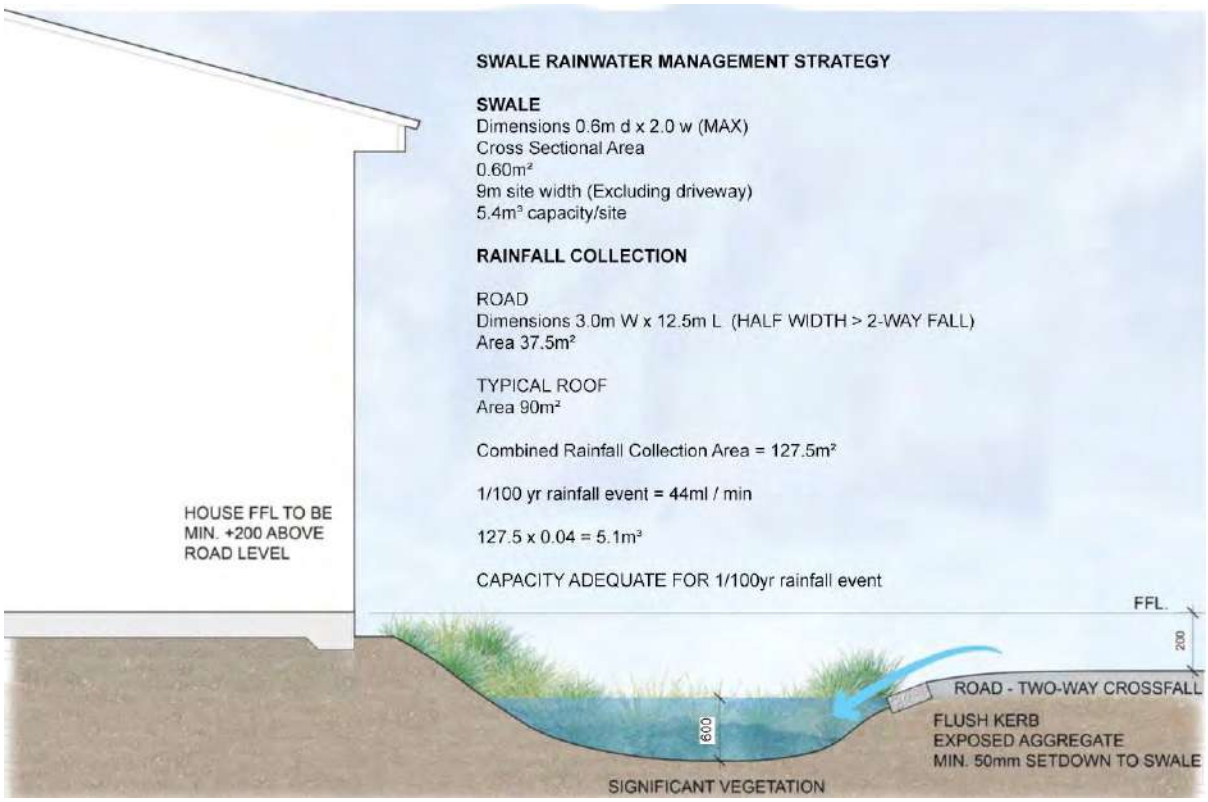
As quoted in the *Stormwater Management Manual for Western Australia*, swales assist in protecting surface water bodies from frequent storm events by reducing flow velocity compared to discharges from piped drainage systems. They enhance biological diversity, create beneficial habitat and improve visual aesthetics

Studies in the United States of America showed that vegetated swales were capable of removing many pollutants found in stormwater, with reported removal efficiencies of 83% for sediment, 75% for hydrocarbon, 67% for lead, 63% for zinc and 63% for aluminium (Schueler1995).
Removal of heavy metals appears to be directly related to removal of sediment.

The following table illustrates the typical annual pollution load removal efficiencies for vegetated swales (from *Stormwater Management Manual for Western Australia* DoW & Swan River Trust)

Litter	90%
Total Suspended Solids	60 – 80%
Total Nitrogen	25 - 40%
Total Phosphorus	30 – 50%
Coarse Sediment	90%

The graphic below demonstrates the swale system and illustrates the capacity compared with a 1/100 year rainfall event.



Bio-retention Basins – Rain Gardens

Bio-retention Basins, or rain gardens, are vegetated detention areas that are designed and built specifically to remove pollutants from stormwater runoff. They differ from constructed lakes, which are defined as constructed, permanently inundated basins of open water, in that they mimic the ephemeral (i.e. where the water level fluctuates and the water body dries out) character of natural wetlands on the Swan Coastal Plan and provide effective water pollution filters. Rain gardens are essentially retention and infiltration systems.

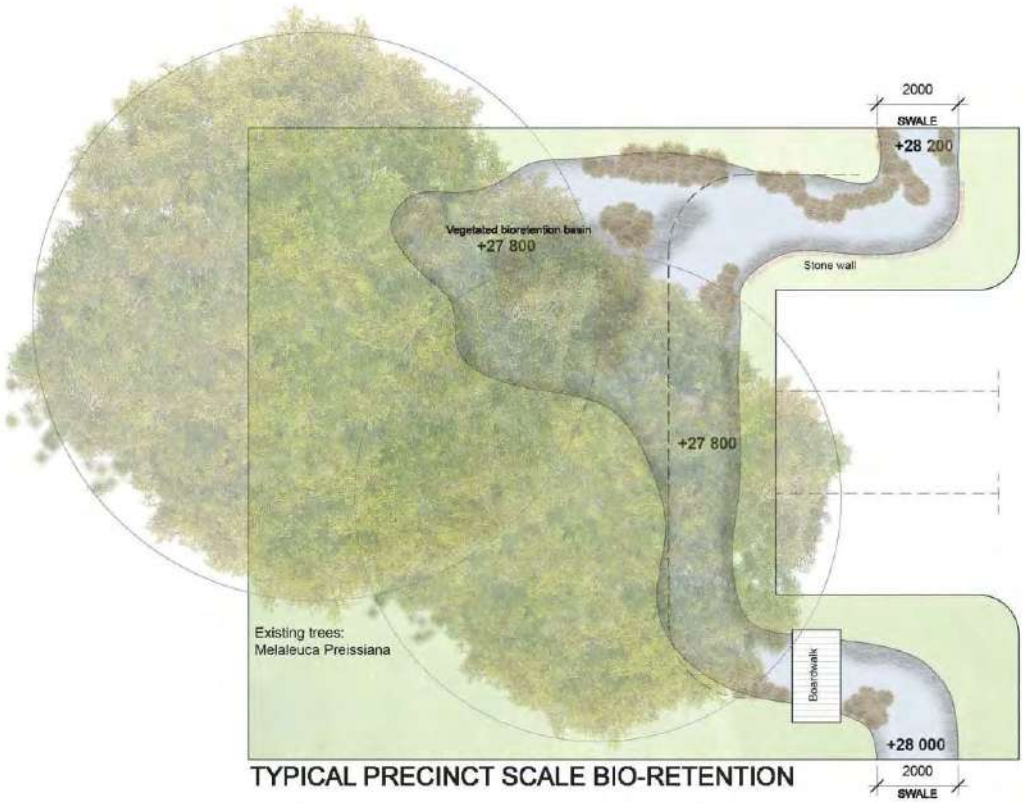
Bio-retention is particularly useful where stormwater contains high concentrations of soluble material that is difficult to remove with other treatment methods. In the Briggs Road project they have been established at a precinct scale, to retain and infiltrate water as components in the conveyance system, protecting downstream environments from erosion and flooding. Rain gardens also increase habitat for bacteria, fungi and fauna using dense vegetation with shallow root systems for biofilm creation and optimisation of water treatment.

According to the Midge Research Group of Western Australia's (2006) *Chironomid Midge and Mosquito Risk Assessment Guide for Constructed Water Bodies*, ephemeral water bodies generally present the lowest risk for mosquitoes and midges.

The following table illustrates the typical annual pollution load removal efficiencies for bio-retention basins
(from *Stormwater Management Manual for Western Australia* DoW & Swan River Trust)

Litter	-
Total Suspended Solids	80%
Total Nitrogen	50%
Total Phosphorus	60%

Heavy Metals	80%
Coarse Sediment	90%



TYPICAL PRECINCT SCALE BIO-RETENTION

Infiltration

The stormwater from roads will be conveyed by vegetated swales to precinct bio-retention basins where nutrients will be stripped before being conveyed by downstream swales to link with the Council drainage systems.

The Multi Use Corridor to the south of the Briggs Road site provides the opportunity to establish ephemeral rain gardens as central elements in a parkland setting, rehabilitated and enhanced with the development of this project. Revegetation of the wetland surrounds and edges will improve the water quality by capturing nutrients and pollutants. The fringing vegetation will shade the water providing water temperatures more conducive to nutrient processing and limiting algal growth.

Conclusion

As demonstrated above, the stormwater strategies proposed for the Briggs Road Lifestyle Village will be capable of managing urban storm water from significant rainfall events, and at the same time improve the quality of water infiltrated into the ground or disposed of into the council drainage network. These strategies will be further elaborated and documented as part of the production of engineering and construction designs for the village.

References

Department of Water and Swan River Trust 2007, Stormwater Management Manual for Western Australia, Department of Water and Swan River Trust, Perth, Western Australia. Chapters 1 – 5

MUSIC Model for Urban Stormwater Improvement Conceptualisation www.ewater.co.au/music

Australian Water & Wastewater Association 1995 Guidelines for Groundwater Protection in Australia

April 2023

Final

Edenlife Byford

Prepared For:

Edenlife

Transport Impact Statement Report

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DOCUMENT ISSUE AUTHORISATION

Issue	Rev	Date	Description	Prepared By	Checked By	Approved By
0	0	19/04/2023	Draft Report	SGY	DNV	DNV
1	0	20/04/2023	Final Report	SGY	DNV	DNV

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Donald Veal Consultants Pty Ltd

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1. INTRODUCTION

1.1 BACKGROUND

Edenlife has commissioned Donald Veal Consultants (DVC) to prepare this Transport Impact Statement report to support its Development Application for 202 Grouped Dwellings within a proposed Lifestyle Community set within Lots 59 & 60 Briggs Road and Lots 61 & 62 Thomas Road, in Byford.

1.2 SCOPE OF THIS REPORT

The structure and scope of this Transport Statement are in accordance with Volume 4 (Individual Developments) of the Western Australian Planning Commission's Transport Impact Assessment Guidelines (2016). The internal layout details of the site have been assessed under the Residential Design Codes.

This report focuses primarily on the external impacts of the proposed development. Where appropriate, certain internal aspects have been considered and measured against the relevant clauses of the above Design Codes.

2. EXISTING SITE CONDITIONS

2.1 LOCATION

The general locality is shown in **Figure 2.1**, with the site location shown in more detail in **Figure 2.2.**

Figure 2.1: General Locality Plan *Source: MetroMap*

Figure 2.2: Site Location *Source: MetroMap*

2.2 CURRENT LAND USES

The subject site is presently vacant. See **Figure 2.3**.

Figure 2.3: The Site is currently undeveloped ***Source: Streetview***

Other land uses in the general vicinity of the site are mainly residential properties, at various densities.

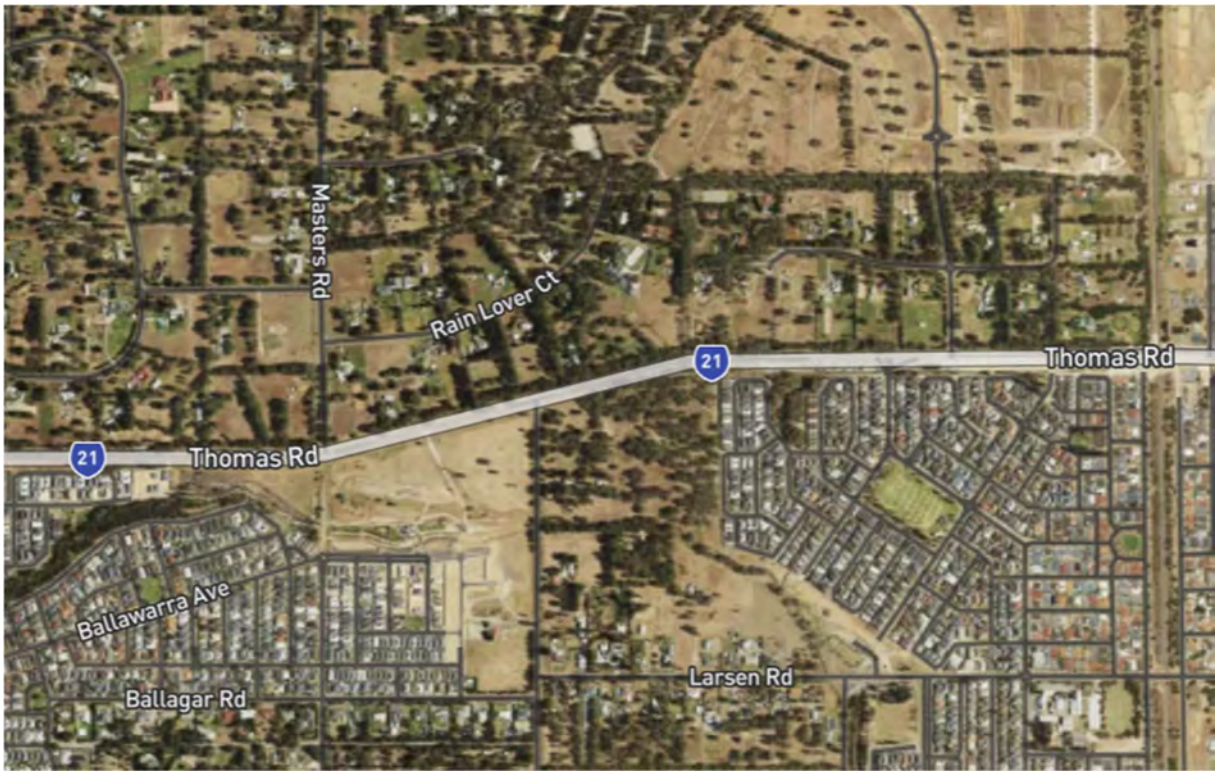


Figure 2.4: Adjacent land use is predominantly residential. ***Source: MetroMaps***

2.3 ACCESS ARRANGEMENTS

There are no formal accesses to the site from Thomas Road at the present time. There are some old and informal track access points from Briggs Road, as well as a disused concrete crossover. See **Figure 2.5**.

Figure 2.5: Disused concrete crossover to the site from Briggs Road. ***Source: Streetview***

Two additional crossovers can be seen either side of the site's southern boundary. See **Figure 2.6**.

Figure 2.6: Existing crossovers to the battle-axe lots 58 & 59. ***Source: Streetview***

2.4 ADJACENT ROAD NETWORK

The road network adjacent the site consists primarily of Thomas Road and Briggs Road. The intersection of Thomas Road with Briggs Road is currently a T-intersection with full movements. See **Figure 2.7**.

Figure 2.7: All movements are currently permitted at the Thomas Road / Briggs Road intersection.

Thomas Road, in the vicinity of the site, is currently configured as a single, unkerbed carriageway, with one lane in each direction. It has a centreline and edgelines, and a general sealed width of around 7.0m.

However, there is some localised widening on both sides near the intersection, to facilitate the left and right turn movements into Briggs Road. See **Figure 2.8**.

Figure 2.8: Thomas Road has been widened to help facilitate both left and right turn movements into Briggs Road.

Briggs Road is also a single, unkerbed carriageway, with one lane in each direction and a sealed width of around 6.7m. It has no centreline or edge lines.

Thomas Road is classified as a Primary Distributor Road in Main Roads WA's (MRWA) Metropolitan Road Hierarchy as shown in **Figure 2.9,** and thus comes under the jurisdiction of Main Roads. Briggs Road is currently categorised as a Local Distributor Road, although it may potentially be re-categorised in the future, once the Indigo Parkway extension is complete. Posted speed limits on these roads are shown in **Figure 2.10.**

Figure 2.9: MRWA Functional Road Hierarchy *Source: MRWA*

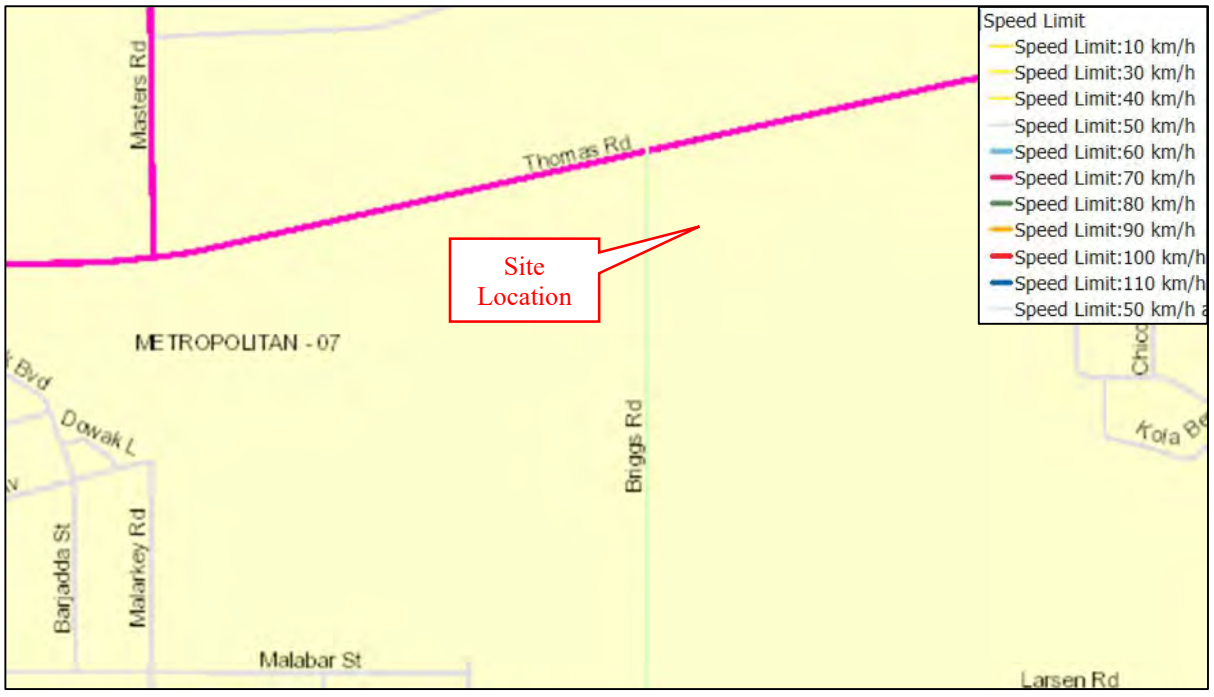


Figure 2.10: Posted Speed limits *Source: MRWA*

2.5 EXISTING TRAFFIC VOLUMES

The latest traffic flow data available for the roads near the site was extracted from MRWA's Traffic Map. This was limited to SCATS data from the intersection, collected in March 2022.

The data indicates that Briggs Road currently carries around 3,800 vpd, whilst Thomas Road carries around 11,300 vpd to the west of Briggs Road, but only 8,300 vpd to the east.

As can be seen from the daily turning counts, the majority (90%) of vehicles entering Briggs Road from Thomas Road do so by turning right in. A similar proportion (88%) leave Briggs Road by turning left out onto Thomas Road. See **Figure 2.11**.

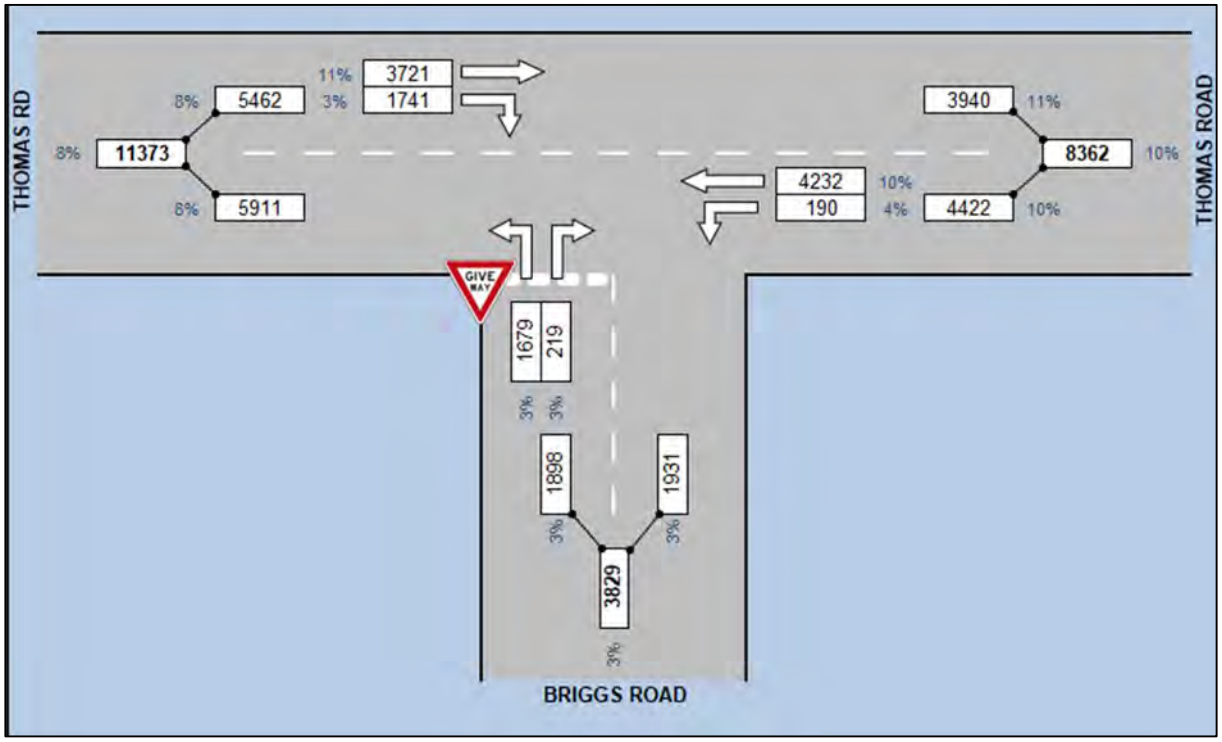


Figure 2.11: Traffic Count data: 09/03/2022 *Source: MRWA*

2.6 CRASH HISTORY

The MRWA Crash Analysis Reporting System (CARS) was interrogated for crash data along the road sections adjacent the site, for the latest five- year period from January 2017 to December 2021.

The results of the search showed a total of seven recorded crashes in this area, in the last 5 years. Four of those crashes occurred at the Briggs Road intersection with Thomas Road. Three of these were rear-enders, with the fourth being a thru and right crash. Two required medical attention.

The other crashes, to the west of the intersection, involved vehicles manoeuvring to and from driveways. There were no midblock crashes recorded on Briggs Road itself. See **Figure 2.12**.

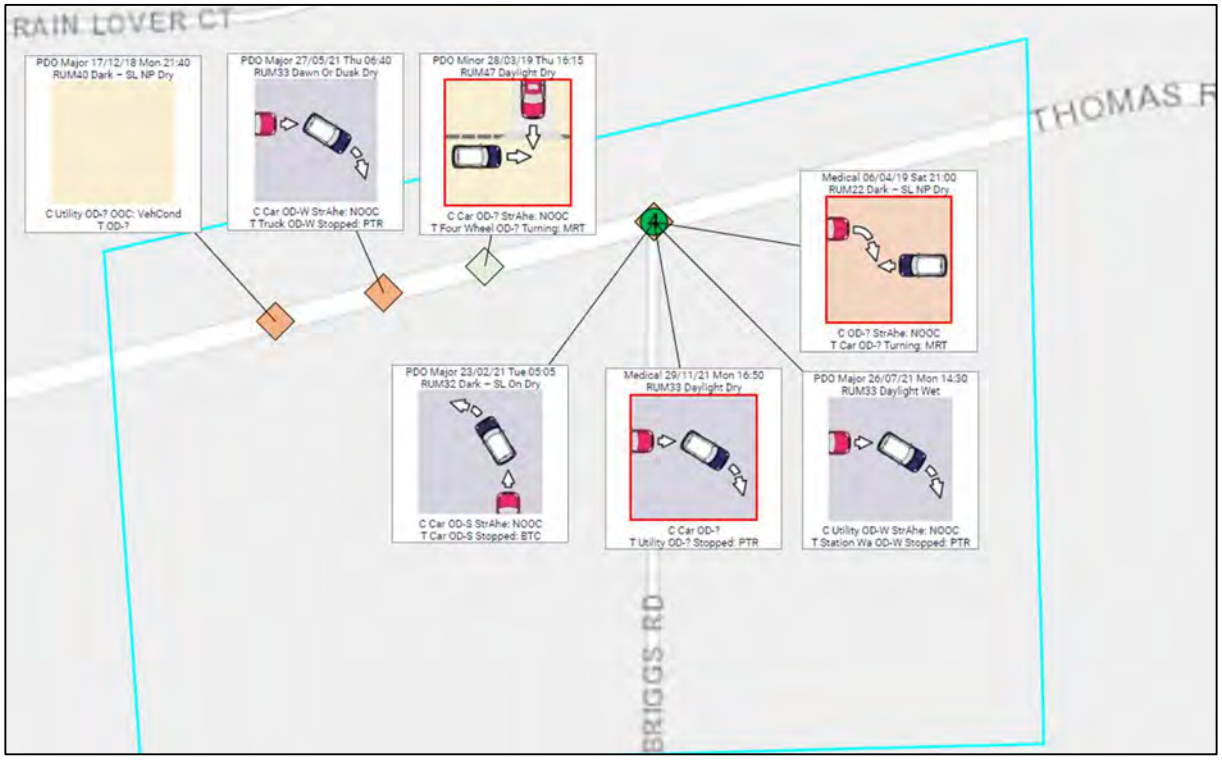


Figure 2.12: Crash history results. *Source: MRWA*

2.7 PLANNED CHANGES TO THE ROAD NETWORK

There are a number of changes to the adjacent road network either currently under construction, or planned for the short to medium term future.

These include the dualling of Thomas Road past the site, and the extension of Indigo Parkway through to Briggs Road and beyond.

However, there are also some significant changes to the allowable movements in this vicinity which will have a noticeable effect on the accessibility of the area, and on the route choices available to both residents and through traffic. The sketches shown in **Figures 2.13 & 2.14**, were provided by the Shire of Serpentine-Jarrahdale to illustrate the future changes.

The first such change is associated with the upgrading of Thomas Road, between Tonkin Highway and South Western Highway. Whilst not confirmed, the MRWA website indicates this may begin construction around 2025. As part of the works, Thomas Road will be duplicated, and the Briggs Road intersection will be restricted to left in / left out only. See **Figure 2.13**.

Tonkin Highway is to be extended south of Thomas Road, connecting to South Western Highway south of Mundijong.

Figure 2.13: Thomas Road/Briggs Road intersection will become a left in left out only intersection.

This will result in significant changes to movement patterns and traffic volumes, as the right turn currently represents 90% of turns from Thomas Road into Briggs Road.

In conjunction with this, the proposal to extend Indigo Parkway through Briggs Road with an unbroken median means that the north and south sections of Briggs Road will be effectively severed, and there will be no direct access from Thomas Road to any part of Briggs Road south of this point. See **Figure 2.14**.

Figure 2.14: Indigo Parkway will have a median strip running through it.

Unfortunately, this latter arrangement is likely to result in a significant amount of rat-running, and will have a marked effect on the route choices for access to properties and destinations both north and south of Indigo Parkway.

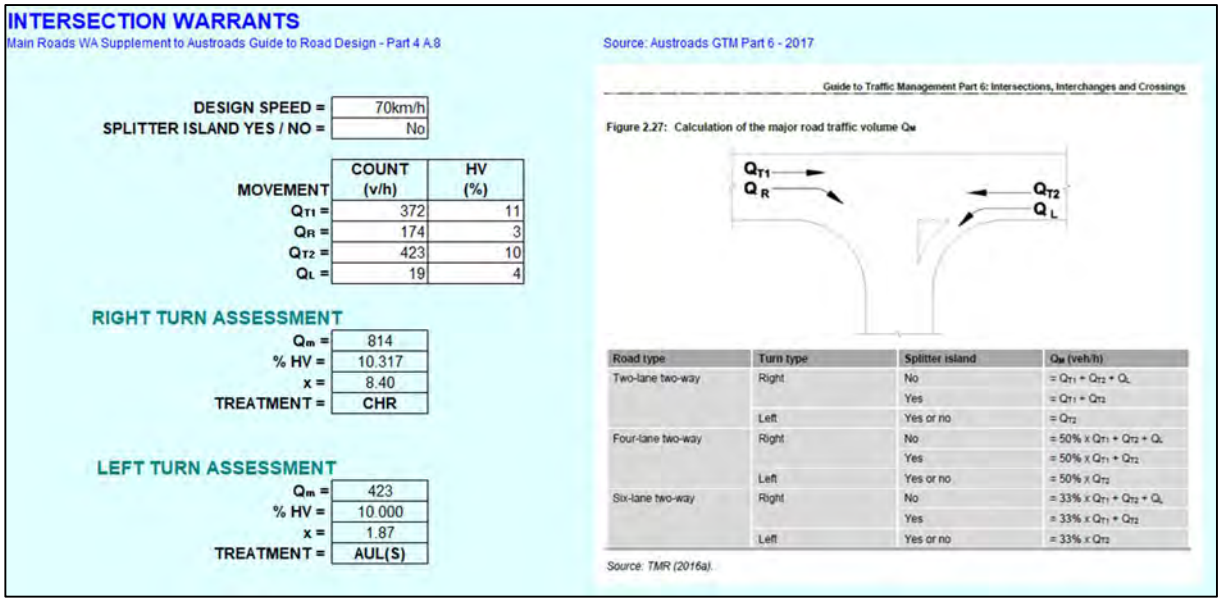
In effect, any right turn movements from Briggs Road onto Thomas Road from north of Indigo Parkway will now have to use smaller roads to access the new intersection of Thomas Road with Malarkey Road, depending upon the connectivity of Indigo Parkway to the east. Those banned from turning right into Briggs Road will potentially use the reverse route.

Those south of Indigo Parkway will probably use Larsen and Alexander to turn right out, and return the same way.

As well as removing the right turning movements, this strategy may also reduce the number of vehicles turning left into Briggs from Thomas, as they will be unable to travel south beyond Indigo Parkway.

Although no modelling has been identified reflecting these overall turning restrictions, given the low number of left turn movements being generated by the development at Thomas / Briggs, it is likely that the nett result will be a lower number of left turn movements overall than is currently the case.

Thus, whilst the MRWA Intersection Warrants spreadsheet shows that the existing traffic movements would be sufficient to warrant a short auxiliary left turn lane, this is clearly not being driven by the development traffic, and demand is likely to be reduced by the time the development occurs.



INTERSECTION WARRANTS

Main Roads WA Supplement to Austroads Guide to Road Design - Part 4 A:8

DESIGN SPEED =	70km/h
SPLITTER ISLAND YES / NO =	No

MOVEMENT	COUNT (v/h)	HV (%)
Q_{T1} =	372	11
Q_R =	174	3
Q_{T2} =	423	10
Q_L =	19	4

RIGHT TURN ASSESSMENT

Q_m =	814
% HV =	10.317
x =	8.40
TREATMENT =	CHR

LEFT TURN ASSESSMENT

Q_m =	423
% HV =	10.000
x =	1.87
TREATMENT =	AUL(S)

Source: Austroads GTM Part 6 - 2017

Guide to Traffic Management Part 6: Intersections, Interchanges and Crossings

Figure 2.27: Calculation of the major road traffic volume Q_M

Road type	Turn type	Splitter island	Q_M (veh/h)
Two-lane two-way	Right	No	$= Q_{T1} + Q_{T2} + Q_L$
		Yes	$= Q_{T1} + Q_{T2}$
	Left	Yes or no	$= Q_{T2}$
Four-lane two-way	Right	No	$= 50\% \times Q_{T1} + Q_{T2} + Q_L$
		Yes	$= 50\% \times Q_{T1} + Q_{T2}$
	Left	Yes or no	$= 50\% \times Q_{T2}$
Six-lane two-way	Right	No	$= 33\% \times Q_{T1} + Q_{T2} + Q_L$
		Yes	$= 33\% \times Q_{T1} + Q_{T2}$
	Left	Yes or no	$= 33\% \times Q_{T2}$

Source: TMR (2016a).

Figure 2.15: Turning lane warrants for existing flows. ***Source: MRWA***

Given the expected reduction in flows on Briggs Road north of Indigo Parkway, currently at less than 4,000 vpd, there would not appear to be any requirement for the construction of turning lanes into the development site.

3. PROPOSAL

3.1 PROPOSED DEVELOPMENT

The proposed development will consist of 202 home sites, based on a land lease arrangement, with a minimum entry eligibility age of 50 years. A small number of these home sites are duplex referenced. The development will include a clubhouse and other shared facilities.

Figure 3.1 shows the proposed Edenlife Byford Lifestyle Community Village Concept Plan.

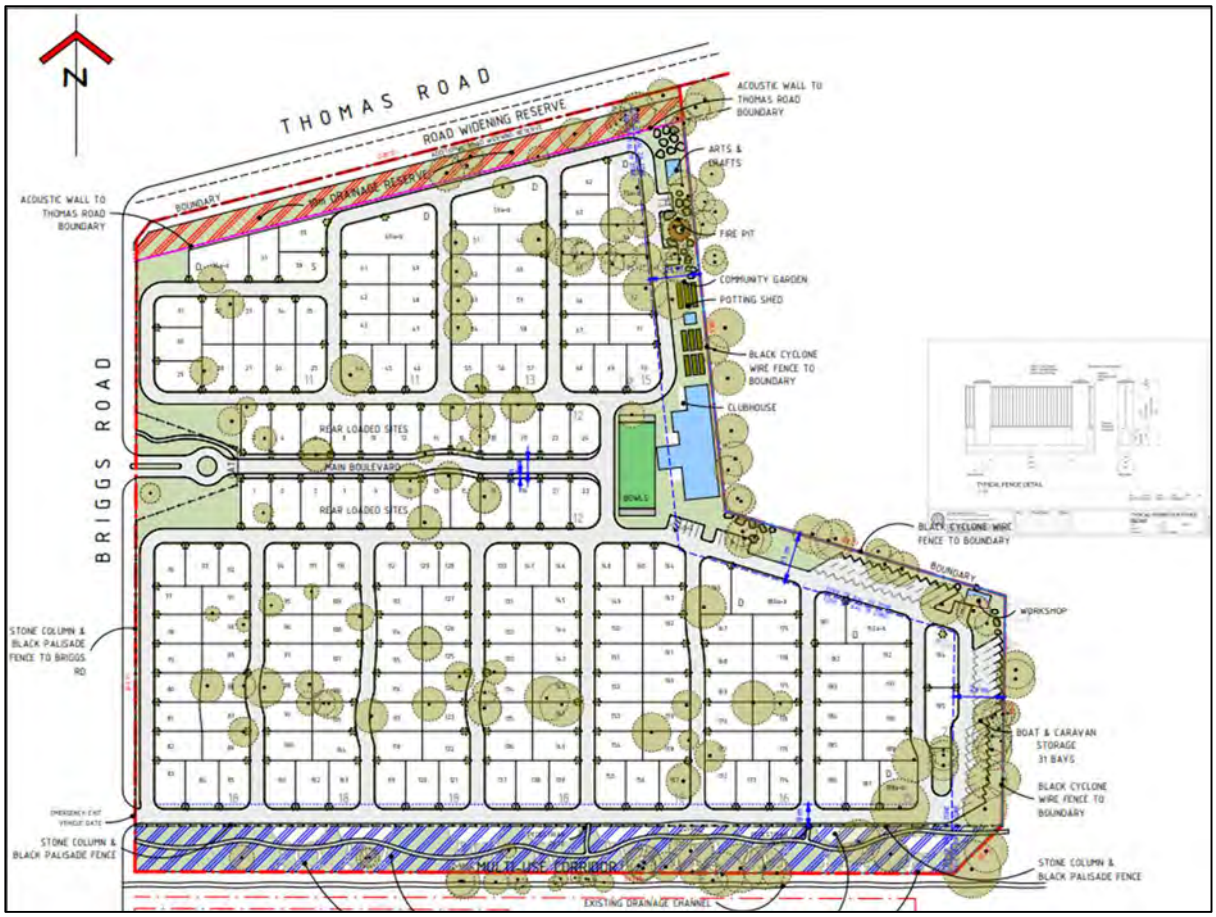


Figure 3.1: Edenlife Byford Lifestyle Community Village Concept Plan

3.2 INTERNAL ROAD NETWORK

The internal roads will be two-way, and generally constructed with a minimum of 6m in width.

The developer has confirmed that the internal site will be designated as an 8 km/h shared zone for the safety of all occupants and visitors.

3.3 DRIVEWAY ACCESS

The concept plan shows one general vehicular access point to the site from Briggs Road, mid-way along the western site boundary, roughly 100 m south of Thomas Road.

An emergency access point, also to Briggs Road, will also be provided, located near the site's southern boundary.

The Briggs Road access will be the main entry and exit point for residents, deliveries and visitors. The concept plan shows a roundabout along this entry statement road, which will allow for U-turns should access be denied. This roundabout will need to be designed to cater for the required vehicles, which may include a contract refuse collection vehicle, small delivery trucks and boat trailers / caravans.

3.4 PARKING

All car parking for the development has been accommodated within the site boundary. Most of the residences are expected to have a garage or car port to store their vehicle(s), with most maintaining only one car, depending upon the size of the dwelling and household.

State Planning Policy 7.3 Residential Design Codes Volume 1 requires 1 bay per aged person's dwelling and 1 additional visitor bay for every 4 dwellings or part thereof (for 17+ dwellings). Thus, the development application requires 51 visitor parking bays.

Some 31 visitor parking bays are shown on the concept plan. These comprise 6 bays in the vicinity of the fire pit, 12 bays near the clubhouse, 3 near the workshop and 10 near the emergency exit. The remaining visitor parking can readily be accommodated on street close to the residential property being visited if not on the property itself. With 6m wide internal roads and speeds limited to 8 km/h, on street parking will not pose any issues.

It is noted that there are a number of boat and trailer parking bays to the far eastern side of the site.

Whilst all of these trailer bays are angled, about half are angled one way, and the remainder the other. Some will be difficult to access, given the fairly narrow parking aisle.

Following discussions with the developer, it is recognised that the location of the caravan and boat/trailer parking is positioned on the site to address matters relating to the bush fire attack levels (BALs). Notwithstanding this, there may be an opportunity to reconsider the current design following further discussions with council and DFES given that these storage bays are located at the furthest point from the main access to the site. We are advised by the developer that alternative additional offsite parking for caravans and boats is also being explored

Some bike racks and gopher parking facilities should be considered close to the clubhouse for those residents who choose to cycle or use mobility gophers.

4. TRAFFIC IMPACT

4.1 TRIP GENERATION

The trip generation of the proposed facility has been estimated based on rates for 'Housing for aged and disabled persons' published by the RTA in NSW.

This gives:

- Daily vehicle trips = 1 - 2 per dwelling; and
- Evening peak hour vehicle trips = 0.1 - 0.2 per dwelling.

For this site we have adopted the higher end of the range, being 2 trips per day and 0.2 trips in the peak hour. With 202 residences, this equates to about 404 daily trips and 40 peak hour trips.

The estimated peak hour trip generation is therefore above 10 trips in the peak hour, but well below 100 trips. WAPC's Transport Assessment Guidelines suggest that a development generating this level of traffic only needs a brief, non-technical transport impact statement, with no requirement for in depth traffic analysis.

It is noted that this land use will generate significantly less trips than the residential development previously identified for this area in the approved structure plan.

4.2 TRIP DISTRIBUTION

During the morning peak typically 80% of movements would be expected to exit the site and 20% be inbound. This might reasonably be expected to be reversed for the afternoon peak period.

Given the location of the main access point to the site, and the layout of the immediate road network, it is expected that the majority of vehicles leaving the site in the AM peak would do so by turning left onto Briggs Road, and then left onto the Indigo Parkway extension, but the limitations imposed on accessibility by the new road proposals mean that drivers may choose from a number of options to get to their destinations, as there are no definitive, direct routes aligned with expected desire lines.

4.3 IMPACT ON THE ADJACENT ROAD NETWORK

The result of the above distribution characteristics is that the already low number of peak hour trips will be spread over a number of routes, with the impact on each being negligible.

4.4 SERVICE VEHICLES

It is not expected that many service vehicle trips will be generated by the development, other than the weekly refuse collection truck, likely to be by a private contractor and small service delivery vehicles to the clubhouse.

5. SUSTAINABLE TRANSPORT ACCESS

5.1 PEDESTRIANS AND CYCLISTS

There are currently no footpath or cycle facilities along either Thomas Road or Briggs Road.

However, as part of the Thomas Road upgrade project, a 4.5km section of shared path will be constructed along the southern side of the duplicated road.

The concept plan for the development shows proposed internal footpath links connecting to Briggs Road, but no connections along Briggs Road to Thomas Road. It is unclear whether any footpaths will be included in the works to the new Indigo Parkway / Briggs Road intersection.

A connection between the proposed Thomas Road facility and the Indigo Parkway intersection should be provided.

There is also a pathway proposed through the multi-use corridor (MUC) along the southern boundary of the site. This will connect Briggs Road to the residential estates west and east of the subject site, although the eastern connection will be subject to connection through the abutting bushland reserve to the east.

5.2 PUBLIC TRANSPORT

The only bus route available within the vicinity of the site is Transperth route 254. This service runs along Malarkey Road and Ballawarra Avenue. However, service provisions may be subject to change once the revised road network is in place.

6. SUMMARY AND RECOMMENDATIONS

6.1 SUMMARY

Edenlife has commissioned Donald Veal Consultants (DVC) to prepare this Transport Impact Statement report to support its Development Application for 202 Grouped Dwellings in a proposed Lifestyle Community set within Lots 59 & 60 Briggs Road and Lots 61 & 62 Thomas Road, in Byford.

The development site is located in the southeast quadrant of the Briggs Road / Thomas Road intersection in Byford. The home sites will be provided on a land lease arrangement, with a minimum entry eligibility age of 50 years. The development will include a clubhouse and other shared facilities.

The internal layout details of the site have been assessed under the Residential Design Codes.

All proposed parking is contained within the site, with most residences having a garage or covered parking bay. Visitors will be able to park on street close to the residential property they are visiting if not at the property itself. A further 31 formal bays have also been provided.

The number of peak hour vehicle trips to be generated by the development is estimated to be a maximum of around 40. As such, the forecast trip generation falls well below the threshold for warranting any detailed analysis of traffic impact.

There are some significant road network and intersection changes planned in this vicinity which will have a noticeable effect on the accessibility of the area. As well as removing the right turning movements from the Thomas / Briggs intersection, these changes may also reduce the number of vehicles turning left into Briggs from Thomas.

Although no modelling has been identified reflecting these overall turning restrictions, given the low number of left turn movements being generated by the development at Thomas / Briggs, it is likely that the nett result will be a lower number of left turn movements overall than is currently the case.

Thus, whilst the MRWA Intersection Warrants spreadsheet shows that the existing traffic movements would be sufficient to warrant a short auxiliary left turn lane, this is clearly not being driven by the development traffic, and demand is likely to be reduced by the time the development occurs.

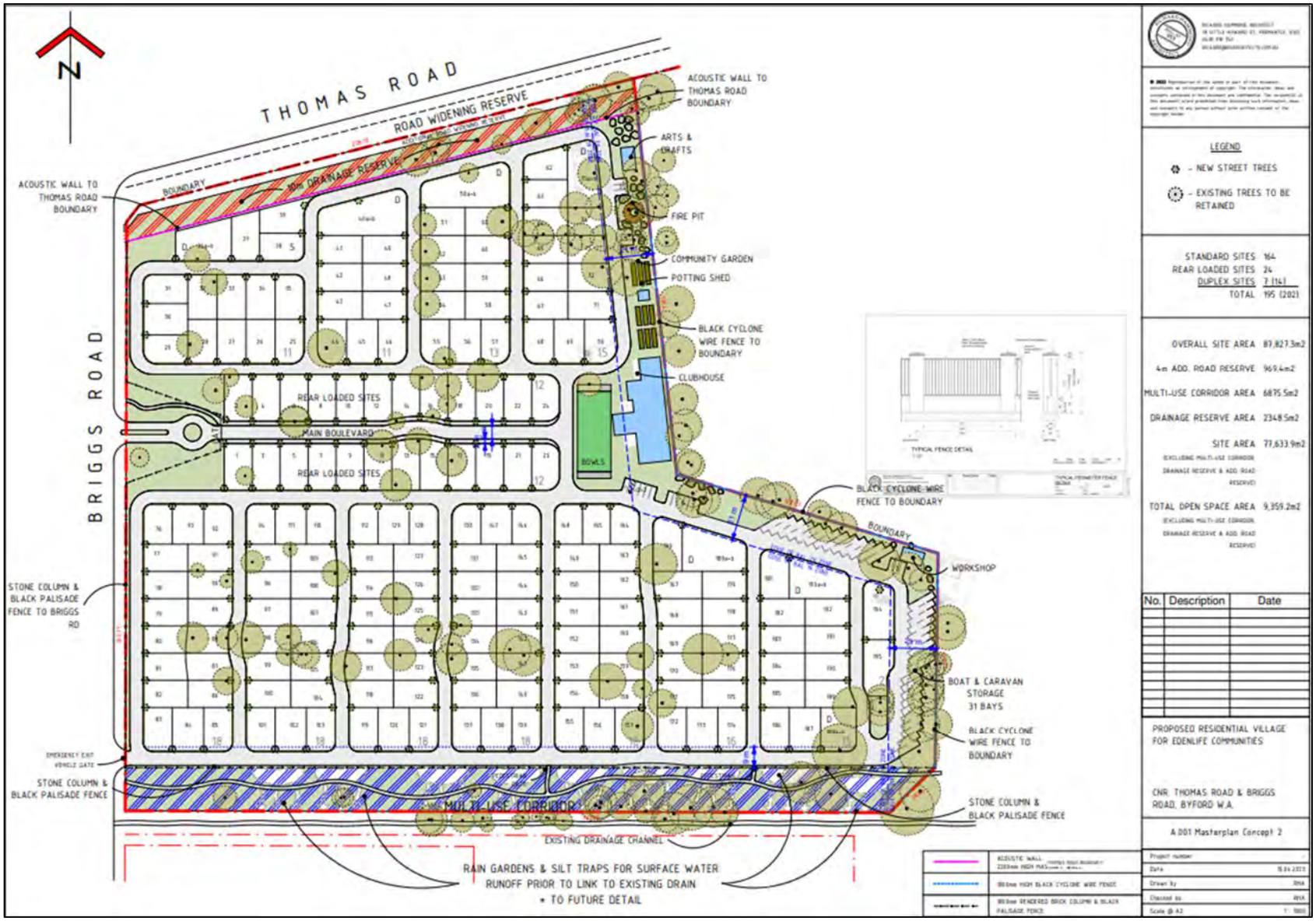
Refuse collection is likely to be carried out by a private contractor on a weekly basis. Other service vehicles are expected to be limited to small delivery vans.

6.2 RECOMMENDATIONS

We support the development proposal in terms of traffic and transport impacts on the adjacent road network, subject to the following recommendations being adopted at the detailed design stage, namely:

1. Review the design of the trailer parking areas; and
2. Provide some bike racks and gopher parking facilities at the Clubhouse.

APPENDIX A: CONCEPT PLAN


N
THOMAS ROAD
ROAD WIDENING RESERVE
BOUNDARY
30m DRAINAGE RESERVE
ACOUSTIC WALL TO THOMAS ROAD BOUNDARY
ACOUSTIC WALL TO THOMAS ROAD BOUNDARY
ARTS & CRAFTS
FIRE PIT
COMMUNITY GARDEN
POTTING SHED
BLACK CYCLONE WIRE FENCE TO BOUNDARY
CLUBHOUSE
BRIGGS ROAD
REAR LOADED SITES
MAIN BOULEVARD
REAR LOADED SITES
BOWLS
BLACK CYCLONE WIRE FENCE TO BOUNDARY
BOUNDARY
WORKSHOP
STONE COLUMN & BLACK PALISADE FENCE TO BRIGGS RD
BOAT & CARAVAN STORAGE 31 BAYS
BLACK CYCLONE WIRE FENCE TO BOUNDARY
EMERGENCY EXIT VEHICLE GATE
STONE COLUMN & BLACK PALISADE FENCE
MULTI-USE CORRIDOR
STONE COLUMN & BLACK PALISADE FENCE
EXISTING DRAINAGE CHANNEL
RAIN GARDENS & SILT TRAPS FOR SURFACE WATER RUNOFF PRIOR TO LINK TO EXISTING DRAIN
* TO FUTURE DETAIL
LEGEND
- NEW STREET TREES
- EXISTING TREES TO BE RETAINED
STANDARD SITES 164
REAR LOADED SITES 24
DUPLEX SITES 7 (14)
TOTAL 195 (202)
OVERALL SITE AREA 87,827.3m2
4m ADD. ROAD RESERVE 969.4m2
MULTI-USE CORRIDOR AREA 6875.5m2
DRAINAGE RESERVE AREA 2348.5m2
SITE AREA 77,633.9m2
(EXCLUDING MULTI-USE CORRIDOR DRAINAGE RESERVE & ADD. ROAD RESERVE)
TOTAL OPEN SPACE AREA 9,359.2m2
(EXCLUDING MULTI-USE CORRIDOR, DRAINAGE RESERVE & ADD. ROAD RESERVE)
No. Description Date
PROPOSED RESIDENTIAL VILLAGE FOR EDENLIFE COMMUNITIES
CNR. THOMAS ROAD & BRIGGS ROAD, BYFORD W.A.
A 001 Masterplan Concept 2

SUMMARY OF SUBMISSIONS

PA23/177 - L59, L60 and L61 Briggs Road and Lot 62 Thomas Road, Byford – JDAP - Grouped Dwelling (Lifestyle Community)

Submitter	No	Submitter Comments	Applicant Response	Officer Comment
Water Corporation	1	Thank you for your letter dated 15th March 2023. We offer the following comments regarding this proposal. **Water** Reticulated water is currently available to the subject area. Water main extension, will be required to the development site, must be laid within the existing and proposed road reserves, on the correct alignment and in accordance with the Utility Providers Code of Practice at the cost of the developer. **Wastewater** Reticulated sewerage is currently available to the subject area. All sewer main extensions, if required for the development site, should be laid within the existing and proposed road reserves, on the correct alignment and in accordance with the Utility Providers Code of Practice. **General Comments** This proposal will require approval by our Building Services section prior to commencement of works. Infrastructure contributions and fees may be required to be paid prior to approval being issued. For further information about building applications, the developer should follow this link: https://www.watercorporation.com.au/home/builders-and-developers/building/lodging-a-building-application If the application is retrospective, approval by our Building Services section is still required. The developer is expected to provide all water and sewerage reticulation if required. A contribution for Water, Sewerage and Drainage headworks may also be required. In addition, the developer may be required to fund new works or the upgrading of existing works	N/A	Noted.

Submitter	No	Submitter Comments	Applicant Response	Officer Comment
		and protection of all works. Water Corporation may also require land being provided for works. The information provided above is subject to review and may change. If the proposal has not proceeded within the next 6 months, please contact us to confirm that this information is still valid. Should you have any queries or require further clarification on any of the above issues, please do not hesitate to contact me at matt.calabro@watercorporation.com.au		
Main Roads	2	In response to your correspondence received on 15 March 2023, Main Roads has reviewed the application information and is unable to provide a recommendation at this point in time. The report provided by Allerding & Associates proposes that the development will generate 30 vehicle trips in the peak hour. In accordance with the WAPC Transport Impact Assessment Guidelines (2016), this is considered to have a moderate impact which warrants a Transport Impact Statement (TIS). Please prepare a Transport Impact Statement in accordance with the WAPC Transport Impact Assessment Guidelines (2016). The following should also be considered: • Briggs Road is planned to be modified to be left-in/left-out as part of the Thomas Road Upgrade project. This will affect the distribution of vehicle trips generated by the proposed development; • Evaluate the need for auxiliary turn lanes on Thomas Rd, to ensure that the impact of turning traffic generated by the proposed development is safely accommodated; • Evaluate the need for convenient and safe pedestrian and cycle facilities in the vicinity of the proposed development to connect the	Noted. A Transport Impact Statement (TIS) has been prepared and was provided to the Shire on 20 April 2023.	The updated TIS was provided to MRWA, though at the time of the presenting of this report to Council, no response has been received.

Submitter	No	Submitter Comments	Applicant Response	Officer Comment
		residents to the surrounding pedestrian and cycle network and nearby public transport. • Trip generation rates used in the Transport Impact Statement should be based on rates from a published source (e.g. Transport for NSW, ITE (US)) for the relevant land use. Please provide the above information at your earliest convenience, noting that Main Roads will require 30 days to review this information once received. As stated above, Main Roads is not in a position to support the subject proposal until the above information has been received and reviewed.		
DWER	3	The Department has identified that the development application has the potential to impact on water resource values and management. While the Department does not object to the proposal key issues and recommendations are provided below, and these matters should be addressed. **Issue** Better Urban Water Management **Advice** Consistent with Better Urban Water Management (BUWM) (WAPC, 2008) and policy measures outlined in State Planning Policy 2.9: Water Resources, local structure plans should be supported by an approved Local Water Management Strategy (LWMS). The Department previously reviewed the Lot 61 & 62 Thomas Road and Lots 59 & 60 Briggs Road, Byford - Local Water Management Strategy (Rev 5, VDM Consulting, September 2009) and endorsed it in October 2009. Given that the proposed development layout differs from that presented in the approved LWMS in that the area assigned to drainage infrastructure is significantly reduced, the location and number of drainage swales through the development is reduced and there is an overall increase in development	The Applicant would accept a condition of planning approval requiring an updated Stormwater Management Strategy (SWMS) or Urban Water Management Plan (UWMP) to address these items. This would also include the planning and design of the drainage area to the north	Noted.

Submitter	No	Submitter Comments	Applicant Response	Officer Comment
		density, the Department recommends that an amended LWMS be completed and endorsed. The amended LWMS should incorporate the current proposed grouped housing design structure and include details on the expected volumes of stormwater runoff generated from the proposed development, quantification and location of land required for stormwater conveyancing and storage, relevant cross-sections of proposed stormwater infrastructure and how proposed open space is to be irrigated. Upon resolution of the above matter the Department provides the following advice,	of the subject site which will be informed by Main Roads WA once a determination has been made on the design, width and drainage requirements of Thomas Road. Edenlife has successfully produced and provided SWMS reports for a number of developments, most recently with the Australind development which was completed in 2020. The approach adopted at Australind included the use of an inverted internal road network which captures stormwater and uses a network of subsurface StormTech infrastructure which will not only direct and retain stormwater as required but is also capable of allowing water harvesting for use onsite in areas such as the homes and community garden.	

Submitter	No	Submitter Comments	Applicant Response	Officer Comment
		Issue Better Urban Water Management **Advice** Consistent with Better Urban Water Management (BUWM) (WAPC, 2008), prior to the commencement of subdivisional works, an urban water management plan should be prepared and approved, in consultation with the Department of Water and Environmental Regulation, consistent with any approved Local Water Management Strategy. **Issue** Native Vegetation **Advice** Under section 51C of the Environmental Protection Act 1986 (EP Act), clearing of native vegetation is an offence unless: • it is undertaken under the authority of a clearing permit • it is done after the person has received notice under Section 51DA(5) that a clearing permit is not required • the clearing is subject to an exemption Exemptions for clearing that are a requirement of written law, or authorised under certain statutory processes, are contained in Schedule 6 of the EP Act. Exemptions for low impact routine land management practices outside of environmentally sensitive areas (ESAs) are contained in the Environmental Protection (Clearing of Native Vegetation) Regulations 2004 (the Clearing Regulations). Based on the information provided, should development approval be issued, clearing required for the majority the proposal is likely to be exempt from the requirement for a clearing permit under Regulation 5, Item 1 of the Clearing Regulations. If the proposed clearing for the Asset Protection Zone (APZ) is considered by the Shire to be appropriate, and clearing of native vegetation	As noted above, all of the matters raised by the Shire in relation to an updated SWMS can and will be comprehensively addressed within a revised SWMS which will be produced as part of the civils design process. Noted. As above. Edenlife's responsibilities in relation to obtaining clearing permits (where required) are noted.	

Submitter	No	Submitter Comments	Applicant Response	Officer Comment
		for this purpose is specified within the Development Approval, it is also likely to be exempt under Regulation 5, Item 1. However, any clearing that is not required for the construction of a building or structure (or corresponding APZ) would not fall under this exemption. Note that this exemption does not apply prior to development approval being issued. Please also note that that clearing for a building/structure, combined with other exempt clearing activities on the property, must not exceed five hectares in a financial year. This exemption is described in the Departments https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/A%20guide%20to%20the%20exemptions%20and%20regulations%20for%20clearing%20native%20vegetation.pdf . It is the applicant's responsibility to determine compliance with these exemptions and therefore whether a clearing permit is required. If there is uncertainty, then the precautionary principle should be applied, and it is recommended applicants apply for a clearing permit. If further clarification is required, please contact the Department's Native Vegetation Regulation section by email (admin.nvp@dwer.wa.gov.au) or by telephone (6364 7098). **Issue** Groundwater Licence **Advice** The subject lot is located within the Serpentine Groundwater Area (Byford 3 sub area) which is proclaimed under the Rights in Water and Irrigation Act 1914. Any groundwater abstraction in this proclaimed area for purposes other than domestic and/or stock watering taken from the superficial aquifer, would be subject to licencing by the Department. It is important to note that the Serpentine groundwater area is currently fully allocated and therefore there is no water available for licensing from the deeper Leederville or Cattamarra Coal Measures aquifers in the area. An	Noted. However, the subject site will be connected to a mains water supply.	

Submitter	No	Submitter Comments	Applicant Response	Officer Comment
		application for a licence to construct a bore to take water from these aquifers would likely be refused. There is also limited availability for licensing from the Superficial (shallower, water table Byford 3) aquifer. Owners considering using groundwater for irrigation purposes should contact the licensing section at the Department's Mandurah office on 9550 4222 for further advice. The issuing of a groundwater licence is not guaranteed but if issued, will contain a number of conditions that are binding upon the licensee. Please contact the water licensing section on 9550 4222 or www.water.wa.gov.au/licensing for further guidance. Where the Department has a statutory role, planning applications should be considered prior to the Department issuing any relevant permits, licenses and/or approvals. In the event there are modifications to the proposal that may have implications on aspects of environment and/or water management, the Department should be notified to enable the implications to be assessed		
DFES		I refer to your email dated 15 March 2023 regarding the submission of a Bushfire Management Plan (BMP) (Version 1), prepared by Allerding & Associates and dated 3 March 2023, for the above development application. The BMP is accompanied by a letter from the proponent dated 20 April 2023 for the above development application (DA) with additional information. This advice relates only to State Planning Policy 3.7: Planning in Bushfire Prone Areas (SPP 3.7) and the Guidelines for Planning in Bushfire Prone Areas (Guidelines). It is the responsibility of the proponent to ensure the proposal complies with relevant planning policies and building regulations where necessary. This advice does not exempt the applicant/proponent from obtaining approvals that apply to the proposal including planning, building, health or any other approvals required by a relevant authority under written laws.		

<table>
<tr><th>Submitter</th><th>No</th><th>Submitter Comments</th><th>Applicant Response</th><th>Officer Comment</th></tr>
<tr><td></td><td></td><td>

Assessment

• The decision maker has considered this to be t a vulnerable land use and would constitute an intensification of development and trigger application of SPP 3.7.

• Further clarification is required within the BMP of the requirements of SPP 3.7, and the supporting Guidelines as outlined in our assessment below.

1. Policy Measure 6.5 a) Preparation of a BAL assessment OR (ii) Preparation of a BAL contour map

<table>
<tr><th>Issue</th><th>Assessment</th><th>Action</th></tr>
<tr><td>Vegetation Classification</td><td>No photographic evidence has been provided to support the vegetation classification (Class G Grassland) within Plots 10-12. It is noted that this area would not influence the BAL ratings at the proposal site.</td><td>For accuracy, modification to the BMP is required.</td></tr>
<tr><td>Vegetation Classification</td><td>It is noted that Plot 13 has been labelled in two different locations:
• Pre-development (figure 5 & table 1) it is Class A Forest;
• Post development (figure 6 & table 2) it is the Multi Use Corridor, Class C Shrubland..</td><td>Modification to the BMP is required.</td></tr>
<tr><td>Vegetation Classification</td><td>Evidence to support the exclusion of the Multiple Use Corridor (MUC) and Thomas Road drainage reserve as managed to low threat in</td><td>Clarification required.
The decision maker to be satisfied with the</td></tr>
</table>

</td><td></td><td></td></tr>
</table>

SUMMARY OF SUBMISSIONS

PA23/177 - L59, L60 and L61 Briggs Road and Lot 62 Thomas Road, Byford – JDAP - Grouped Dwelling (Lifestyle Community)

Submitter	No	Submitter Comments			Applicant Response	Officer Comment
			accordance with AS3959 is required. Specifically: • MUC – Plot 13. The MUC appears to contain an area subject to revegetation. It is unclear how this area is to be managed to low threat in perpetuity. • Drainage Reserve to the north of the site – Plot 8 appears to contain an area subject to revegetation. Evidence has not been provided to validate management of the reserve by the responsible authority/the developer. Alternatively, the vegetation should be classified as per AS3959 (at maturity), or the resultant BAL ratings may be inaccurate.	vegetation exclusions and vegetation management proposed.		
			Landscape Management Plan	It is noted that some areas of remnant vegetation are proposed to be retained within the site. A Landscape Management Plan should be prepared to remove ambiguity for the landowner and to provide a compliance mechanism for the Shire to ensure that landscaping will be compliant with Schedule 1: Standards for Asset Protection Zones contained in the Guidelines.	Modification to the BMP is required.		

<table>
<tr><th>Submitter</th><th>No</th><th>Submitter Comments</th><th>Applicant Response</th><th>Officer Comment</th></tr>
<tr><td></td><td></td><td>

2. Policy Measure 6.5 c) Compliance with the Bushfire Protection Criteria

<table>
<tr><th>Element</th><th>Assessment</th><th>Action</th></tr>
<tr><td>Location</td><td>A1.1 – not demonstrated
The BAL ratings cannot be validated, as the vegetation classification inputs require modification as per the above table.
There are areas of the site exposed to BAL-40/BAL-FZ which represents an extreme risk which does not comply with A1.1.
Specifically, the BAL Contour Map identifies proposed buildings in BAL-FZ which means “direct exposure to flames from the fire front in addition to heat flux and ember attack” (AS3959). In a ‘no notice’ bushfire event “radiant heat levels and flame contact are likely to significantly threaten building integrity and result in significant risk to residents who are unlikely to be adequately protected.” A redesign of the proposed development to increase setback between bushfire hazard and habitable buildings should be undertaken. Development plans should be updated to ensure consistency between all plans.</td><td>Modification to the BMP is required.</td></tr>
</table>

</td><td></td><td></td></tr>
</table>

Submitter	No	Submitter Comments			Applicant Response	Officer Comment
		Siting and Design	**A2.1 - not demonstrated** It is noted that the BMP at section 5.1 seeks to exempt the community infrastructure from a requirement to be in BAL-29 or below as it is considered ancillary to the proposed development. DFES does not agree with this statement; all habitable buildings should be located in areas of BAL-29 or lower and the community infrastructure proposed is considered to be an integral part of the development proposal. There do not appear to be any site constraints that prevent this from being achieved. Siting and design should respond to hazards on and around the site to ensure bushfire protection measures can be achieved and to minimise the level of bushfire impact to people that are considered vulnerable.	Modification to the BMP is required.		
		Vehicular Access	**A3.2a - not demonstrated** Information provided within the transport assessment indicates that future access arrangements will be modified so that access to the site from Briggs Road will be limited to left in / left out and further right turns towards / away from the site will be limited along Thomas Road and Indigo Parkway, effectively creating a no through road.	Decision maker to be satisfied that compliance with A3.2a can be achieved.		

Submitter	No	Submitter Comments			Applicant Response	Officer Comment
			This is not discussed within the BMP and timeframes associated with the modifications are not defined but believed to be reliant on development in the surrounding area. The Decision Maker should be satisfied that compliance with A3.2a can be satisfied at all stages of development on the site and in the area, noting that if a no through road travels through an area of BAL-LOW or a residential built out area, then compliance is considered to be achieved as per the Guidelines.			
		Vehicular Access	**A3.2b – not demonstrated** The Acceptable Solution provides for Emergency Access Ways (EAWs) to be used where it is demonstrated that A3.2a cannot be achieved. In this case, there appears to be no reason why an EAW is proposed in lieu of an alternative road access. The BMP should consider incorporating a second public road intersection, or provide justification for why not.	Modifications to the BMP is required.		
		Vehicular Access	A3.3 / A3.4a – not demonstrated It is noted that the proposal is for a grouped dwelling, however it is	Modifications to the BMP is required.		

Submitter	No	Submitter Comments	Applicant Response	Officer Comment

	considered that it effectively contemplates a subdivision. For the purposes of assessment against SPP 3.7, it is considered that the internal network should be assessed as a public road and that no through roads should be avoided. In particular, it is noted that the central east-west orientated avenue extends from the entrance to the east and it is only at this point that access is provided for the northern section of the site. An alternative connection should be provided for the northern section either looping back to the central avenue or to Briggs Road.	
Water	**A4.2 – comment only** It is noted that compliance with requirements of SPP 3.7 appears to be achievable. It should be noted that additional provision may be needed for addressing structural fire response needs, including confirmation of hydrant layout and availability. The proponent should engage with DFES' Built Environment Branch to understand future requirements.	Comment Only

3. Policy Measure 6.6.2 Vulnerable and High-Risk land uses in areas where BAL-40 or BAL-FZ applies

<table>
<tr><th>Submitter</th><th>No</th><th>Submitter Comments</th><th>Applicant Response</th><th>Officer Comment</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><th>Issue</th><th>Assessment</th><th>Action</th></tr>
<tr><td>Extreme bushfire hazard and/or BAL-40/ BAL-FZ applies</td><td>Subdivision and development applications for vulnerable or high-risk land uses in areas of BAL-40/BAL-FZ will not be supported unless they comply with policy measure 6.7, clause 6.7.1 / 6.7.2 of SPP3.7.

The proposal is not considered to meet the definition of minor or unavoidable development as the development is of a large scale with 202 dwellings and is introducing vulnerable people to a bushfire prone area. DFES believes that redesign would enable compliance with the guidelines.

DFES recommends that the decision maker require a redesign to avoid the exposure of habitable buildings on the site to BAL-40/BAL-FZ.</td><td>Modification of the BMP is required</td></tr>
<tr><td>Bushfire Emergency Evacuation Plan (BEEP)</td><td>The referral has not included a ‘Bushfire Emergency Evacuation Plan’. The decision maker has confirmed this to be a vulnerable use and therefore consideration should be given to the Guidelines Section 5.5.4 ‘Developing a Bushfire Emergency Evacuation Plan’. This contains detail regarding what should be included in a BEEP and will ensure the appropriate content</td><td>Comment Only</td></tr>
</table>
</td><td></td><td></td></tr>
</table>

Submitter	No	Submitter Comments	Applicant Response	Officer Comment
		<table><tr><td></td><td>is detailed when finalising the BEEP to the satisfaction of the Shire.</td><td></td></tr></table> **<u>Recommendation – Compliance with Acceptable Solutions not demonstrated – modifications required</u>** It is critical the bushfire management measures within the BMP are refined, to ensure they are accurate and can be implemented to reduce the vulnerability of the development to bushfire. Development plans and associated supporting documents should be updated to reflect required modifications. 1. The Development Application has not demonstrated compliance to: Element 1: Location, Element 2: Siting and Design, Element 3: Vehicular Access, and Element 4: Water. As this planning decision is to be made by a Joint Development Assessment Panel (JDAP) please forward notification of the decision to DFES for our records.		
A398231	4	This letter is written in comment to the Proposed Grouped Dwelling Development (lifestyle Village). As the owner of property on Larsen Road Byford, I wish to comment that I am not in favour of the proposal. The proposal is too much for the area considering that it backs onto an area within very close vicinity to our property and is affecting the rural style of living that we have here. The proposal hence creates an overall planning layout of proposed new small blocks directly behind our larger Rural living A lots and is not a good design as these properties are quite large and have sheds, animals, etc already established on them and so having small properties and grouped	The subject site is zoned Urban under the Metropolitan Region Scheme and Urban Development under the Shire's Local Planning Scheme No. 2, requiring the establishment of a structure plan to facilitate urban development.	Thank you for your submission. Your concerns have been addressed within the Local Structure Plan and Form of Development and Amenity sections of the Council report.

Submitter	No	Submitter Comments	Applicant Response	Officer Comment
		dwelling directly behind and in close vicinity next to these existing properties will create trouble and privacy issues for these properties. It should be proposed that another row of larger rural blocks can back onto the existing Rural Living A blocks and then have the access road in front of them and move the proposed grouped dwellings site into another area of Byford where there are no rural living larger blocks. This will create good privacy and a rural environment for both the existing and new proposed lots. This needs to be addressed as this proposal and overall structure plan will create a lot of problems for these larger blocks, that are already existing, and to maintain the existing privacy of these larger blocks with the higher density living, the proposed grouped dwellings in this location is not supported. This proposal will adversely affect these existing properties, which should not be allowed considering that these properties have been established in place for many years already and the new proposed plan needs to provide minimal disruption and changes to these existing properties. If you require any further information or comment relating to this comment please feel free to contact me. I trust that these comments will be taken into consideration and not dismissed as it should be the right of us to make comment and changes made accordingly if required.	Local Structure Plan *Lots 61 and 62 Thomas Road and Lots 59 and 60 Briggs Road, Byford Local Structure Plan* has been prepared and approved for the subject site and allocates a residential density of R20 under the R-Codes Vol. 1. The proposed development has been designed in accordance with this residential density. Therefore, having regard to the above, the planning for the subject site to accommodate residential development of this nature is well established and is entirely in keeping with the broader structure planning for the urbanisation of the Byford locality more broadly. It is also noted that the lot directly adjacent to the west of the subject site (Lot 9504 Briggs Road) is currently the subject of a	

Submitter	No	Submitter Comments	Applicant Response	Officer Comment
			JDAP approval for a neighbourhood shopping centre and residential development. Within 55m to the east of the site is a residential estate that consists of a single residential housing typology. To the south, the site abuts rural residential land, noting that much of this land is subject to structure planning that will result in greater housing density, consistent with the proposal.	
A398407	5	This letter is written in comment to the Proposed Grouped Dwelling Development (lifestyle Village). As the owners of property on Larsen Road Byford, I wish to comment that I am not in favour of the proposal. The proposal is too much for the area considering that it backs onto an area within very close vicinity to our property and is affecting the rural style of living that we have here. The proposal hence creates an overall planning layout of proposed new small blocks directly behind our larger Rural living A lots and is not a good design as these properties are quite large and have sheds, animals, etc already established on them and so having small properties and grouped	Refer to comments above.	Thank you for your submission. Your concerns have been addressed within the Local Structure Plan and Form of Development and Amenity sections of the Council report.

Submitter	No	Submitter Comments	Applicant Response	Officer Comment
		dwelling directly behind and in close vicinity next to these existing properties will create trouble and privacy issues for these properties. It should be proposed that another row of larger rural blocks can back onto the existing Rural Living A blocks and then have the access road in front of them and move the proposed grouped dwellings site into another area of Byford where there are no rural living larger blocks. This will create good privacy and a rural environment for both the existing and new proposed lots. This needs to be addressed as this proposal and overall structure plan will create a lot of problems for these larger blocks, that are already existing, and to maintain the existing privacy of these larger blocks with the higher density living, the proposed grouped dwellings in this location is not supported. This proposal will adversely affect these existing properties, which should not be allowed considering that these properties have been established in place for many years already and the new proposed plan needs to provide minimal disruption and changes to these existing properties. If you require any further information or comment relating to this comment please feel free to contact me. I trust that these comments will be taken into consideration and not dismissed as it should be the right of us to make comment and changes made accordingly if required.		
A398230	6	We bought this property / land 7 years ago as it was a quiet and almost rural area. The proposed plan will increase noise, traffic and population. As a family we strongly object to the proposed plan.	Refer to comments above.	Thank you for your submission. The concerns raised regarding amenity, traffic and density have been considered within the relevant sections of the report.

SUMMARY OF SUBMISSIONS

PA23/177 - L59, L60 and L61 Briggs Road and Lot 62 Thomas Road, Byford – JDAP - Grouped Dwelling (Lifestyle Community)

Submitter	No	Submitter Comments	Applicant Response	Officer Comment
A401003	7	I am in favour of this development as it would be an asset to the area. Also something I may need in the future being a senior citizen.	Noted.	Thank you for your submission.
A400550	8	We confirm we have no objection to the lifestyle village complex as proposed by Edenlife Communities. Look forward to the village proposal being approved. The design and layout appears to be well designed for the area – Corner Briggs Road and Thomas Road.	Noted.	Thank you for your submission.

Deemed Provisions – Cl 67 Matters to be considered by local Government

Land Use:

a) The aims and provisions of this Scheme and any other local planning scheme operating within the area	**YES** ☒	**NO** ☐	**N/A** ☐

Comment:

Town Planning Scheme No.2 (TPS2)

The subject site is zoned 'Urban Development' under the Shire's TPS2. Clause 5.18 of TPS2 sets out the objective of the 'Urban Development' zone as *"to provide for the orderly planning of large areas of land in a locally integrated manner and within a regional context, whilst retaining flexibility to review planning with changing circumstances"*. This objective is facilitated through the preparation of structure plans, which guide land use permissibility and development.

The subject site is identified as 'Residential Low (Suburban): R20-R35' within the Byford District Structure Plan 2020 (DSP). Further to the DSP, a site-specific Local Structure Plan (LSP) was approved in 2010 which includes a designation of 'Residential'. These designations inform appropriate land uses intended for the site. The development is generally compliant with the LSP provisions which is discussed later in the report.

b) The requirements of orderly and proper planning including any proposed local planning scheme or amendment to this Scheme that has been advertised under the *Planning and Development (Local Planning Schemes) Regulations 2015* or any other proposed planning instrument that the local government is seriously considering adopting of approving	**YES** ☒	**NO** ☐	**N/A** ☐

Comment:

Local Planning Scheme No. 3 (LPS3)

The site would remain zoned 'Urban Development' under LPS3. The provisions of LPS3 relating to the 'Urban Development' zone also rely on the preparation of a structure plan. As mentioned, the site is subject to an LSP, which has been further considered in the following sections of the report.

c) any approved State planning policy	**YES** ☒	**NO** ☐	**N/A** ☐

Comment:

Refer to consideration of the R-Codes (SPP7.3) and SPP5.4 within the Clause (m) section of the report.

d) any environmental protection policy approved under the *Environmental Protection Act 1986* section 31(d)	**YES** ☐	**NO** ☐	**N/A** ☒

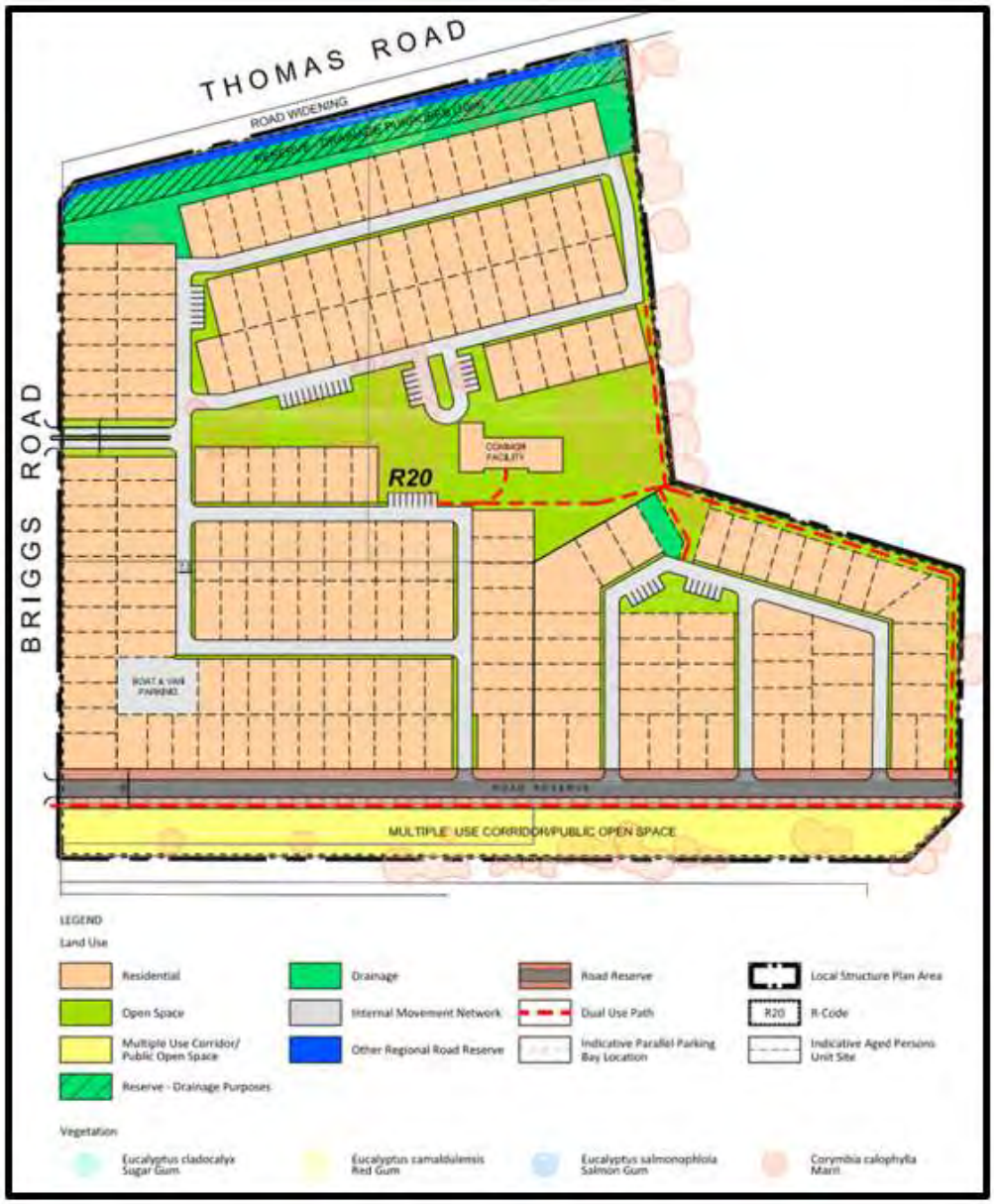
Comment:

e) any policy of the Commission	YES ☐	NO ☐	N/A ☒
Comment:			

f) any policy of the State	YES ☒	NO ☐	N/A ☐
Comment: Refer to consideration of the R-Codes (SPP7.3) and SPP5.4 within the Clause (m) section of the report.			

g) any local planning policy for the Scheme area	YES ☐	NO ☐	N/A ☒
Comment:			

h) any structure plan, activity centre plan or local development plan that relates to the development	YES ☒	NO ☐	N/A ☐
Comment: <u>Local Structure Plan (Lots 59-62 Briggs Road, Byford) (LSP)</u> The purpose and objectives of the approved LSP for this site are twofold: • *To provide a high quality aged or dependent persons' dwellings development within the subject area that will help meet the needs of the frail and ageing in the Byford community.* • *To provide guidance for future development of the land.* There is a specific intent for aged or dependent persons, which is met by the application in question. The LSP also provides a general layout of development, to which the proposal generally meets. The lot layout provided within the LSP is shown following:			



Extract of the Local Structure Plan

While generally consistent, the proposal seeks approval for a modified development layout from the approved LSP. These modifications to the LSP include:

- A reduction in the drainage area to the north of the site, adjacent to Thomas Road from 4,733m^2 down to 2,328m^2;
- Reduced width of the road reserve to the south of the site;
- An increase in the number of dwellings from 196 to 202; and
- An average lot size of 336m^2, whereas the average lot size for the R25 density is 350m^2.

Despite these variations, the LSP is a document that provides guidance to development, and is required to be given regard to in undertaking assessment of the application. The LSP also aims to provide high-quality development for aging members of the community. Officers consider the

development meets this intent of the LSP.

i) any report of the review of the local planning scheme that has been published under the P*lanning and Development (Local Planning Schemes) Regulations 2015*	**YES** ☐	**NO** ☐	**N/A** ☒
Comment:			

j) in the case of land reserved under this Scheme, the objectives for the reserve and the additional and permitted uses identified in this Scheme for the reserve	**YES** ☐	**NO** ☐	**N/A** ☒
Comment:			

Development:

k) the built heritage conservation of any place that is of cultural significance	**YES** ☐	**NO** ☐	**N/A** ☒
Comment:			

l) the effect of the proposal on the cultural heritage significance of the area in which the development is located	**YES** ☐	**NO** ☐	**N/A** ☒
Comment:			

m) the compatibility of the development with its setting including the relationship of the development to development on adjoining land or on other land in the locality including, but not limited to, the likely effect of the height, bulk, scale, orientation and appearance of the development	**YES** ☒	**NO** ☐	**N/A** ☐

Comment:

Clause 67 of the *Deemed Provisions* specifically (m) relates to the form of the development that is required to be assessed. The proposal will ultimately provide 202 dwellings of various designs, across 164 standard sites, 24 rear loaded sites and 14 duplex sites. The selection of dwellings will be sales led and purchasers will select a home from a range of designs and also the lot they wish to locate it on. As such, a site plan showing the layout of each dwelling has not been provided at this stage.

In line with the LSP, the dwellings are intended to meet the requirements of State Planning Policy 7.3 – Residential Design Codes (Volume 1) (R-Codes), specifically in terms of setbacks, open space and outdoor living. This however cannot be fully determined until a sale has occurred and a particular lot and house type chosen. To ensure that each dwelling does not require an individual development application and that sites are afforded an appropriate level of residential amenity, it is recommended that a Local Development Plan (LDP) is prepared for the site to set out relevant planning controls for the area.

The applicant has included an example of what such provisions may look like within the additional

information provided (**attachment 5**). This includes a 1m lot boundary setback requirement and reduced front setbacks for carports. Officers are satisfied that the preparation of an LDP would allow for a process to assess the built form of the development, establish the character of the area and ensure an appropriate level of amenity for residents. A condition is recommended in this regard.
Several dwelling designs have been provided as part of the application, as contained within the attachments. Some examples of these are depicted below:

Series of dwelling designs

The dwellings are generally of a contemporary design and simple form typical of development expected in a lifestyle village. The appearance incorporates earthy tones and appears to feature materials consistent with the rural character of the Shire, including timber weatherboard/cladding. The dwellings also include verandahs and pitched roofs consistent with rural building design. It is considered that the information provided demonstrates that the proposed built form would create desirable streetscapes and a consistent approach to development.

The development also proposes a clubhouse (714m^2), workshop (60m^2) and an arts and crafts workshop (60m^2). All these buildings are located along the eastern lot boundary. The workshops are considered modest in scale and sited so as to not adversely impact on the character or amenity of the locality. The clubhouse is larger in scale than the other community facilities, as depicted below:

Perspective of the clubhouse

This building abuts public open space to the east where there is established vegetation. It is considered that due to the siting, form and external appearance of the clubhouse, it would not adversely impact upon the amenity of the locality or that of surrounding landowners. The design replicates the form and design features of the dwellings proposed.

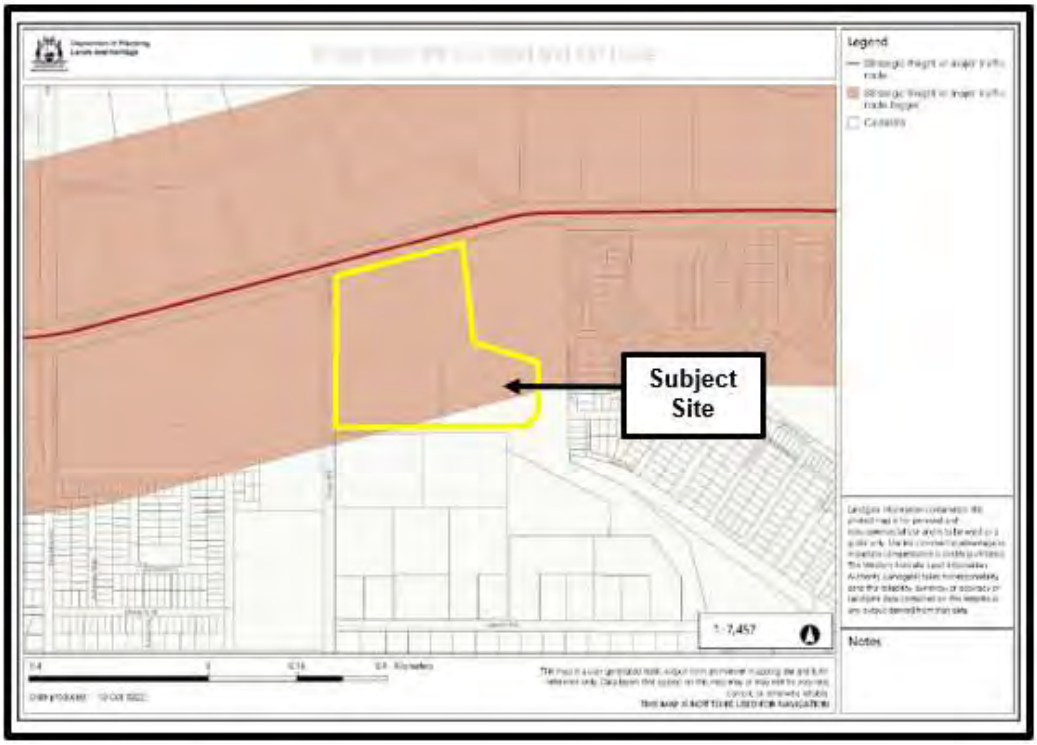
n) the amenity of the locality including the following –	YES	NO	N/A
I. Environmental impacts of the development II. The character of the locality III. Social impacts of the development	☒	☐	☐

Comment:

Noise

Whilst the subject development is not considered noise generating, the site is located in close proximity to Thomas Road, an 'Other Regional Road' designated under the MRWA hierarchy. As such, it is important to ensure that traffic noise from Thomas Road does not adversely impact upon the residential amenity of the occupants of the site.

State Planning Policy 5.4 - Road and Rail Noise (SPP5.4) seeks to ensure that the community is protected from unreasonable levels of transport noise. Table 1 of SPP5.4 sets out distances between a road carriageway and a development site to determine whether an assessment against the policy is required. In this case, the distance is 300m and the site lies within this distance, as depicted below:



The red shaded area is the 300m transport buffer distance

To support the proposal and ensure consistency with SPP5.4, an Acoustic Assessment has been provided with the application. SPP5.4 sets out noise targets to be achieved for both within the dwelling and on land external to the dwelling. The Acoustic Assessment details that the dwellings located adjacent to Thomas Road would exceed the noise targets and proposes either a 2.4m high noise wall on the boundary facing Thomas Road, or design considerations to lot placement and public open space, combined with individual design by way of Quite House Design.

The proposed site plan indicates a Noise Wall located on the northern boundary adjacent to the drainage reserve. Based on the Acoustic Assessment provided, it is considered that this noise wall will ensure an appropriate level of amenity is afforded to occupants, consistent with SPP5.4. A condition requiring that the noise walls and boundary fencing to be in accordance with Local Planning Policy

4.25 - Uniform Fencing has been recommended by Officers which will address the visual appearance of the wall when viewed from the public realm.

o) the likely effect of the development on the natural environment or water resources and any means that are proposed to protect or to mitigate impacts on the natural environment or the water resource	YES ☒	NO ☐	N/A ☐

Comment:

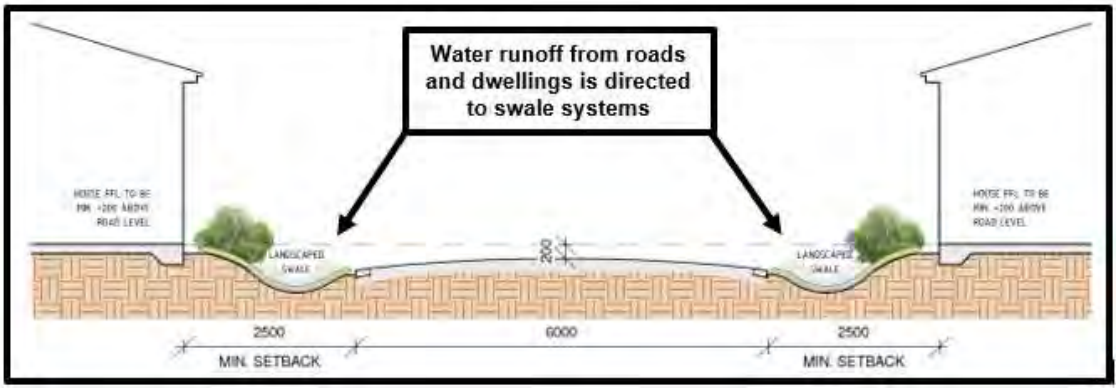
Stormwater Management

Clause 67 (q) of the *Deemed Provisions*, relates to the suitability of the land for the proposed development, considering issues of stormwater. The applicant has provided a Stormwater Management Plan (SWMP) to this effect, which is able to be viewed within **attachment 2**.

The site has a fall of 3m from the high point in the south-east to the low point at the north-west. The site is also classified as a 'flood prone' area, elevating the importance of effective stormwater management.

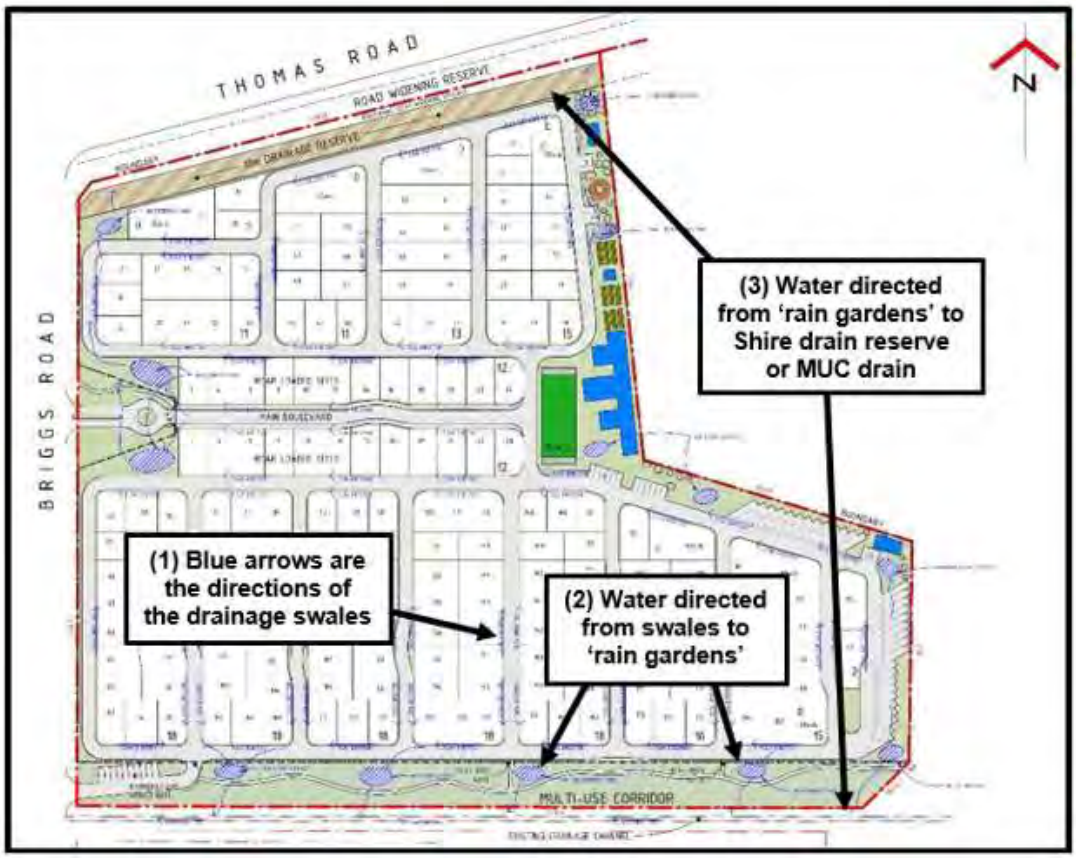
Existing natural surface/groundwater movement (blue) towards the North-West corner of the lot

The proposal seeks to manage stormwater runoff from the private roads and buildings through a series of roadside drainage swales adjacent to the internal roads of the development. The vegetation within the swales would strip nutrients from the water prior to infiltration.



A section of a typical streetscape layout

Water that is not infiltrated will be directed through the swale system to bio retention basins ('rain gardens') and eventually to the drainage infrastructure to the north of the site or the Multiple Use Corridor (MUC) drain to the south of site. This system is pictured below, and reflects the water management aspects contemplated by the approved LSP:



Proposed stormwater management system pictured

The applicant has not at this stage undertaken detailed engineering designs for the development. In order to ensure compliance with the Byford District Water Management Strategy and LWMS prepared as part of the original LSP, a condition is recommended to require an updated LWMS (which reflects also the advice of DWER) and subsequent to this, a detailed Urban Water Management Plan (UWMP). These processes will address the following matters:

- The capacity of the drainage infrastructure, including contingency for significant storm events;
- How the swales will direct water through obstacles such as road reserves, driveways and the acoustic wall on the north lot boundary;
- The location of the southern row of dwellings being positioned in the floodway of the drain to the south of site;
- The management measures to be employed to ensure water quality is maintained;
- How much fill is necessary to be imported into site; and
- What measures will be in place to ensure the survivability or replacement of vegetation within the swales and 'rain gardens'.

Officers consider the above are necessary to ensure appropriate stormwater management takes place.

	YES	NO	N/A
p) whether adequate provision has been made for the landscaping of the land to which the application relates and whether any trees or other vegetation on the land should be preserved	☒	☐	☐

Comment:

Tree Removal

Clause 67 (q) of the Deemed Provisions requires consideration be given to the removal and retention of trees during applications for development approval. Further to this, the criteria of the LSP includes the following:

> *"Future development shall ensure every effort is made to retain existing vegetation within communal open space/drainage areas."*

The existing site features a large number of mature native Marri trees and several Eucalyptus species. In accordance with the LSP, the applicant has aimed to retain vegetation throughout the site and especially the eastern corridor as detailed following. The Multiple Use Corridor to the south of the site would feature a large amount of vegetation planting as well as the retention of existing mature trees.

Site plan detailing vegetation intended to be retained

However, vegetation loss will be required to facilitate development (i.e. the construction of roads, site works and dwellings. While Officers consider the intent of the planning framework is met to seek to retain as many existing trees as possible, it is recommended that prior to lodgement of a Building Permit a detailed Tree Survey is undertaken. The purpose of this would be to determine which trees can be retained, including a Landscaping Plan detailing tree replacement to offset vegetation loss and ensure an appropriate amenity outcome. A condition has been recommended in this regard.

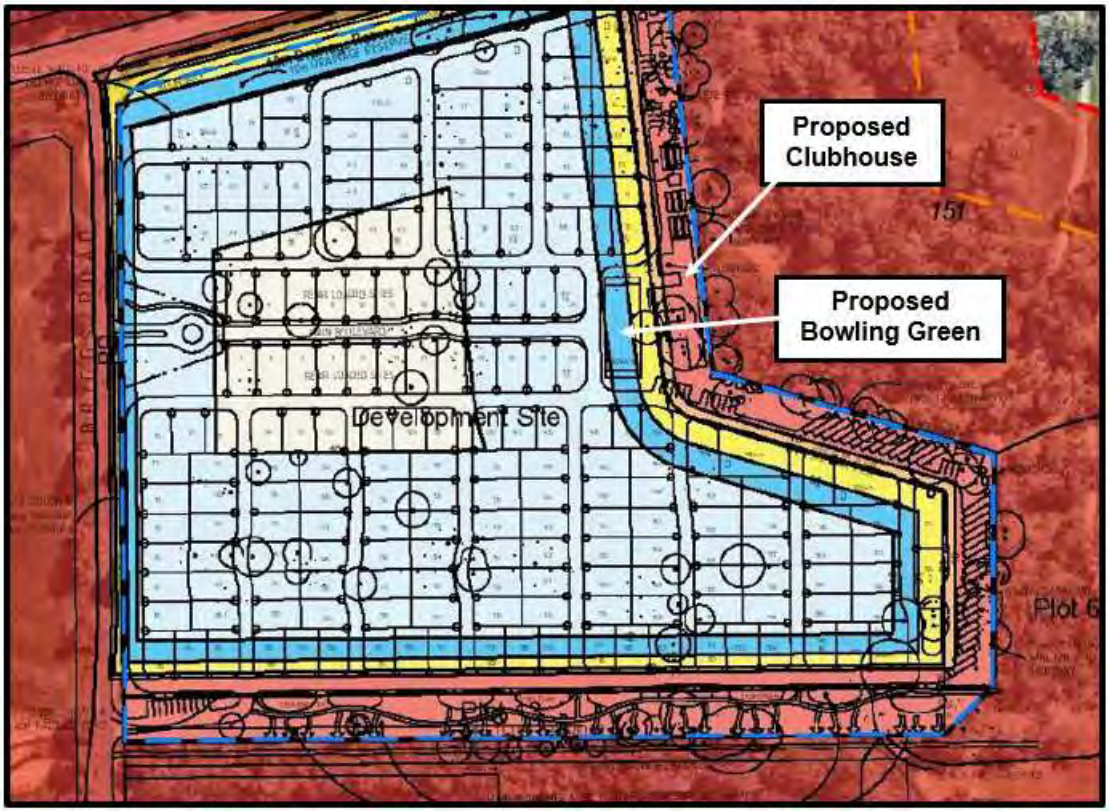
q) the suitability of the land for the development taking into account the possible risk of flooding, tidal inundation, subsidence, landslip, bushfire, soil erosion, land degradation or any other risk	**YES** ☒	**NO** ☐	**N/A** ☐

Comment:

State Planning Policy 3.7 - Planning in Bushfire Prone Areas (SPP3.7)

The subject site lies within a bushfire prone area and as such, the provisions of SPP3.7 apply which seeks to *"avoid any increase in the threat of bushfire to people, property and infrastructure"* through a balanced risk-based approach. A Bushfire Management Plan (BMP) was submitted with the application including an assessment against the criteria within the *Guidelines for Planning in Bushfire Prone Areas.* (Guidelines).

Location, Siting and Design:
The BMP demonstrates that a worst-case scenario bushfire attack level (BAL) rating for the dwellings would be BAL-29, consistent with the requirements of SPP3.7. The BAL contour map however identifies that the Clubhouse is within Flame Zone, as depicted below.



Location of community facilities in the Flame Zone

As the building is considered habitable (where people live, work, study or are entertained), Officers raised this as a concern with the applicant and recommended that the building be relocated to where the bowling green is situated and vice versa. SPP3.7 states that development applications that result in a rating of BAL-40 or Flame Zone will not be supported unless it is considered 'minor development' or 'unavoidable development', which the proposal is not considered.
In response to this, the applicant provided additional information (**attachment 5**) which is summarised as follows:

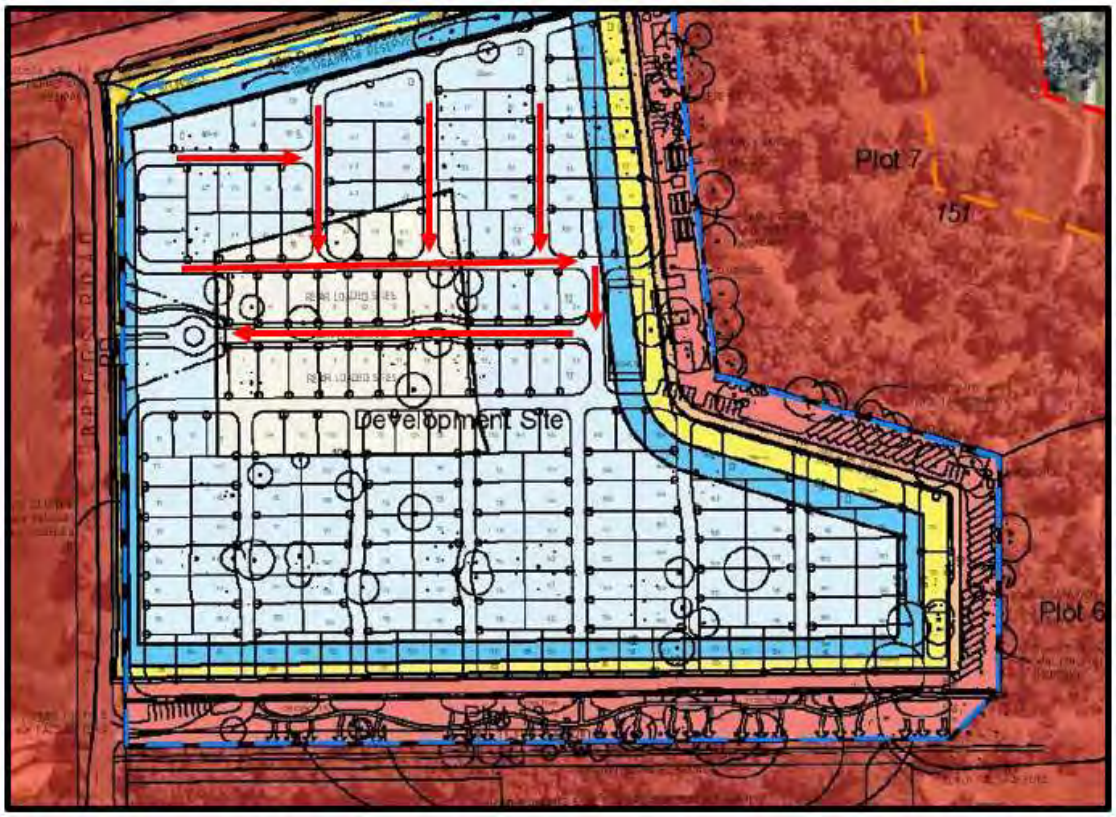
- The clubhouse is capable of exemption under SPP3.7 as it is incidental to the dwellings and would be used infrequently by residents;
- Bushfire is well managed within these types of lifestyle developments and includes a fire warden, community volunteers to assist with fire safety and response and emergency evacuation plans/muster points;
- The site would be serviced by an independent fire water main;
- The land to the east of the bushfire hazard contains an established residential development. Once the subject development is established the bushfire hazard would be contained by urban development to the west and east and constructed roads, resulting in any bushfire being capable of being responded to immediately; and
- The clubhouse and surrounding structures would have a comprehensive fire alarm system and

evacuation process.

Officers consider that the justification provided by the applicant goes further to mitigate the risks associated with bushfire and that it could be appropriately managed. The building would be used by residents of the development who would be aware of their surroundings and the evacuation measures in place should a bushfire occur.

Furthermore, with the availability of reticulated fire hydrants and the new Cardup Career Fire Station targeted to be in operation prior to this development being completed, there is an acceptable risk management approach proposed.

Vehicular Access:
The Guidelines require that vehicular access allows for the provision of public road access in two different directions to at least two suitable destinations. The subject application satisfies this requirement. However, should a bushfire occur within the Flame Zone area to the east, residents located towards the north of the site would be required to travel towards the bushfire before exiting the site onto Briggs Road as depicted below:



Emergency egress route (red arrows) during bushfire event

Officers recommend to further substantiate the risk, a further emergency access is created for the residents to the north.

Water:
The subject site is serviced by a reticulated water supply enabling the installation of fire hydrants, in accordance with the Guidelines.

r) the suitability of the land for the development taking into account the possible risk to human health or safety	YES ☐	NO ☐	N/A ☐
Comment:			

s) the adequacy of – I. The proposed means of access to and egress from the site; and II. Arrangements for the loading, unloading, manoeuvring and parking of vehicles	YES ☒	NO ☐	N/A ☐
Comment: Refer to Clause (t) section.			

t) the amount of traffic likely to be generated by the development, particularly in relation to the capacity off the road system in the locality and the probable effect on traffic flow and safety	YES ☐	NO ☐	N/A ☐

Comment:

Traffic

Clause 67 of the *Deemed Provisions*, specifically (s) and (t) relate to the ability of the development to manage access and egress arrangements, and whether the traffic generated by the proposal would be suitable considering the local road network. The category of the vehicles associated with the proposed development will predominantly comprise of resident's passenger vehicles and waste collection vehicles.

Several changes are currently being undertaken to the local road network, separate to this development. The section of Briggs Road where this development would take access is yet to be upgraded to an 'urban standard', however engineering plans have been approved which show the upgrade taking place in accordance with the subdivision of land opposite the subject site (Byford Meadows Stage 8). This does not include the section of verge however adjoining the subject land.
In order to address this, it is a standard requirement that the adjoining verge be upgraded as part of development talking place. This is required to match an urban standard, comprising a suitable footpath, drainage improvements, undergrounding of power and landscaping etc. This forms a recommended condition of approval.

In looking beyond Briggs Road, there are a number of planned road upgrades in the locality, which include:

(1) The Thomas Road Upgrade Project is to include a left in left out treatment to the intersection of Thomas Road and Briggs Road;
(2) A solid median strip and left in left out treatment to the intersection of Indigo Parkway and Briggs Road; and
(3) A number of road closure treatments to the Byford road network to reduce through-traffic and 'rat runs' within the Byford Trotting Complex.

These are pictured in the following figure:

Details of the future road upgrades to the local road network

A Traffic Impact Statement (TIS) has been prepared to address the impact on the existing and future local road network. Submissions during the consultation period were received raising traffic concerns.

The standard trip generation rates for 'housing for aged and disabled persons' is less than a standard residential development rate. Therefore, it is considered that the number of vehicles generated by this development is less when compared with the residential development that the LSP initially allowed for. The TIS models that during the morning peak hour it is anticipated that only 40 vehicle movements would be generated by the proposal.

This would not substantially increase the traffic volume on the road network and is unlikely to have an adverse impact in the future. The TIS also concludes that no further upgrades to the local road network are warranted by this development.

Officers generally concur with this finding given the road upgrades taking place as part of the subdivision works for Byford Meadows Stage 8. However, there is a safety issue associated with the lack of an urban standard verge on the eastern verge area adjoining the subject land, and connecting the subject land southwards to the local footpath network on Larsen Rd.

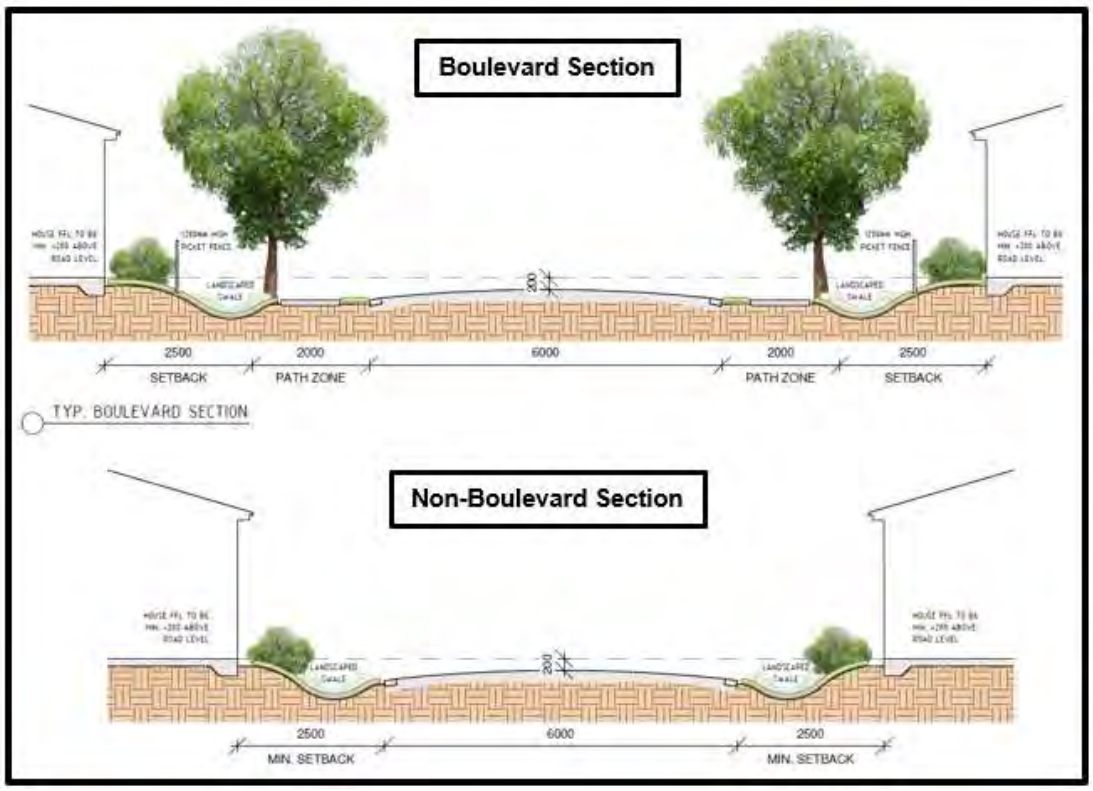
As shown in the following image, the site will be isolated from a safe pedestrian path, and officers consider that this needs to be addressed as part of approval of the development. By including a footpath on the eastern verge that connects south to the existing network along Larsen Rd, elderly residents (specifically) will not be forced to cross Briggs Rd and access the path network being built by the adjoining subdivision. This will enable safer access to amenities like the Byford Town Centre.

As a final note, the TIS also recommends the following matters to be addressed in the detailed design phase. A condition is secured on this basis:

- Design of trailer and caravan parking areas;
- Pedestrian connection points to the surrounding Byford network; and
- Design of pedestrian, gopher and cycling facilities.

Internal Roads and Pedestrian Network

In terms of carriageway widths associated with grouped dwelling developments the State Planning Policy 7.3 - Residential Design Codes (Volume 1) (R-Codes) requires a 12m minimum total width, inclusive of a minimum 5.5m wide road and 1.2m wide footpath. The current layout of the communal streets provides a 6m wide road only. No footpaths are provided apart from on the main boulevard that leads to the communal facility to the east of site. This is detailed below.



The main boulevard section is shown on the top image and the typical street elevation at the bottom

The applicant proposes that internal roads, as private roads only, will be enforced through their design and development rules, to not exceed a speed limit of 8km/hr. This design and enforced speed regulation in the private estate, will enable safe sharing of space by both vehicles and pedestrians.

Car Parking
Clause 5.3.3 of the R-Codes requires for grouped dwellings, one visitor bay for every four dwellings. The development proposes 51 visitor parking bays for grouped dwelling developments.

u) the availability and adequacy fir the development of the following –	YES	NO	N/A
I. Public transport services II. Public utility services III. Storage, management and collection of waste IV. Access for pedestrians and cyclists (including end of trip storage, toilet and shower facilities) V. Access by older people and people with disability	☒	☐	☐
Comment: Refer to the Clause (t) section.			

v) the potential loss of any community service or benefit resulting from the development other than potential loss that may result	YES	NO	N/A
	☐	☐	☒

from economic competition between new and existing businesses			
Comment:			

w) the history of the site where the development is to be located	**YES** ☐	**NO** ☐	**N/A** ☒
Comment:			

x) the impact of the development on the community as a whole notwithstanding the impact of the development on particular individuals	**YES** ☐	**NO** ☐	**N/A** ☒
Comment:			

y) any submissions received on the application	**YES** ☒	**NO** ☐	**N/A** ☐
Comment: Refer to the Community Consultation section of the report.			

Za) the comments or submissions received from any authority consulted under clause 66	**YES** ☒	**NO** ☐	**N/A** ☐
Comment: Refer to the Community Consultation section of the report.			

Zb) any other planning consideration the local government considers appropriate	**YES** ☒	**NO** ☐	**N/A** ☐
Comment: <u>Development Contributions (DCA1)</u> This development falls within the development contribution area DCA1 (Area A) and as such is required to contribute towards the cost of common infrastructure under the Byford Traditional Development Contribution Plan. Under a Development Application (as opposed to a subdivision), contributions are calculated on the current lot area on which the development is situated, giving a lot "yield" for the site. The liability to pay the contribution is triggered at the building permit stage, and thus the DCP payment will be applied as a development condition needing to be met prior to the issue of a Building Permit or commencement of civil works, whichever comes first. <u>Percent for art</u> A condition is recommended to ensure the necessary per cent for art provision of Local Planning Policy 1.6 is met. There are a range of opportunities in which to address the per cent for art component of the development, including elements surrounding the main driveway and feature external fencing, for example.			

10.1.2 - Proposed Lifestyle Village (Grouped Dwellings) and incidental Communal Facilities - Lots 59, 60 and 61 Briggs Road and Lot 62 Thomas Road, Byford (PA23/177)	
Responsible Officer:	Manager Statutory Planning and Compliance
Senior Officer:	Director Development Services
Disclosure of Officer's Interest:	No Officer involved in the preparation of this report has an interest to declare in accordance with the provisions of the *Local Government Act 1995*.

Authority / Discretion

Quasi-Judicial	When Council determines an application/matter that directly affect a person's right and interests. The judicial character arises from the obligation to abide by the principles of natural justice. Examples of quasi-judicial authority include local planning applications, building licences, applications for other permits/licences (e.g. under Health Act, Dog Act or Local Laws) and other decisions that may be appealable to the State Administrative Tribunal.

Proponent:	Allerding and Associates
Owner:	Oyster Reef Holdings Pty Ltd
Date of Receipt:	15 March 2023
Lot Area:	8.78 hectares
Town Planning Scheme No 2 Zoning:	'Urban Development'
Metropolitan Region Scheme Zoning:	'Urban' and 'Other Regional Roads'

Report Purpose

The purpose of this report is for Council to consider a Responsible Authority Report (RAR) (**attachment 1**) prepared for a development application for a Lifestyle Village in the form of a 'Grouped Dwelling' development at Lots 59, 60, 61 Briggs Road and Lot 62 Thomas Road, Byford. The application proposes the creation of 202 lots, incidental communal facilities, full internal road system, landscaped areas and elements of the southern multiple use corridor. The application includes elevations and several design options of dwellings for approval to be made available for future purchasers of the lots.

The physical works associated with the dwellings do not form part of this application, given the range of choices that purchasers have in terms of dwellings. The selection of final dwellings is ultimately sales led and purchasers select a home from the range of designs and also the lot they wish to locate it upon. As such, a site plan showing the layout of each dwelling has not been provided at this stage, but will form the basis of a future LDP process once approval for this application has been granted.

The application has a development value of more than $10 million, and therefore is required to be determined by the Metro Outer Joint Development Assessment Panel (MODAP). The MODAP will replace Council as the decision-making authority for the application in accordance with the *Planning and Development (Development Assessment Panels) Regulations 2011*. The report is presented to Council to consider the RAR that will be presented to the MODAP, consistent with established delegations.

The proposal is consistent with the existing and future planning framework and as a result, the RAR (**attachment 1**) recommends that the application be approved subject to conditions. The development reflects the intent of the approved structure plan for the land, which designates the land for aged and dependent persons development. The lifestyle village will provide a development solution for particularly a full range of aged persons, being accessible by ages 55 and upwards.

Relevant Previous Decisions of Council

There are no previous Council decisions relating to this application.

Background

Existing Development

The subject site of four parcels of land with a total area of approximately 8.78ha, is located within Byford, to the south of Thomas Road and to the east of Briggs Road. The subject site is zoned 'Urban Development' under Town Planning Scheme No. 2 (TPS2) and is designated 'Residential' under the Byford District Structure Plan (DSP) and the Local Structure Plan (Lots 59-62 Briggs Road, Byford) (LSP).

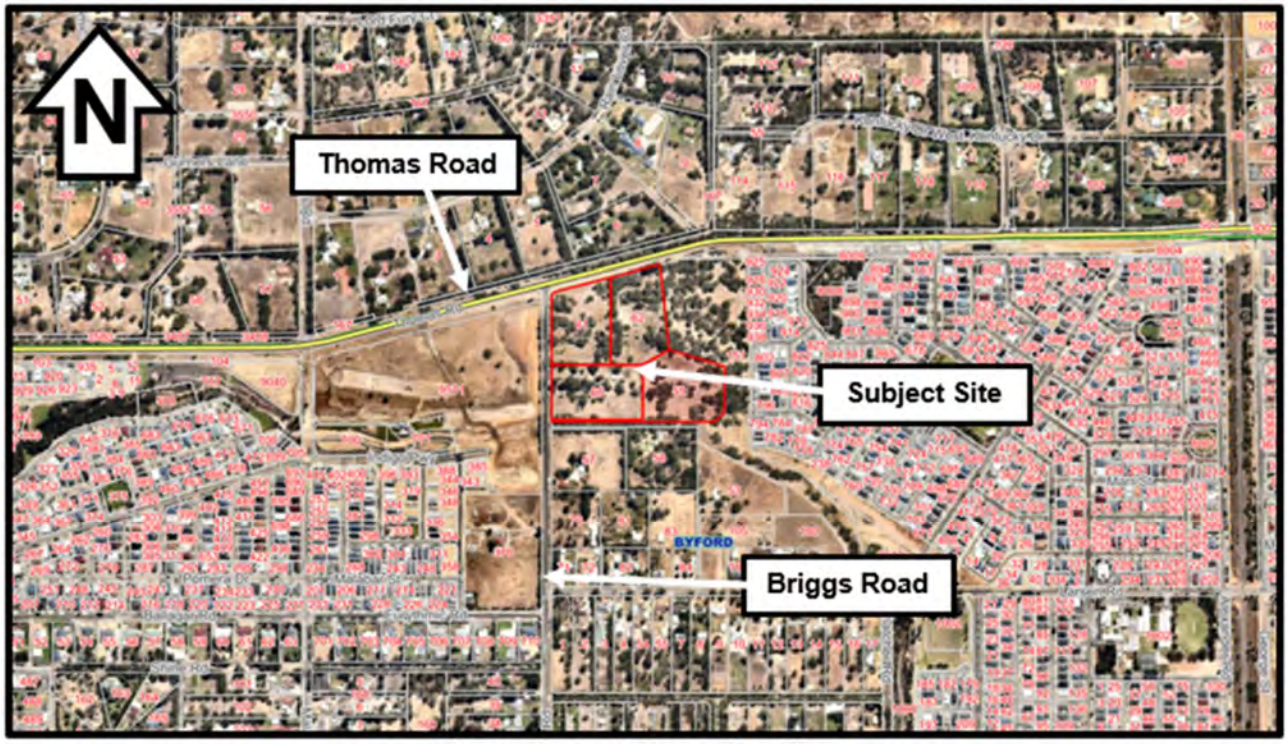


Figure 1: Aerial Locality Plan

Proposed Development

The application seeks approval for a 'Lifestyle Village' in the form of a 'Grouped Dwelling' development with incidental communal aspects, and includes the following components:

- Creation of 202 lots;
- Clubhouse, including a swimming pool;
- Lawn bowling greens;
- Pottery shed;
- Community garden;
- Workshop;
- Arts and crafts building;
- Parking spaces for boats and caravans
- Multiple use corridor and drainage reserve; and
- Internal streets and landscaping areas.

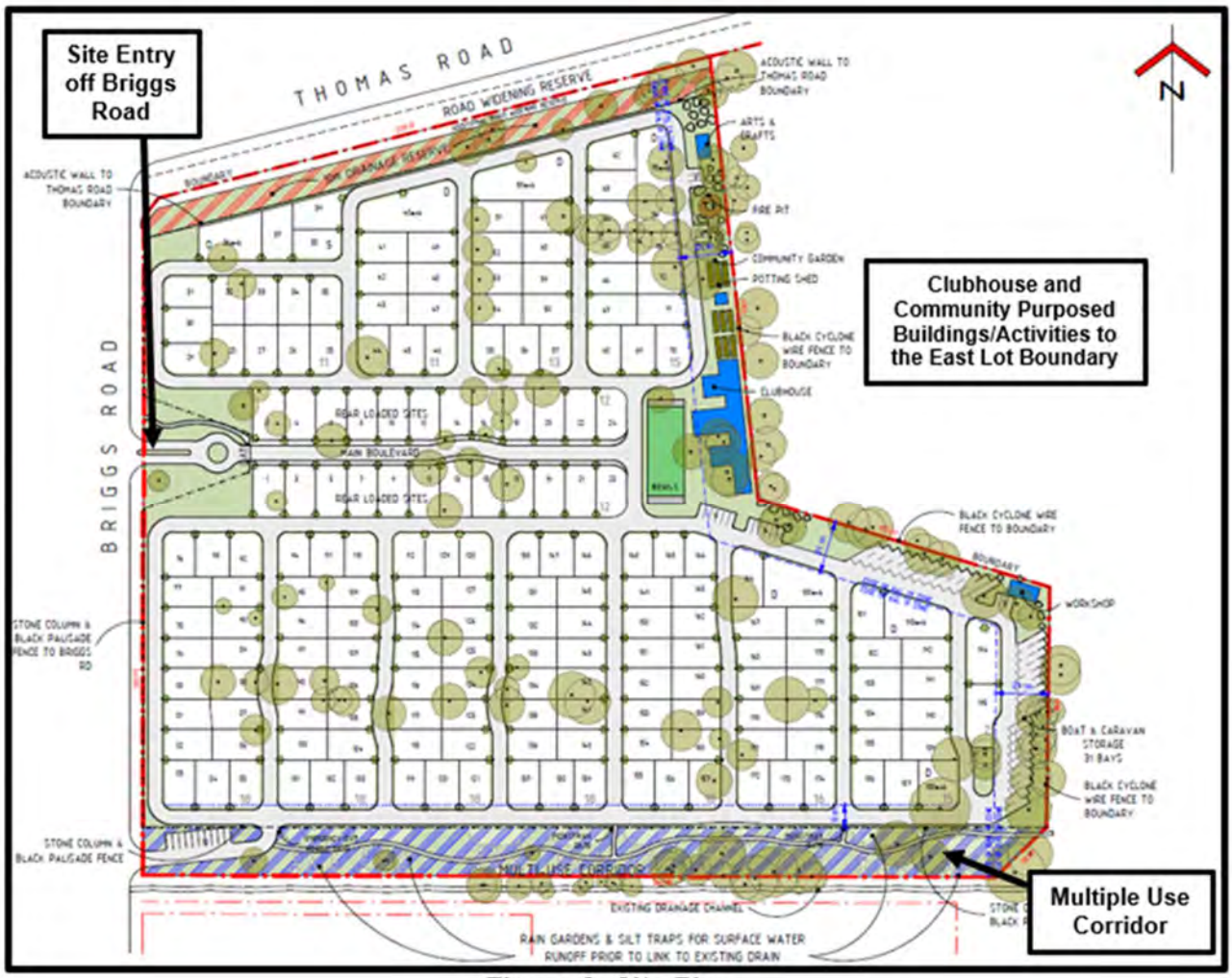


Figure 2: Site Plan

Figure 3: Plans of two of the ten designs

Full details of the development are contained within **attachment 2**.

Community / Stakeholder Consultation

The application was advertised for a period of 28 days from 28 March 2023 to 25 April 2023 to surrounding landowners within a 500m radius of the subject site, in accordance with LPP1.4 – Consultation for Planning Matters. The application was also advertised on the Shire's website for the same period. At the conclusion of the consultation, five submissions were received, consisting of three submissions either objecting or raising concerns with aspects of the proposal. Two submissions were received either in support of the proposal, or did not object to it.

The objections and concerns relate to the following issues which are discussed under the relevant headings of the report:

- Noise - the concerns about noise have been addressed in the Form of Development and Amenity section of this report.
- Traffic - the concerns about traffic have been addressed in the Traffic section of this report.
- Density - consideration has been given to the density of the development within the Local Structure Plan section of this report.
- Loss of privacy - a concern raised was that due to the increase in density, there would be a loss of privacy for residents to the south. Officers however consider that the development would be separated to the south by the Multiple Use Corridor public open space reserve and a drain. A condition is also recommended to facilitate a future Local Development Plan, which would address interface of development to the MUC.
- Rural amenity - Despite the concern regarding the loss of rural amenity, it is noted that the approved Local Structure Plan sets the amenity expectation that residential development would occur on this site in the future. The design of the development is dealt with in the form of development and amenity section.

A summary of the submissions received, including the applicant's response and Officer comments, is contained within **attachment 3**.

Main Roads Western Australia (MRWA)

The application was referred to MRWA for a period of 42 days. MRWA, in their letter dated 11 April 2023, indicated they were unable to provide a recommendation on the proposal due to requiring a Traffic Impact Statement (TIS). A TIS was supplied to the Shire and forwarded to MRWA on 24 April 2023.

As it stands, MRWA's position remains one of non-support and the Shire has not received any updated referral response to advise otherwise. The Shire has previously been advised that as of 30 May 2022, Thomas Road from Rockingham Road to South Western Highway is under MRWA administration. However, at the time of writing, this portion of Thomas Road remains an Other Regional Road (blue road) under the MRS and the Shire has delegation to provide a recommendation to the DAP in accordance with Delegated Instrument 2017/02 in this instance.

Department of Fire and Emergency Services (DFES)

DFES has provided a submission requiring modifications to the Bushfire Management Plan in relation to vegetation classification and other matters. Furthermore, DFES has discussed a redesign of the development to increase the setback between the bushfire hazard and habitable buildings (clubhouse). A condition is recommended for an updated BMP to be prepared to the satisfaction of the Shire, as well as relocation of the clubhouse facility. Department of Water and

Environmental Regulation (DWER)

The application was referred to DWER for a period of 42 days. DWER, in their submission, have provided comments in relation to the departure of the proposal from the approved Local Water Management Strategy (LWMS) and recommended a condition requiring this to be updated. A condition has been recommended in this regard. Furthermore, advice has been provided for the applicant in relation to clearing of vegetation and obtaining a groundwater license. This has been passed on to the applicant.

Department of Planning Lands and Heritage (DPLH)

DPLH Westport Division advised that they have no comments on this application. DPLH Land Use Planning Division did not make a submission.

Water Corporation

Water Corporation have provided advice for the applicant regarding connection to reticulated water and sewerage, which has been passed on to the applicant.

Statutory Environment

Legislation

- *Planning and Development Act 2005*
- *Planning and Development (Local Planning Schemes) Regulations 2015*
- *Environmental Protection (Noise) Regulations 1997*
- Metropolitan Regional Scheme

State Government Policies

- South Metropolitan Peel Sub-Regional Framework Towards Perth and Peel 3.5 Million
- State Planning Policy 7.3 - Residential Design Codes (Volume 1) (R-Codes)

Local Planning Framework

- Shire of Serpentine Jarrahdale Local Planning Strategy (Strategy)
- Shire of Serpentine Jarrahdale Town Planning Scheme No.2
- Draft Shire of Serpentine Jarrahdale Local Planning Scheme No.3 (LPS3)
- Byford District Structure Plan 2020 (DSP)
- Lots 59-62 Briggs Road, Byford Local Structure Plan (LSP)
- Local Planning Policy 1.4 - Public Consultation for Planning Matters (LPP1.4)
- Local Planning Policy 1.6 - Public Art for Major Developments (LPP1.6)
- Local Planning Policy 2.4 - Water Sensitive Design (LPP2.4)
- Local Planning Policy 4.15 - Bicycle Facilities Policy (LPP 4.15)
- Local Planning Policy 4.16 - Landscape and Vegetation Policy (LPP4.16)
- Local Planning Policy No 24 - Designing Out Crime (LPP24)

Planning Assessment

Clause 67 of the Deemed Provisions lists matters to be considered in the determination of development applications. A full assessment was carried out against the planning framework in accordance with Clause 67 of the Deemed Provisions which can be viewed within **attachment 4**.

Town Planning Scheme No.2 (TPS2)

The subject site is zoned 'Urban Development' under the Shire's TPS2. Clause 5.18 of TPS2 sets out the objective of the 'Urban Development' zone as *"to provide for the orderly planning of large areas of land in a locally integrated manner and within a regional context, whilst retaining flexibility to review planning with changing circumstances"*. This objective is facilitated through the preparation of structure plans, which guide land use permissibility and development.

The subject site is identified as 'Residential Low (Suburban): R20-R35' within the Byford District Structure Plan 2020 (DSP). Further to the DSP, a site-specific Local Structure Plan (LSP) was approved in 2010 which includes a designation of 'Residential'. These designations inform appropriate land uses intended for the site. The development is generally compliant with the LSP provisions which is discussed later in the report.

Local Planning Scheme No. 3 (LPS3)

The site would remain zoned 'Urban Development' under LPS3. The provisions of LPS3 relating to the 'Urban Development' zone also rely on the preparation of a structure plan. As mentioned, the site is subject to an LSP, which has been further considered in the following sections of the report.

Land Use

The proposed development falls within the TPS2 definition of 'Grouped Dwelling' as found within State Planning Policy 7.3 – Residential Design Codes (Volume 1) (R-Codes), which is as follows:

> *"A dwelling that is one of a group of two or more dwellings on the same lot such that no dwelling is placed wholly or partly vertically above or below another, except where special conditions of landscape or topography dictate otherwise, and includes a dwelling on a survey strata with common property."*

The 'Grouped Dwelling' land use is an 'AA' land use within the 'Residential' zone, as designated under the structure plans. This means, "*that the Council may, at its discretion, permit the use*". Therefore, the proposed land use is considered consistent, subject to a merits-based assessment.

Local Structure Plan (Lots 59-62 Briggs Road, Byford) (LSP)

The purpose and objectives of the approved LSP for this site are twofold:

- *To provide a high quality aged or dependent persons' dwellings development within the subject area that will help meet the needs of the frail and ageing in the Byford community.*
- *To provide guidance for future development of the land.*

There is a specific intent for aged or dependent persons, which is met by the application in question. The LSP also provides a general layout of development, to which the proposal generally meets. The lot layout provided within the LSP is shown following:

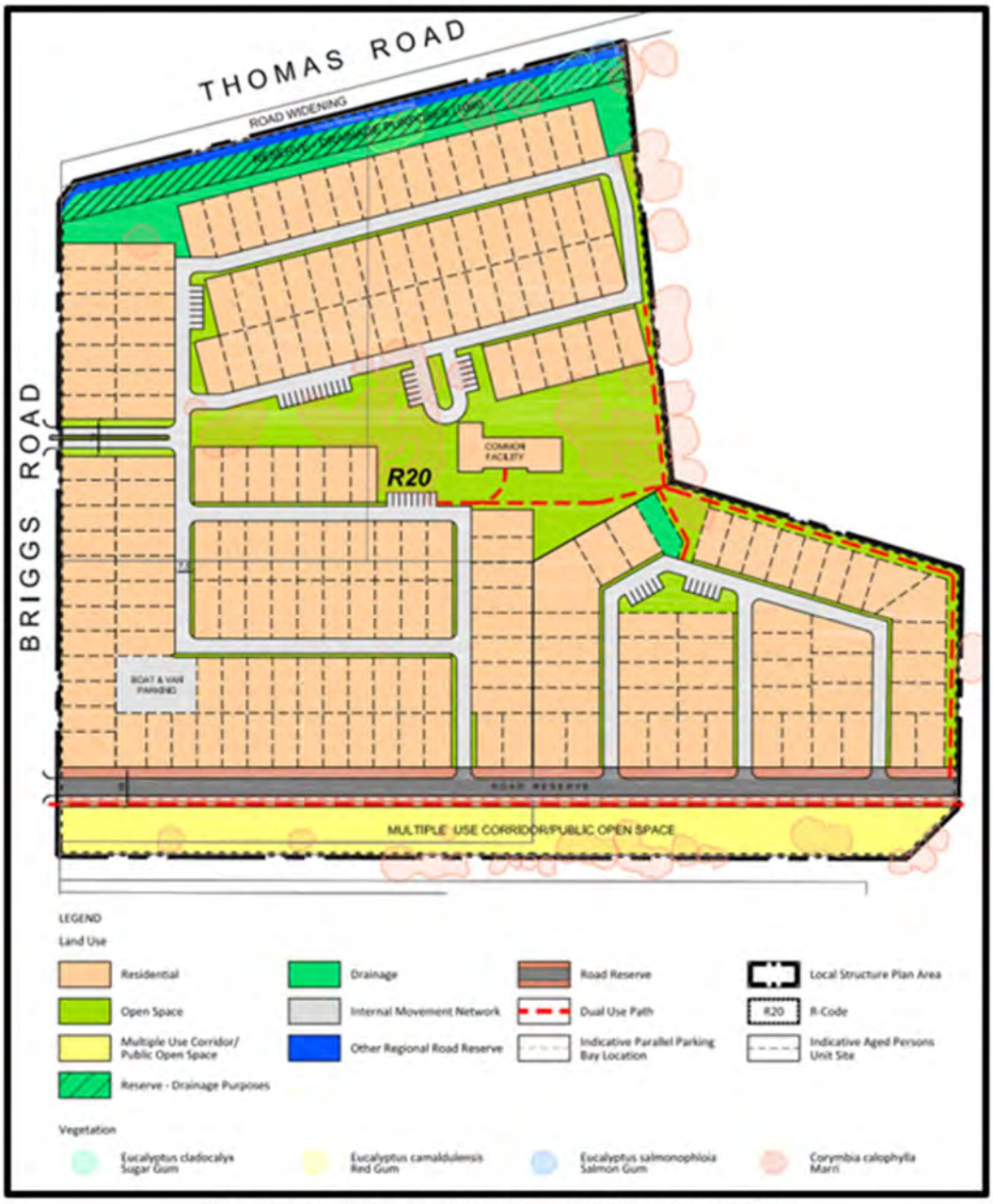


Figure 4: Extract of the Local Structure Plan

While generally consistent, the proposal seeks approval for a modified development layout from the approved LSP. These modifications to the LSP include:

- A reduction in the drainage area to the north of the site, adjacent to Thomas Road from 4,733m^2 down to 2,328m^2;
- Reduced width of the road reserve to the south of the site;
- An increase in the number of dwellings from 196 to 202; and
- An average lot size of 336m^2, whereas the average lot size for the R25 density is 350m^2.

Despite these variations, the LSP is a document that provides guidance to development, and is required to be given regard to in undertaking assessment of the application. The LSP also aims to

provide high-quality development for aging members of the community. Officers consider the development meets this intent of the LSP.

Form of Development and Amenity

Clause 67 of the *Deemed Provisions* specifically (m) relates to the form of the development that is required to be assessed. The proposal will ultimately provide 202 dwellings of various designs, across 164 standard sites, 24 rear loaded sites and 14 duplex sites. The selection of dwellings will be sales led and purchasers will select a home from a range of designs and also the lot they wish to locate it on. As such, a site plan showing the layout of each dwelling has not been provided at this stage.

In line with the LSP, the dwellings are intended to meet the requirements of State Planning Policy 7.3 – Residential Design Codes (Volume 1) (R-Codes), specifically in terms of setbacks, open space and outdoor living. This however cannot be fully determined until a sale has occurred and a particular lot and house type chosen. To ensure that each dwelling does not require an individual development application and that sites are afforded an appropriate level of residential amenity, it is recommended that a Local Development Plan (LDP) is prepared for the site to set out relevant planning controls for the area.

The applicant has included an example of what such provisions may look like within the additional information provided (**attachment 5**). This includes a 1m lot boundary setback requirement and reduced front setbacks for carports. Officers are satisfied that the preparation of an LDP would allow for a process to assess the built form of the development, establish the character of the area and ensure an appropriate level of amenity for residents. A condition is recommended in this regard.

Several dwelling designs have been provided as part of the application, as contained within the attachments. Some examples of these are depicted below:

Figure 5: Series of Dwelling Designs

The dwellings are generally of a contemporary design and simple form typical of development expected in a lifestyle village. The appearance incorporates earthy tones and appears to feature materials consistent with the rural character of the Shire, including timber weatherboard/cladding. The dwellings also include verandahs and pitched roofs consistent with rural building design. It is considered that the information provided demonstrates that the proposed built form would create desirable streetscapes and a consistent approach to development.

The development also proposes a clubhouse (714m^2), workshop (60m^2) and an arts and crafts workshop (60m^2). All these buildings are located along the eastern lot boundary. The workshops are considered modest in scale and sited so as to not adversely impact on the character or

amenity of the locality. The clubhouse is larger in scale than the other community facilities, as depicted below:

Figure 6: Perspective of the Clubhouse

This building abuts public open space to the east where there is established vegetation. It is considered that due to the siting, form and external appearance of the clubhouse, it would not adversely impact upon the amenity of the locality or that of surrounding landowners. The design replicates the form and design features of the dwellings proposed.

Noise

Whilst the subject development is not considered noise generating, the site is located in close proximity to Thomas Road, an 'Other Regional Road' designated under the MRWA hierarchy. As such, it is important to ensure that traffic noise from Thomas Road does not adversely impact upon the residential amenity of the occupants of the site.

State Planning Policy 5.4 - Road and Rail Noise (SPP5.4) seeks to ensure that the community is protected from unreasonable levels of transport noise. Table 1 of SPP5.4 sets out distances between a road carriageway and a development site to determine whether an assessment against the policy is required. In this case, the distance is 300m and the site lies within this distance, as depicted below:

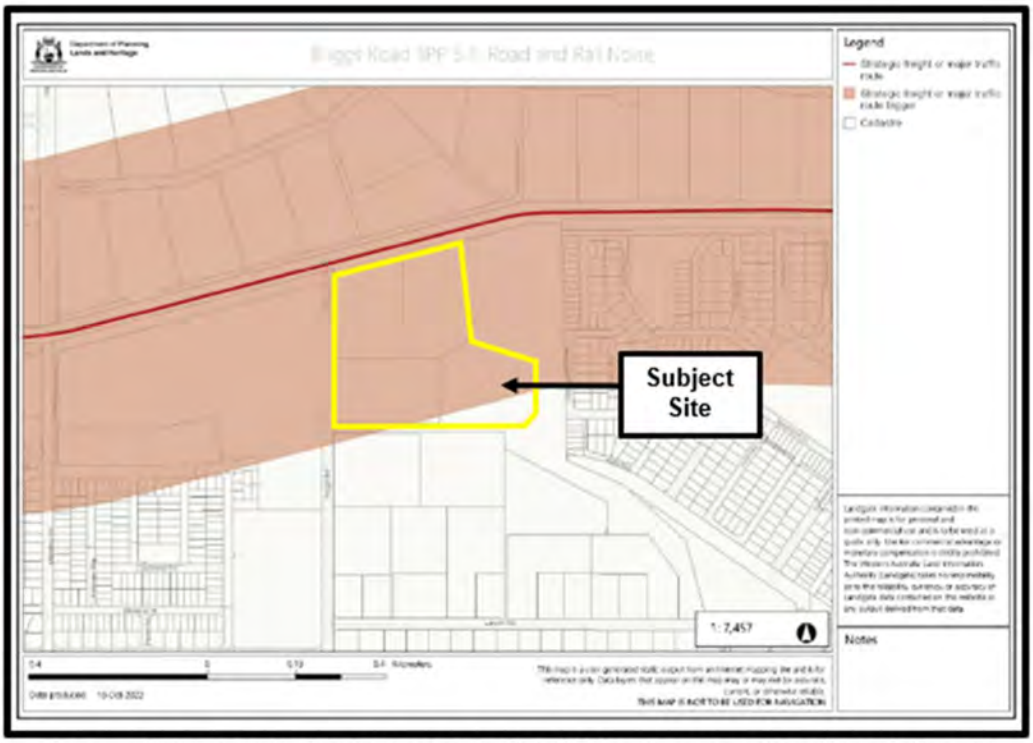


Figure 7: The red shaded area is the 300m transport buffer distance

To support the proposal and ensure consistency with SPP5.4, an Acoustic Assessment has been provided with the application. SPP5.4 sets out noise targets to be achieved for both within the dwelling and on land external to the dwelling. The Acoustic Assessment details that the dwellings located adjacent to Thomas Road would exceed the noise targets and proposes either a 2.4m high noise wall on the boundary facing Thomas Road, or design considerations to lot placement and public open space, combined with individual design by way of Quite House Design.

The proposed site plan indicates a Noise Wall located on the northern boundary adjacent to the drainage reserve. Based on the Acoustic Assessment provided, it is considered that this noise wall will ensure an appropriate level of amenity is afforded to occupants, consistent with SPP5.4. A condition requiring that the noise walls and boundary fencing to be in accordance with Local Planning Policy 4.25 - Uniform Fencing has been recommended by Officers which will address the visual appearance of the wall when viewed from the public realm.

Traffic

Clause 67 of the *Deemed Provisions*, specifically (s) and (t) relate to the ability of the development to manage access and egress arrangements, and whether the traffic generated by the proposal would be suitable considering the local road network. The category of the vehicles associated with the proposed development will predominantly comprise of resident's passenger vehicles and waste collection vehicles.

Several changes are currently being undertaken to the local road network, separate to this development. The section of Briggs Road where this development would take access is yet to be upgraded to an 'urban standard', however engineering plans have been approved which show the upgrade taking place in accordance with the subdivision of land opposite the subject site (Byford Meadows Stage 8). This does not include the section of verge however adjoining the subject land.

In order to address this, it is a standard requirement that the adjoining verge be upgraded as part of development taking place. This is required to match an urban standard, comprising a suitable

footpath, drainage improvements, undergrounding of power and landscaping etc. This forms a recommended condition of approval.

In looking beyond Briggs Road, there are a number of planned road upgrades in the locality, which include:

(1) The Thomas Road Upgrade Project is to include a left in left out treatment to the intersection of Thomas Road and Briggs Road;

(2) A solid median strip and left in left out treatment to the intersection of Indigo Parkway and Briggs Road; and

(3) A number of road closure treatments to the Byford road network to reduce through-traffic and 'rat runs' within the Byford Trotting Complex.

These are pictured in the following figure:

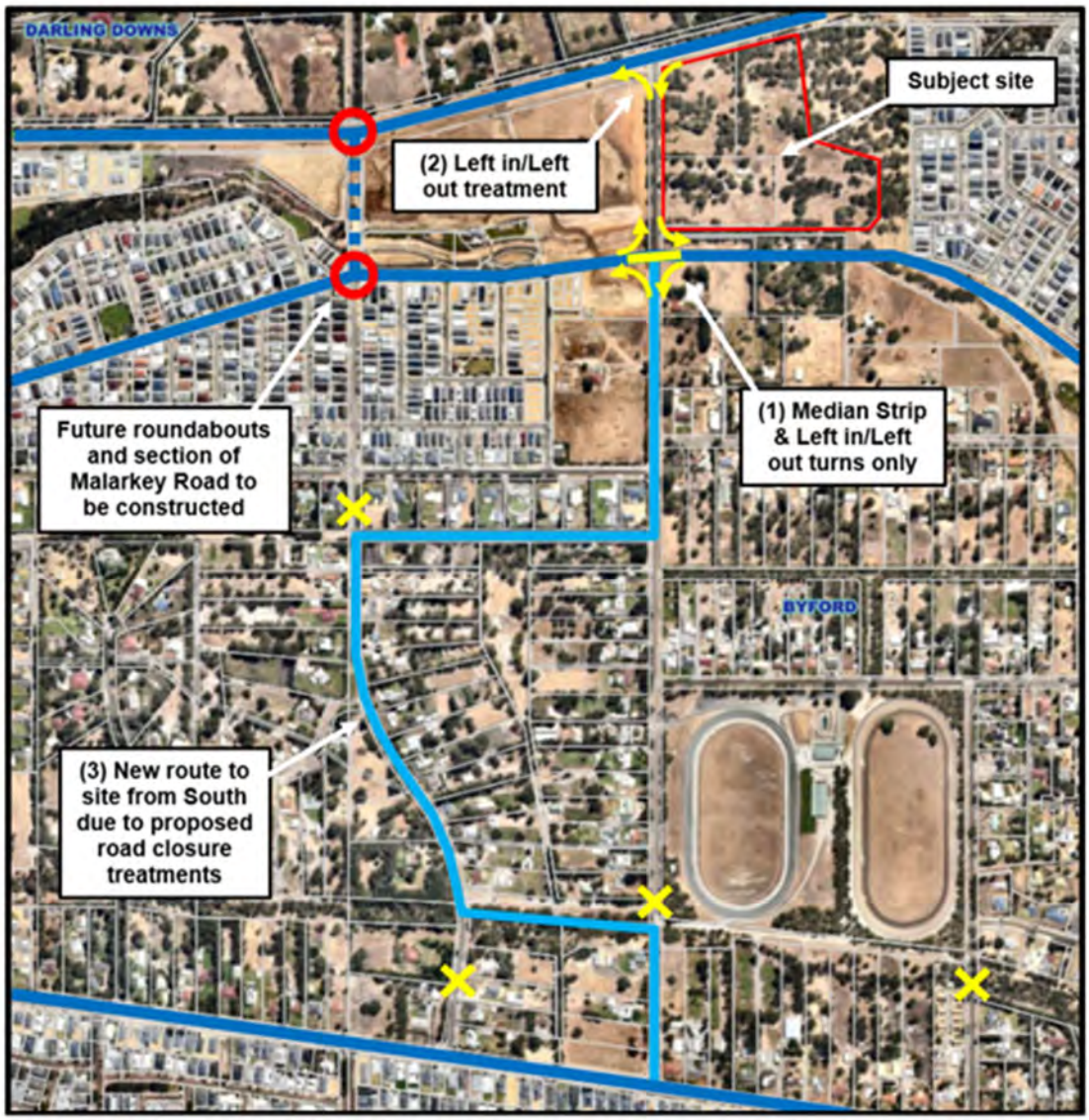


Figure 8: Details of the future road upgrades to the local road network

A Traffic Impact Statement (TIS) has been prepared to address the impact on the existing and future local road network. Submissions during the consultation period were received raising traffic concerns.

The standard trip generation rates for ‘housing for aged and disabled persons’ is less than a standard residential development rate. Therefore, it is considered that the number of vehicles generated by this development is less when compared with the residential development that the LSP initially allowed for. The TIS models that during the morning peak hour it is anticipated that only 40 vehicle movements would be generated by the proposal.

This would not substantially increase the traffic volume on the road network and is unlikely to have an adverse impact in the future. The TIS also concludes that no further upgrades to the local road network are warranted by this development.

Officers generally concur with this finding, given the road upgrades taking place as part of the subdivision works for Byford Meadows Stage 8. However, there is a safety issue associated with the lack of an urban standard verge on the eastern verge area adjoining the subject land, and connecting the subject land southwards to the local footpath network on Larsen Road.

As shown in the following image, the site will be isolated from a safe pedestrian path, and Officers consider that this needs to be addressed as part of approval of the development. By including a footpath on the eastern verge that connects south to the existing network along Larsen Road, elderly residents (specifically) will not be forced to cross Briggs Road and access the path network being built by the adjoining subdivision. This will enable safer access to amenities like the Byford Town Centre.

As a final note, the TIS also recommends the following matters to be addressed in the detailed design phase. A condition is secured on this basis:

- Design of trailer and caravan parking areas;
- Pedestrian connection points to the surrounding Byford network; and
- Design of pedestrian, gopher and cycling facilities.

Internal Roads and Pedestrian Network

In terms of carriageway widths associated with grouped dwelling developments the State Planning Policy 7.3 - Residential Design Codes (Volume 1) (R-Codes) requires a 12m minimum total width, inclusive of a minimum 5.5m wide road and 1.2m wide footpath. The current layout of the communal streets provides a 6m wide road only. No footpaths are provided apart from on the main boulevard that leads to the communal facility to the east of site. This is detailed below.

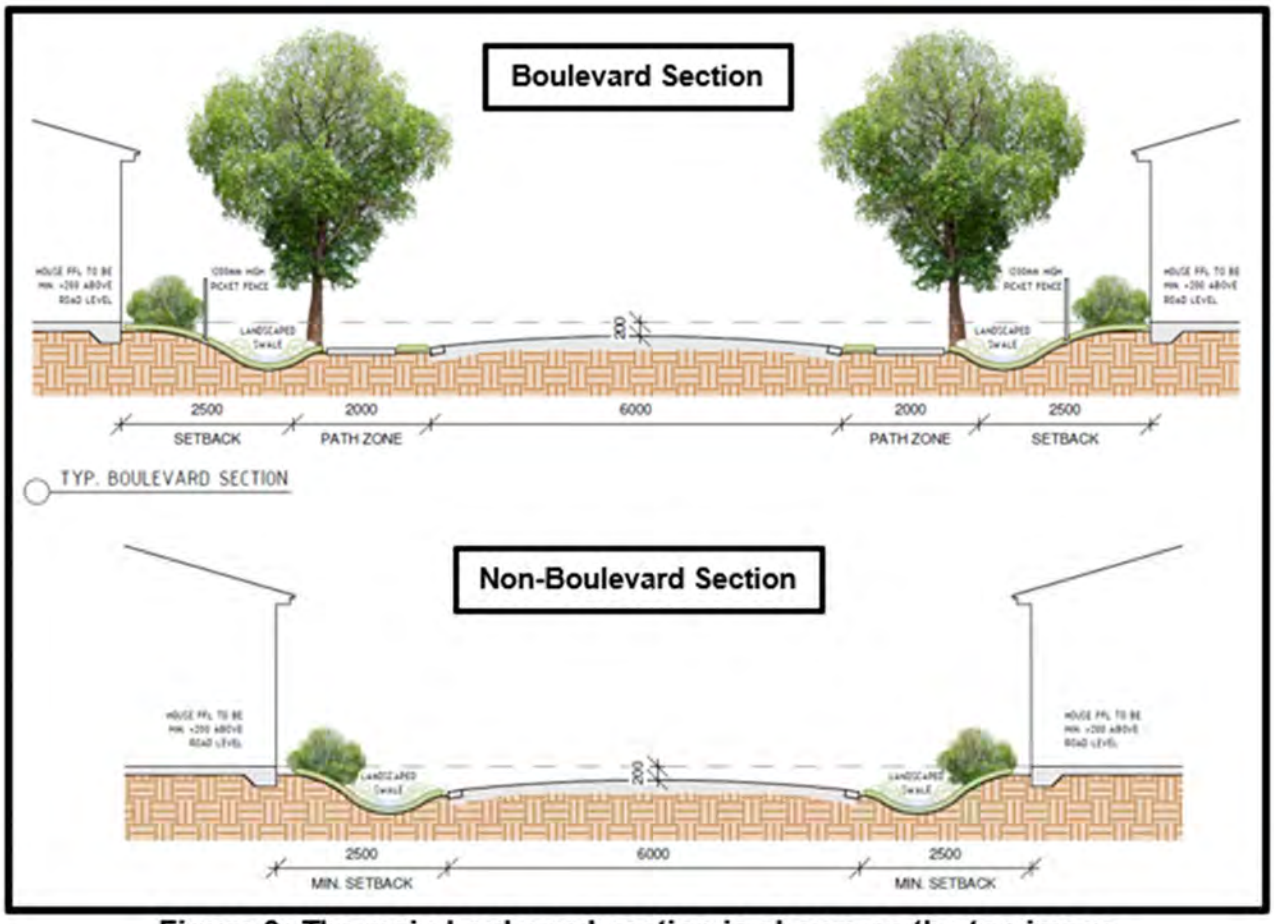


Figure 9: The main boulevard section is shown on the top image and the typical street elevation at the bottom

The applicant proposes that internal roads, as private roads only, will be enforced through their design and development rules, to not exceed a speed limit of 8km/hr. This design and enforced speed regulation in the private estate, will enable safe sharing of space by both vehicles and pedestrians.

Car Parking

Clause 5.3.3 of the R-Codes requires for grouped dwellings, one visitor bay for every four dwellings. The development proposes 51 visitor parking bays for grouped dwelling developments.

Stormwater Management

Clause 67 (q) of the *Deemed Provisions*, relates to the suitability of the land for the proposed development, considering issues of stormwater. The applicant has provided a Stormwater Management Plan (SWMP) to this effect, which is able to be viewed within **attachment 2**.

The site has a fall of 3m from the high point in the south-east to the low point at the north-west. The site is also classified as a 'flood prone' area, elevating the importance of effective stormwater management.

Figure 10: Existing natural surface/groundwater movement (blue) towards the North-West corner of the lot

The proposal seeks to manage stormwater runoff from the private roads and buildings through a series of roadside drainage swales adjacent to the internal roads of the development. The vegetation within the swales would strip nutrients from the water prior to infiltration.

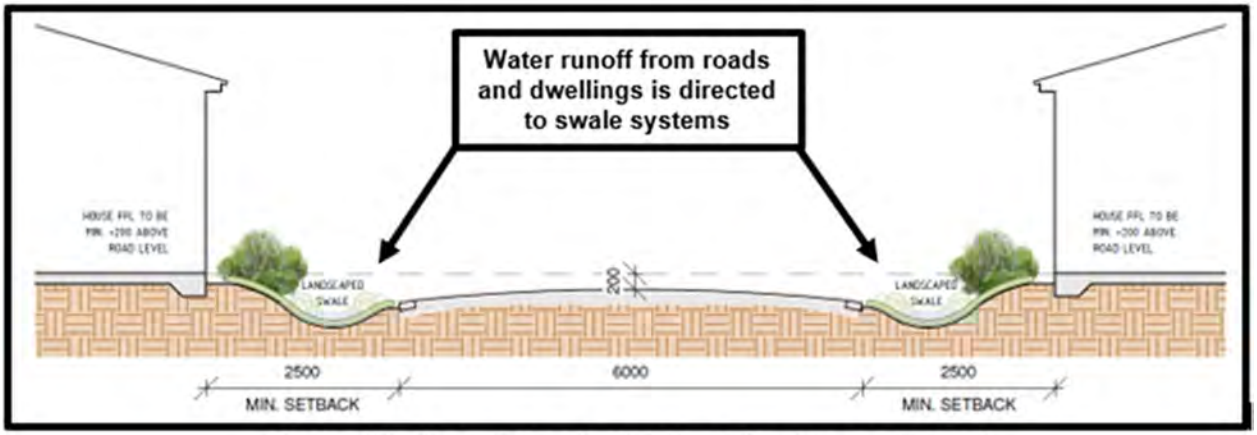


Figure 11: A section of a typical streetscape layout

Water that is not infiltrated will be directed through the swale system to bio retention basins (‘rain gardens’) and eventually to the drainage infrastructure to the north of the site or the Multiple Use Corridor (MUC) drain to the south of site. This system is pictured below, and reflects the water management aspects contemplated by the approved LSP:

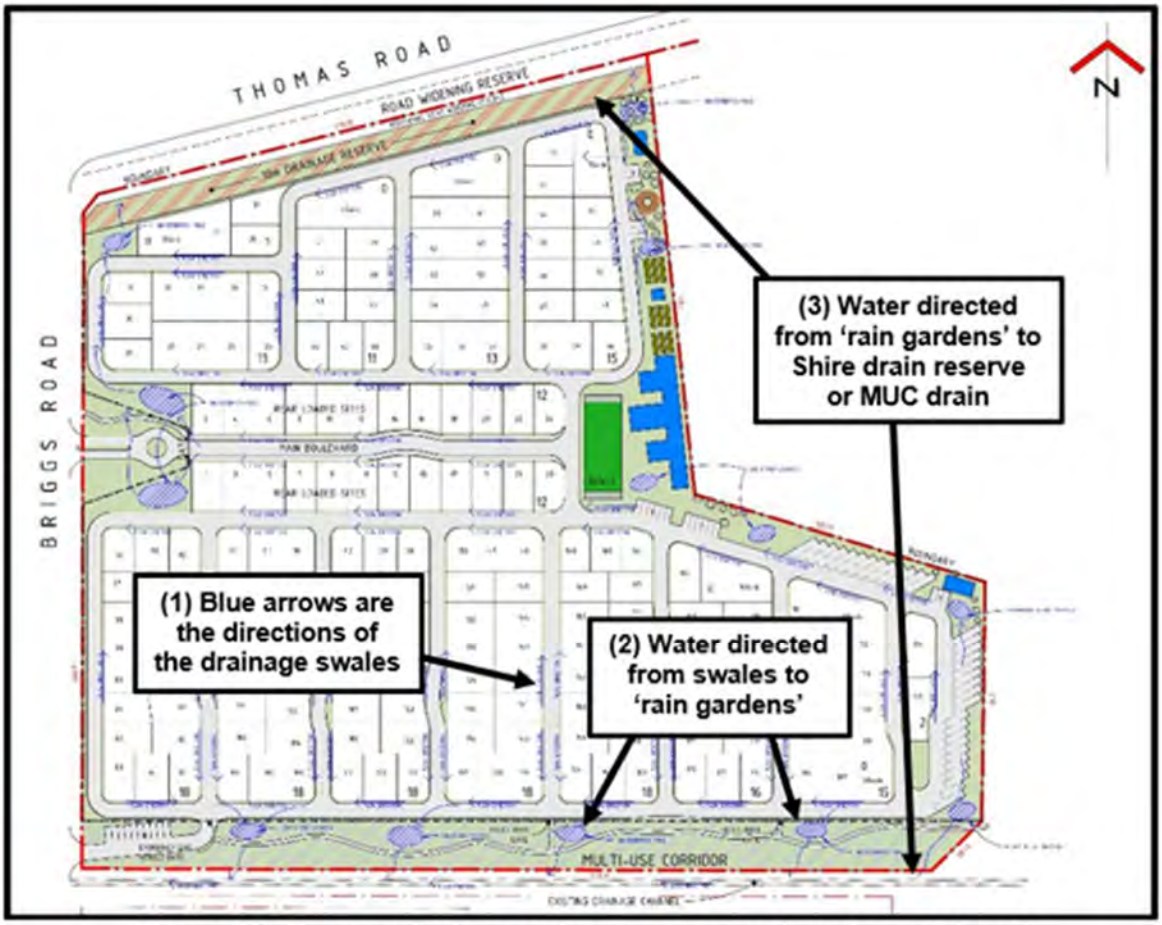


Figure 12: Proposed stormwater management system pictured

The applicant has not at this stage undertaken detailed engineering designs for the development. In order to ensure compliance with the Byford District Water Management Strategy and LWMS prepared as part of the original LSP, a condition is recommended to require an updated LWMS (which reflects also the advice of DWER) and subsequent to this, a detailed Urban Water Management Plan (UWMP). These processes will address the following matters:

- The capacity of the drainage infrastructure, including contingency for significant storm events;
- How the swales will direct water through obstacles such as road reserves, driveways and the acoustic wall on the north lot boundary;
- The location of the southern row of dwellings being positioned in the floodway of the drain to the south of site;
- The management measures to be employed to ensure water quality is maintained;
- How much fill is necessary to be imported into site; and
- What measures will be in place to ensure the survivability or replacement of vegetation within the swales and 'rain gardens'.

Officers consider the above are necessary to ensure appropriate stormwater management takes place.

<u>State Planning Policy 3.7 - Planning in Bushfire Prone Areas (SPP3.7)</u>

The subject site lies within a bushfire prone area and as such, the provisions of SPP3.7 apply which seeks to *"avoid any increase in the threat of bushfire to people, property and infrastructure"* through a balanced risk-based approach. A Bushfire Management Plan (BMP) was submitted with the application including an assessment against the criteria within the *Guidelines for Planning in Bushfire Prone Areas.* (Guidelines).

Location, Siting and Design:

The BMP demonstrates that a worst-case scenario bushfire attack level (BAL) rating for the dwellings would be BAL-29, consistent with the requirements of SPP3.7. The BAL contour map however identifies that the Clubhouse is within Flame Zone, as depicted below.

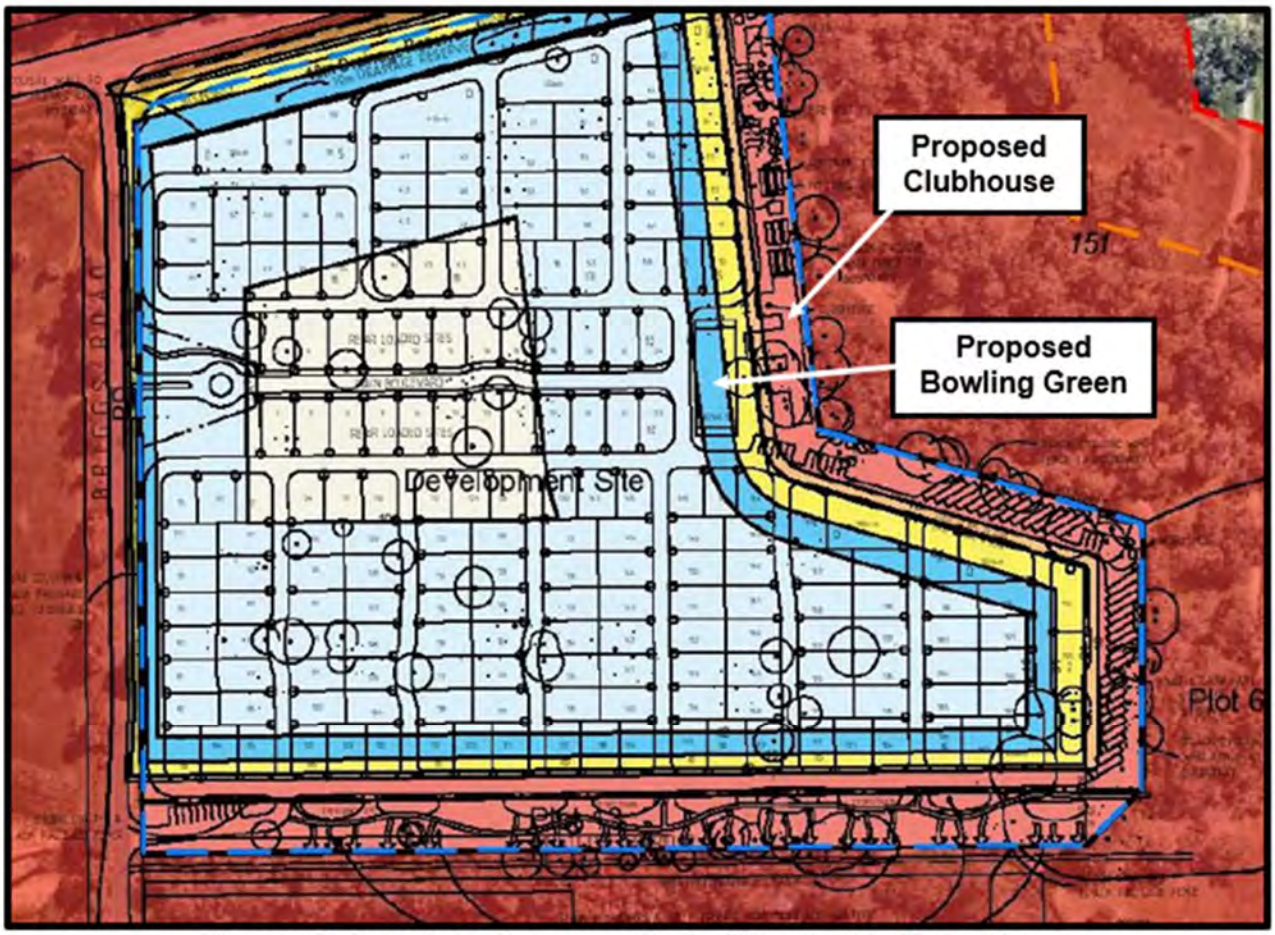


Figure 13: Location of community facilities in the Flame Zone

As the building is considered habitable (where people live, work, study or are entertained), Officers raised this as a concern with the applicant and recommended that the building be relocated to where the bowling green is situated and vice versa. SPP3.7 states that development applications that result in a rating of BAL-40 or Flame Zone will not be supported unless it is considered 'minor development' or 'unavoidable development', which the proposal is not considered.

In response to this, the applicant provided additional information (**attachment 5**) which is summarised as follows:

- The clubhouse is capable of exemption under SPP3.7 as it is incidental to the dwellings and would be used infrequently by residents;

- Bushfire is well managed within these types of lifestyle developments and includes a fire warden, community volunteers to assist with fire safety and response and emergency evacuation plans/muster points;
- The site would be serviced by an independent fire water main;
- The land to the east of the bushfire hazard contains an established residential development. Once the subject development is established the bushfire hazard would be contained by urban development to the west and east and constructed roads, resulting in any bushfire being capable of being responded to immediately; and
- The clubhouse and surrounding structures would have a comprehensive fire alarm system and evacuation process.

Officers consider that the justification provided by the applicant goes further to mitigate the risks associated with bushfire and that it could be appropriately managed. The building would be used by residents of the development who would be aware of their surroundings and the evacuation measures in place should a bushfire occur.

Furthermore, with the availability of reticulated fire hydrants and the new Cardup Career Fire Station targeted to be in operation prior to this development being completed, there is an acceptable risk management approach proposed.

Vehicular Access:

The Guidelines require that vehicular access allows for the provision of public road access in two different directions to at least two suitable destinations. The subject application satisfies this requirement. However, should a bushfire occur within the Flame Zone area to the east, residents located towards the north of the site would be required to travel towards the bushfire before exiting the site onto Briggs Road as depicted below:

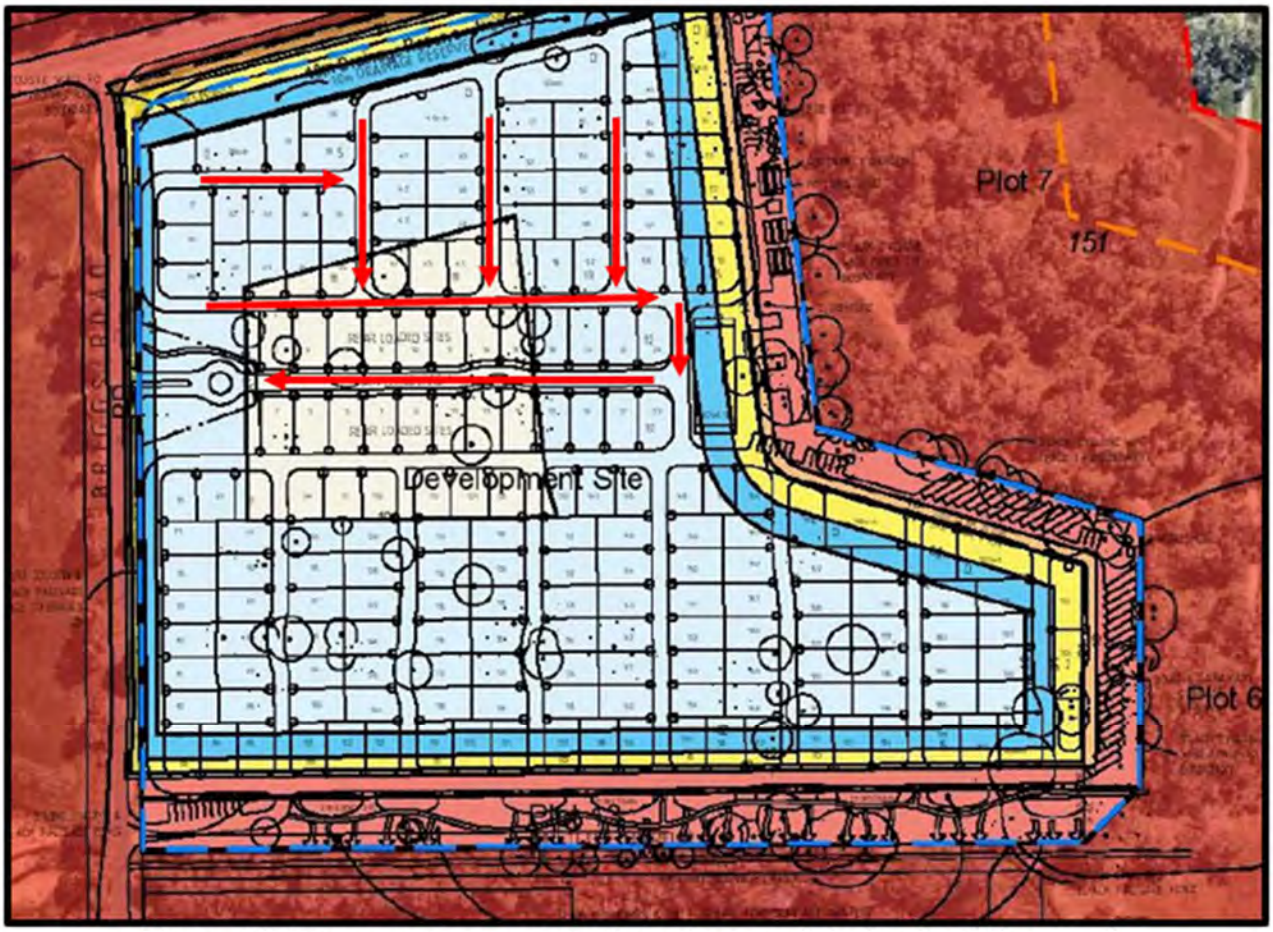


Figure 14: Emergency egress route (red arrows) during bushfire event

Officers recommend to further substantiate the risk, a further emergency access is created for the residents to the north.

Water:

The subject site is serviced by a reticulated water supply enabling the installation of fire hydrants, in accordance with the Guidelines.

Tree Removal

Clause 67 (q) of the Deemed Provisions requires consideration be given to the removal and retention of trees during applications for development approval. Further to this, the criteria of the LSP includes the following:

> *"Future development shall ensure every effort is made to retain existing vegetation within communal open space/drainage areas."*

The existing site features a large number of mature native Marri trees and several Eucalyptus species. In accordance with the LSP, the applicant has aimed to retain vegetation throughout the site and especially the eastern corridor as detailed following. The Multiple Use Corridor to the south of the site would feature a large amount of vegetation planting as well as the retention of existing mature trees.

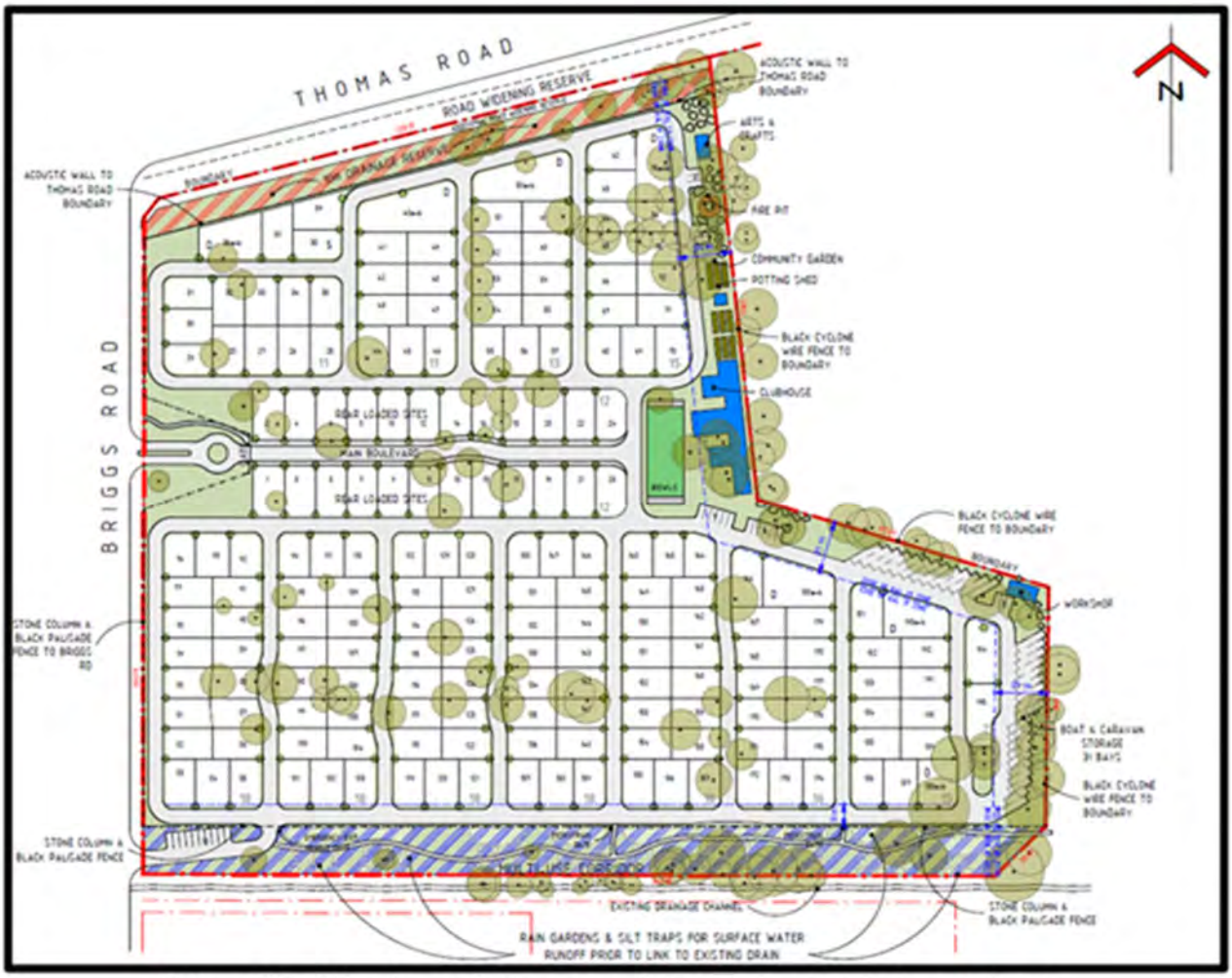


Figure 15: Site plan detailing vegetation intended to be retained

However, vegetation loss will be required to facilitate development (i.e. the construction of roads, site works and dwellings. While Officers consider the intent of the planning framework is met to seek to retain as many existing trees as possible, it is recommended that prior to lodgement of a Building Permit a detailed Tree Survey is undertaken. The purpose of this would be to determine which trees can be retained, including a Landscaping Plan detailing tree replacement to offset vegetation loss and ensure an appropriate amenity outcome. A condition has been recommended in this regard.

Development Contributions (DCA1)

This development falls within the development contribution area DCA1 (Area A) and as such is required to contribute towards the cost of common infrastructure under the Byford Traditional Development Contribution Plan.

Under a Development Application (as opposed to a subdivision), contributions are calculated on the current lot area on which the development is situated, giving a lot “yield” for the site. The liability to pay the contribution is triggered at the building permit stage, and thus the DCP payment will be applied as a development condition needing to be met prior to the issue of a Building Permit or commencement of civil works, whichever comes first.

Percent for art

A condition is recommended to ensure the necessary per cent for art provision of Local Planning Policy 1.6 is met. There are a range of opportunities in which to address the per cent for art component of the development, including elements surrounding the main driveway and feature external fencing, for example.

Options and Implications

Option 1

That Council RESOLVES the following Responsible Authority Report Recommendation:

1. That the Metro Outer Joint Development Assessment Panel APPROVES DAP Application DAP/23/02460 and accompanying plans (**attachment 6**) in accordance with Clause 68 of Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015,* and the provisions of Shire of Serpentine Jarrahdale Town Planning Scheme No. 2 subject to the following conditions:

a. The development is to be carried out in compliance with the plans and documentation listed below and endorsed with the Shire of Serpentine Jarrahdale stamp, except where amended by other conditions of this consent.

Plans and Specifications	Development Plans (P1) dated 19 April 2023. Bushfire Management Plan (P2) dated 3 March 2023. SPP5.4 Acoustic Assessment (P3) dated 3 March 2023. Stormwater Management Strategy (P4) dated February 2023. Transport Impact Statement (P5) dated 20 April 2023.

b. Prior to the issue of a Building Permit, an amended Local Water Management Strategy is to be prepared by the applicant to the satisfaction of the Shire, on advice of the DWER. The amended Local Water Management Strategy is required to:

   i. Incorporate the approved development design structure;

   ii. Include details on the expected volumes of stormwater runoff generated from the development design;

   iii. Include clear quantification calculation to inform the land required for stormwater conveyancing and storage;

   iv. Include cross-sections of stormwater infrastructure and how proposed open space is to be irrigated.

   If the amended Local Water Management Strategy requires structural changes to the layout of the development, these are required to be reflected in the plans which are taken forward to physical construction of the development.

c. Prior to issue of a Building Permit and subsequent to condition (b) being complied with, an updated Urban Water Management Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. This is required to address the following aspects to the satisfaction of the Shire:

   i. The capacity of the drainage infrastructure, including contingency for significant storm events;

   ii. How the swales will direct water through obstacles such as road reserves, driveways and the acoustic wall on the north lot boundary;

iii. The location of the southern row of dwellings being positioned in the floodway of the drain to the south of site;

iv. The management measures to be employed to ensure water quality is maintained;

v. How much fill is necessary to be imported into site; and

vi. What measures will be in place to ensure the survivability or replacement of vegetation within the swales and 'rain gardens'.

Once approved, development shall be in accordance with the Urban Water Management Plan.

d. Prior to the issue of a Building Permit or approval of earthworks / civil plans (whichever comes first), updated development plans shall be submitted to and approved by the Shire of Serpentine Jarrahdale which depict the following being undertaken as part of the development:

i. A new footpath being extended on the eastern side verge of Briggs Road to link the development to the existing footpath on Larsen Road;

ii. The verge abutting the subject land being upgraded to an urban standard, to match the verge standard approved as part of the adjoining resident subdivision on the western side of the Briggs Road;

iii. The landscaping and drainage design of the multiuse corridor, in order to reflect the continuation of the design elements located western of the subject land, namely central living stream, offline vegetated swales, lighting and pathways;

iv. Any structural adjustments required as a result of the updated Local Water Management Strategy.

Once approved, the applicant must undertake and complete all infrastructure upgrade works prior of the commencement of the development's operations.

e. Prior to issue of a Building permit, engineering drawings and specifications for the construction of internal roads, parking areas, circulation areas and detailing the connection with the existing Briggs Road are to be submitted and approved by the Shire of Serpentine Jarrahdale. Once approved, the applicant must undertake and complete all works prior of the commencement of the development's operations.

f. Prior to the issue of a Building Permit, the applicant to provide an artwork concept for consideration and approval, which reflects the Local Planning Policy 1.6 - Public Art for Major Development, to the satisfaction of the Shire of Serpentine Jarrahdale.

g. Prior to issue of a Building Permit, a Tree Survey and Landscape Management Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. The Landscape Management Plan must also demonstrate detailed design for the Multiple Use Corridor, as referenced by condition c(iii) above. Once approved, the Landscape Management Plan shall be implemented and maintained thereafter to the satisfaction of the Shire of Serpentine Jarrahdale.

h. Prior to issue of a Building Permit, a Schedule of Colours and Materials shall be submitted for approval for the communal buildings and for the future housing options. Once approved, development shall be constructed in accordance with the approved Schedule of Colours and Materials.

i. Prior to issue of a Building Permit, a Local Development Plan shall be submitted to the Shire of Serpentine Jarrahdale including the layout of each lot and any proposed variations to State Planning Policy 7.3 Residential Design Codes (Volume 1).

j. Prior to issue of a Building Permit, drawings and specifications of the 2.4m noise wall is to be submitted to the Shire of Serpentine Jarrahdale for approval. The noise wall must demonstrate the 'Internal and External Noise Target of State Planning Policy 5.4 Road and Rail Noise' being achieved at all times. Once approved, the noise wall must be fully constructed prior to operation of the development.

k. Prior to issuing of a Building Permit, arrangements being made with the Shire of Serpentine Jarrahdale to the satisfaction of the Western Australian Planning Commission, for the landowner/applicant to contribute towards the costs of providing community and/or common infrastructure, as established through Amendment 208 (when gazetted) to the Shire of Serpentine Jarrahdale Local Planning Scheme No. 2.

l. The landowner/applicant contributing towards development infrastructure provisions, pursuant to the Shire of Serpentine Jarrahdale Local Planning Scheme No. 2.

m. Prior to occupation, vehicle parking, manoeuvring and circulation areas shall be suitably constructed, sealed (asphalt, concrete or brick pavers), drained, kerbed, marked (including disabled bays) and thereafter maintained.

n. Prior to issue of a Building Permit, a Waste Management Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. The Plan must demonstrate how bin collection by private contractor means will be undertaken at all times, given the design of the movement network restricts access by Shire refuse vehicles. Once approved, the Waste Management Plan shall be adhered to at all times.

o. Prior to the issue of a Building Permit, plans shall be provided demonstrating an additional emergency access way for residents to the northern portion of the site to Briggs Road. Once approved, the emergency access way shall be constructed in accordance with the approved plans prior to the completion of the works.

p. Prior to issue of a Building Permit, the subject lands are to be amalgamated.

q. Upon full development and landscaping of the Multiple Use Corridor which is required prior to the commencement of development operation, the Multiple Use Corridor shall be ceded to the Shire at the cost of the applicant, via a subdivision process.

r. Prior to commencement of works, a Lighting Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. The Lighting Plan shall ensure lighting aligns with expected amenity within a residential area at all times, including the Multiple Use Corridor and footpath link to Larsen Road. Once approved, the Lighting Plan shall be adhered to at all times.

s. Prior to the issue of a Building Permit, a revised Traffic Impact Statement shall be submitted to and approved by the Shire of Serpentine Jarrahdale. The revised Traffic Impact Statement shall provide detailed designs of the following:

    i. Design of trailer and caravan parking areas;

    ii. Pedestrian connection points to the surrounding Byford network;

    iii. Design of pedestrian, gopher and cycling facilities; and

    iv. Turning templates provided and provision made for the safe manoeuvring of waste vehicles.

t. Prior to the issue of a Building Permit, an updated Bushfire Management Plan shall be prepared and submitted to the Shire for its assessment and approval, based on advice from the Department of Fire and Emergency Services. This is required to depict;

    i. the location of the clubhouse being swapped with the location of the bowling green, such that the former is locations outside of the flame zone area;

ii. re-examination of vegetation plots and any associated updates to the contour mapping;

iii. a development wide fire response and evacuation plan which details the arrangements for evacuation during an emergency, as well as the consideration for prioritising the most vulnerable residents to locations furthest away from the eastern adjoining reserve.

Option 2

That Council RESOLVES the following Responsible Authority Report Recommendation:

1. That the Metro Outer Joint Development Assessment Panel REFUSES DAP Application DAP/23/02460 and accompanying plans (**attachment 6**) in accordance with Clause 68 of Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015,* and the provisions of Shire of Serpentine Jarrahdale Town Planning Scheme No. 2, for the following reasons:

   a. The development has not demonstrated suitable infrastructure improvements in the form of footpath connectivity upgrades that are required to service the development;

   b. The development has not demonstrated fully how water can be managed consistent with the approved water management strategies.

Option 1 is recommended.

Conclusion

The application seeks approval for a Lifestyle Village in the form of a 'Grouped Dwelling' development. The proposal would provide residential accommodation and community facilities for the aging population of Byford. It is considered that the development is consistent with the planning framework and would not adversely impact the character or amenity of the locality. It is therefore recommended that the MODAP approve the application subject to conditions.

Attachments (available under separate cover)

- **10.1.2 - attachment 1** - Responsible Authority Report (E23/5395)
- **10.1.2 - attachment 2** - Initial Development Plans (E23/3263)
- **10.1.2 - attachment 3** - Summary of Submissions (E23/4773)
- **10.1.2 - attachment 4** - Clause 67 Checklist (E23/5399)
- **10.1.2 - attachment 5** - Additional information (E23/5397)
- **10.1.2 - attachment 6** - Plans for Determination (E23/5433)

Alignment with our Strategic Community Plan

Outcome 1.1	A healthy, active, connected and inclusive community
Strategy 1.1.1	Provide well planned and maintained public open space and community infrastructure
Strategy 1.1.2	Provide a healthy community environment
Outcome 2.1	A diverse, well planned built environment
Strategy 2.1.1	Actively engage in the development and promotion of an effective planning framework
Outcome 2.2	A sustainable natural environment

Financial Implications

Nil.

Risk Implications

Risk has been assessed on the Officer Options and Implications:

Officer Option	Risk Description	Controls	Principal Consequence Category	Risk Assessment			Risk Mitigation Strategies (to further lower the risk rating if required)
				Likelihood	Consequence	Risk Rating	
1	That Council RESOLVES the Responsible Authority Recommendation for the MOJDAP to approve the application, and MODAP propose approval without the full extent of conditions necessary.	A clearly explained report that addresses the validity of each condition.	Social / Community Outcomes	Possible	Moderate	MODERATE	If MODAP were seeking to approve, the provision of the RAR contains justification to the conditions.
2	That Council resolves to refuse the application, which MODAP in turn supports, and the applicant seeks a review of the decision at the State Administrative Tribunal, which incurs costs on the Shire.	Shire of Serpentine Jarrahdale's Town Planning Scheme No. 2.	Financial	Possible	Moderate	MODERATE	Ensuring reasons for refusal are valid planning matters.

Voting Requirements: Simple Majority

OCM096/05/23

COUNCIL RESOLUTION / Officer Recommendation

Moved Cr Duggin, seconded Cr Atwell

That Council RESOLVES the following Responsible Authority Report Recommendation:

1. **That the Metro Outer Joint Development Assessment Panel APPROVES DAP Application DAP/23/02460 and accompanying plans (attachment 6) in accordance with Clause 68 of Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015,* and the provisions of Shire of Serpentine Jarrahdale Town Planning Scheme No. 2 subject to the following conditions:**

a. The development is to be carried out in compliance with the plans and documentation listed below and endorsed with the Shire of Serpentine Jarrahdale stamp, except where amended by other conditions of this consent.

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b. Prior to the issue of a Building Permit, an amended Local Water Management Strategy is to be prepared by the applicant to the satisfaction of the Shire, on advice of the DWER. The amended Local Water Management Strategy is required to:

i. Incorporate the approved development design structure;

ii. Include details on the expected volumes of stormwater runoff generated from the development design;

iii. Include clear quantification calculation to inform the land required for stormwater conveyancing and storage;

iv. Include cross-sections of stormwater infrastructure and how proposed open space is to be irrigated.

If the amended Local Water Management Strategy requires structural changes to the layout of the development, these are required to be reflected in the plans which are taken forward to physical construction of the development.

c. Prior to issue of a Building Permit and subsequent to condition (b) being complied with, an updated Urban Water Management Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. This is required to address the following aspects to the satisfaction of the Shire:

i. The capacity of the drainage infrastructure, including contingency for significant storm events;

ii. How the swales will direct water through obstacles such as road reserves, driveways and the acoustic wall on the north lot boundary;

iii. The location of the southern row of dwellings being positioned in the floodway of the drain to the south of site;

iv. The management measures to be employed to ensure water quality is maintained;

v. How much fill is necessary to be imported into site; and

vi. What measures will be in place to ensure the survivability or replacement of vegetation within the swales and 'rain gardens'.

Once approved, development shall be in accordance with the Urban Water Management Plan.

d. Prior to the issue of a Building Permit or approval of earthworks / civil plans (whichever comes first), updated development plans shall be submitted to and approved by the Shire of Serpentine Jarrahdale which depict the following being undertaken as part of the development:

i. **A new footpath being extended on the eastern side verge of Briggs Road to link the development to the existing footpath on Larsen Road;**

ii. **The verge abutting the subject land being upgraded to an urban standard, to match the verge standard approved as part of the adjoining resident subdivision on the western side of the Briggs Road;**

iii. **The landscaping and drainage design of the multiuse corridor, in order to reflect the continuation of the design elements located western of the subject land, namely central living stream, offline vegetated swales, lighting and pathways;**

iv. **Any structural adjustments required as a result of the updated Local Water Management Strategy.**

Once approved, the applicant must undertake and complete all infrastructure upgrade works prior of the commencement of the development's operations.

e. **Prior to issue of a Building permit, engineering drawings and specifications for the construction of internal roads, parking areas, circulation areas and detailing the connection with the existing Briggs Road are to be submitted and approved by the Shire of Serpentine Jarrahdale. Once approved, the applicant must undertake and complete all works prior of the commencement of the development's operations.**

f. **Prior to the issue of a Building Permit, the applicant to provide an artwork concept for consideration and approval, which reflects the Local Planning Policy 1.6 - Public Art for Major Development, to the satisfaction of the Shire of Serpentine Jarrahdale.**

g. **Prior to issue of a Building Permit, a Tree Survey and Landscape Management Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. The Landscape Management Plan must also demonstrate detailed design for the Multiple Use Corridor, as referenced by condition c(iii) above. Once approved, the Landscape Management Plan shall be implemented and maintained thereafter to the satisfaction of the Shire of Serpentine Jarrahdale.**

h. **Prior to issue of a Building Permit, a Schedule of Colours and Materials shall be submitted for approval for the communal buildings and for the future housing options. Once approved, development shall be constructed in accordance with the approved Schedule of Colours and Materials.**

i. **Prior to issue of a Building Permit, a Local Development Plan shall be submitted to the Shire of Serpentine Jarrahdale including the layout of each lot and any proposed variations to State Planning Policy 7.3 Residential Design Codes (Volume 1).**

j. **Prior to issue of a Building Permit, drawings and specifications of the 2.4m noise wall is to be submitted to the Shire of Serpentine Jarrahdale for approval. The noise wall must demonstrate the 'Internal and External Noise Target of State Planning Policy 5.4 Road and Rail Noise' being achieved at all times. Once approved, the noise wall must be fully constructed prior to operation of the development.**

k. **Prior to issuing of a Building Permit, arrangements being made with the Shire of Serpentine Jarrahdale to the satisfaction of the Western Australian Planning Commission, for the landowner/applicant to contribute towards the costs of providing community and/or common infrastructure, as established through Amendment 208 (when gazetted) to the Shire of Serpentine Jarrahdale Local Planning Scheme No. 2.**

l. **The landowner/applicant contributing towards development infrastructure provisions, pursuant to the Shire of Serpentine Jarrahdale Local Planning Scheme No. 2.**

m. Prior to occupation, vehicle parking, manoeuvring and circulation areas shall be suitably constructed, sealed (asphalt, concrete or brick pavers), drained, kerbed, marked (including disabled bays) and thereafter maintained.

n. Prior to issue of a Building Permit, a Waste Management Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. The Plan must demonstrate how bin collection by private contractor means will be undertaken at all times, given the design of the movement network restricts access by Shire refuse vehicles. Once approved, the Waste Management Plan shall be adhered to at all times.

o. Prior to the issue of a Building Permit, plans shall be provided demonstrating an additional emergency access way for residents to the northern portion of the site to Briggs Road. Once approved, the emergency access way shall be constructed in accordance with the approved plans prior to the completion of the works.

p. Prior to issue of a Building Permit, the subject lands are to be amalgamated.

q. Upon full development and landscaping of the Multiple Use Corridor which is required prior to the commencement of development operation, the Multiple Use Corridor shall be ceded to the Shire at the cost of the applicant, via a subdivision process.

r. Prior to commencement of works, a Lighting Plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale. The Lighting Plan shall ensure lighting aligns with expected amenity within a residential area at all times, including the Multiple Use Corridor and footpath link to Larsen Road. Once approved, the Lighting Plan shall be adhered to at all times.

s. Prior to the issue of a Building Permit, a revised Traffic Impact Statement shall be submitted to and approved by the Shire of Serpentine Jarrahdale. The revised Traffic Impact Statement shall provide detailed designs of the following:

- **i. Design of trailer and caravan parking areas;**
- **ii. Pedestrian connection points to the surrounding Byford network;**
- **iii. Design of pedestrian, gopher and cycling facilities; and**
- **iv. Turning templates provided and provision made for the safe manoeuvring of waste vehicles.**

t. Prior to the issue of a Building Permit, an updated Bushfire Management Plan shall be prepared and submitted to the Shire for its assessment and approval, based on advice from the Department of Fire and Emergency Services. This is required to depict;

- **i. the location of the clubhouse being swapped with the location of the bowling green, such that the former is locations outside of the flame zone area;**
- **ii. re-examination of vegetation plots and any associated updates to the contour mapping;**
- **iii. a development wide fire response and evacuation plan which details the arrangements for evacuation during an emergency, as well as the consideration for prioritising the most vulnerable residents to locations furthest away from the eastern adjoining reserve.**

CARRIED UNANIMOUSLY 9/0

Lot 13 (No.15) Venture Place, East Rockingham - Proposed Fuel Depot (Diesel Fuel Storage Facility)

Form 1 – Responsible Authority Report
(Regulation 12)

DAP Name:	Metro Outer Joint Development Assessment Panel	
Local Government Area:	City of Rockingham	
Applicant:	Element Advisory Pty Ltd	
Owner:	Rockingham 1 Pty Ltd	
Value of Development:	$3 million ☐ Mandatory (Regulation 5) ☒ Opt In (Regulation 6)	
Responsible Authority:	City of Rockingham	
Authorising Officer:	Mr Peter Ricci, Director Planning and Development Services	
LG Reference:	DD020.2023.00000029.001	
DAP File No:	DAP/23/02442	
Application Received Date:	23 February 2023	
Report Due Date:	24 May 2023	
Application Statutory Process Timeframe:	60 Days + 31 days	
Attachment(s):	1. Application Forms 2. Development Application Report 3. Certificate of Title 4. Development Plans 5. Planning Assessment 6. Traffic Impact Statement 7. Bushfire Management Plan & Bushfire Risk Management Plan 8. Indicative Tank Specifications 9. Risk Assessment Report 10. Applicant's Response to Request for Further Information dated 14 April 2023; 11. Schedule of Submissions (Agency Comments) 12. Recommended Conditions if the MOJDAP decides to grant Development Approval 13. Council Meeting Minutes	
Is the Responsible Authority Recommendation the same as the Officer Recommendation?	× Yes ☐ N/A	Complete Responsible Authority Recommendation section
	☐ No	Complete Responsible Authority and Officer Recommendation sections

Responsible Authority Recommendation

That the Metro Outer Joint Development Assessment Panel resolves to:

That Council ***ADOPTS*** the Responsible Authority Report for the application for a Fuel Depot (Diesel Fuel Storage Facility) Development at Lot 13 (No.15) Venture Place, East Rockingham, contained as Attachment 1 as the report required to be submitted to the Presiding Member of the Metro Outer Joint Development Assessment Panel pursuant to Regulation 12 of the *Planning and Development (Development Assessment Panels) Regulation 2011*, which REQUESTS that the Metro Outer Joint Development Assessment Panel defers consideration of the matter for the following reasons:-

1. Advice is required from the Department of Fire and Emergency Services' Hazardous Materials Team in relation to the risks and hazardous management associated with the proposed Fuel Depot.

2. Further information and justification is required from the Applicant which demonstrates how the proposed Fuel Depot will achieve compliance with State Planning Policy No.3.7 - *Planning in Bushfire Prone Areas*, and the 'Guidelines for Planning in Bushfire Prone Areas', in consultation with the Department of Fire and Emergency Services.

Details: outline of development application

Region Scheme	Metropolitan Region Scheme
Region Scheme - Zone/Reserve	Industrial
Local Planning Scheme	Town Planning Scheme No.2
Local Planning Scheme - Zone/Reserve	General Industry
Structure Plan/Precinct Plan	Improvement Plan No.14 Structure Plan
Structure Plan/Precinct Plan - Land Use Designation	General Industry
Use Class and permissibility:	Fuel Depot - "D" use
Lot Size:	8,410m^2
Existing Land Use:	Vacant
State Heritage Register	No
Local Heritage	☒ N/A ☐ Heritage List ☐ Heritage Area
Design Review	☒ N/A ☐ Local Design Review Panel ☐ State Design Review Panel ☐ Other
Bushfire Prone Area	Yes
Swan River Trust Area	No

Proposal:

This DAP application is for a proposed Fuel Depot, for the purposes of diesel fuel storage and distribution, as follows:

- A 3,100m^2 'containers court' area comprising 41 above-ground fuel storage containers and a fuel delivery point;
- A 230m^2 warehouse style shed comprising an office/control room, staff amenities (toilets, showers, kitchenette etc.) and storage area;
- Fuel gantry and truck standing area;
- Three (3) car parking spaces and one (1) loading bay adjacent to the warehouse to be used by staff only;
- A landscaping strip
- Two crossovers accessed from Venture Place, with access to the site being proposed as follows:
    - The northern-most 16.0m wide crossover will be used by B-Double trucks for the purposes of collecting fuel from the site;
    - The southern-most 10.0m wide crossover (inclusive of the 6.0m wide EAW) will be used by light vehicles to access the staff car parking area and B-Double trucks for the purposes of delivering fuel to the site; and
    - All vehicles, including trucks, will exit the site via the reciprocal access road through adjoining lots to the north of the subject site which provides egress to Lodge Drive.
- A landscaping strip along the frontage of the site ranging from 21.0m to 5.0m in width from Venture Place; and
- A 6.0m high pylon sign within the landscaping strip.

The development will operate on a 24/7 basis with a total of three (3) staff members on site during the day and one (1) staff member on site during the night. The Fuel Depot facility will be subject to restricted (controlled) access, with the only personnel permitted on site being operational employees of the facility and truck drivers. Staff members on-site will manage access via a remote control for the proposed swing/retractable gates, permitting access/egress, as required.

The following reports and supporting material accompany the DAP application:

- Development Application Report;
- Development Plans;
- Traffic Impact Statement (TIS);
- Indicative Tank Specifications;
- Bushfire Management Plan and Bushfire Risk Management Plan; and
- Risk Assessment Report.

Background:

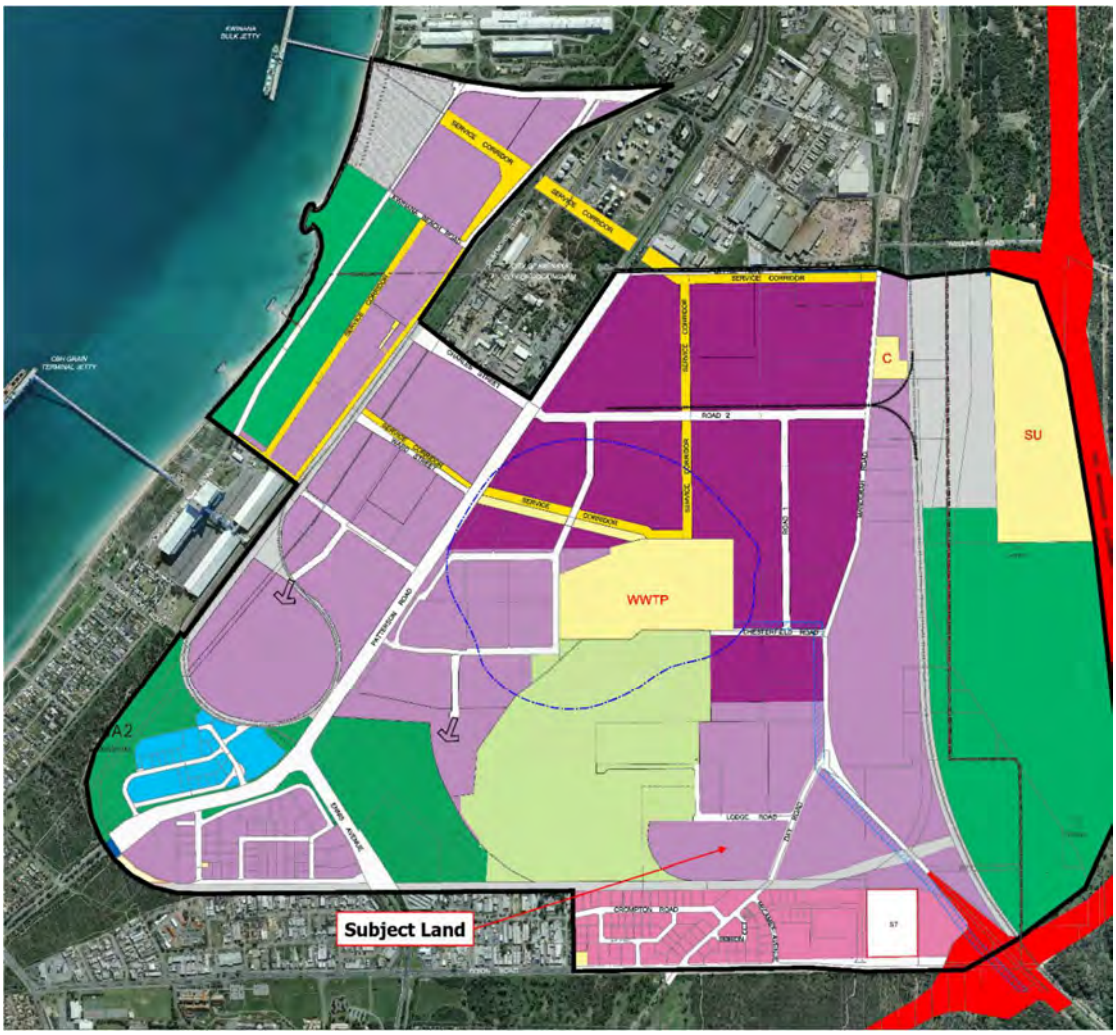
Rockingham Industrial Zone

The East Rockingham Industrial Park (ERIP), also known as the Rockingham Industrial Zone (RIZ), adjoins the southern section of the Kwinana Industrial Area (KIA). The RIZ is a strategic precinct that was first identified for industrial development through the Kwinana-East Rockingham Industrial Area Improvement Plan No.14 (IP14).

IP14 was initiated in 1988 for the purpose of advancing the planning, development and use of the land affected by the Plan for industrial purposes. The IP14 Structure Plan was adopted by Cabinet and the Western Australian Planning Commission (WAPC). The IP14 Structure Plan was never adopted by the City of Rockingham (City) under Town Planning Scheme No.2, but it has guided the development of East Rockingham for a number of years. IP14 is a plan which supports port-related industry, environmentally acceptable heavy industry, general industry and light industry.

In recent years the Rockingham Industrial Zone Structure Plan (RIZ Structure Plan) has been used to guide the development of the East Rockingham Industrial area. The RIZ Structure Plan is an internal government document used by DevelopmentWA to progress and market the RIZ Industrial Estate.

The land subject to this DAP application is designated as 'General Industry' on the RIZ Structure Plan.

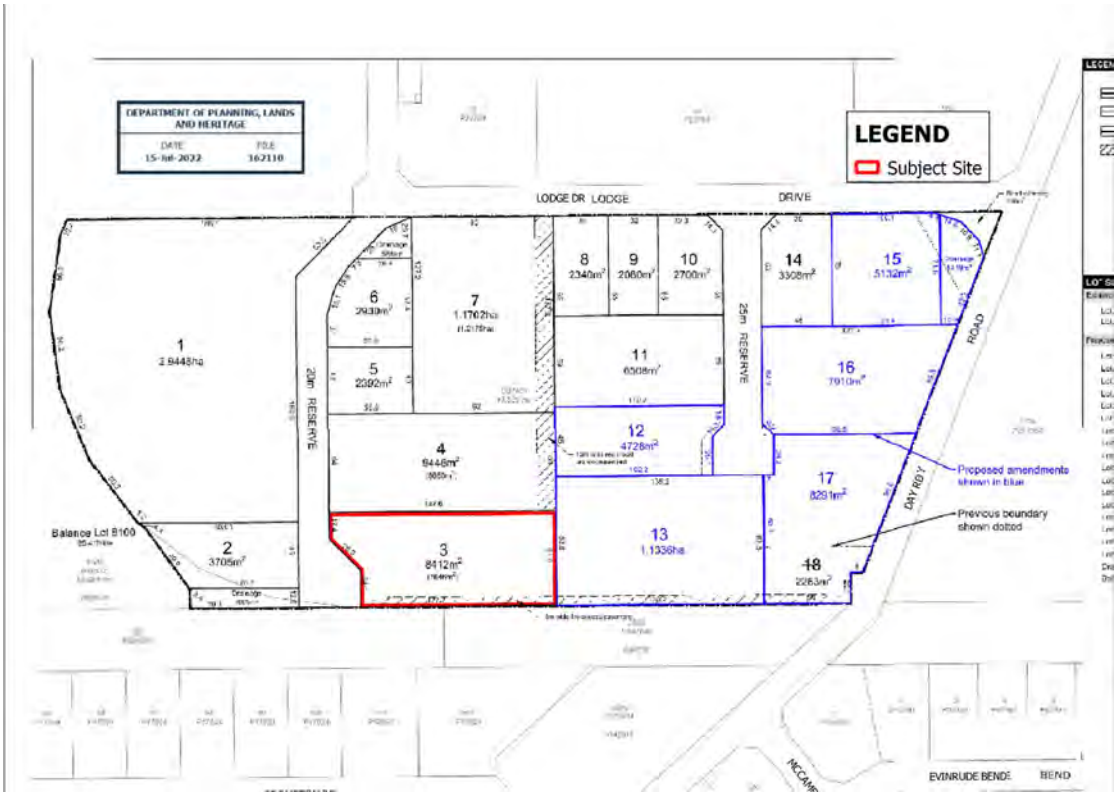


1. RIZ (IP14) Structure Plan

Subdivision Application

In July 2022, the Western Australian Planning Commission (WAPC) granted Subdivision Approval over Lot 2 (No.27) Day Road, East Rockingham (referred to as 'parent lot'), for the creation of 17 freehold lots, two (2) internal access roads and three (3) drainage reserves. Subdivision Clearance for Stage 1 of this Subdivision was granted by the City on the 23 December 2022.

At the time of lodging this application, the proposed development site, identified as Lot 3 on the approved Subdivision Plan (Figure 4), had not been formally created. As such, this application was lodged over the parent lot. The subject lot has since been created and is now being formally recognised as Lot 13 (No.15) Venture Place, East Rockingham, which will be referred to as the 'subject site' throughout this Report.



2. WAPC Approved Subdivision Plan

Subject Site Context

The subject site fronts Venture Place at its western boundary which provides a connection to Day Road to the east via Lodge Drive. To the north and east, the subject site is bounded by vacant industrial lots. Immediately to the south, land in an east-west alignment, is reserved for 'Railway' under the Metropolitan Region Scheme (MRS).

To comply with bushfire requirements, the subject site is burdened by a 6.0m wide emergency access way (EAW) easement for bushfire purposes along the full extent of its southern boundary, providing egress to Day Road. Furthermore, the subject site is benefited by a 12.0m wide reciprocal access easement through adjoining lots to the north which provides egress to Lodge Drive. Both of these easements were

requirements of the Subdivision Approval, and are shown on the Approved Subdivision Plan (Figure 4).

3. Aerial Photograph of Subject Site

Legislation and Policy:

Legislation

- Planning & Development Act 2005
- Metropolitan Region Scheme
- Town Planning Scheme No.2
- Planning and Development (Local Planning Schemes) Regulations 2015

State Government Policies

- State Planning Policy 3.7 - Planning in Bushfire Prone Areas
- State Planning Policy 4.1 - Industrial Interface
- Environmental Protection Authority (EPA) - Separation Distance between Industrial and Sensitive Land Uses No.3 (Guidance Statement)

Structure Plans/Activity Centre Plans

Not Applicable

Local Policies

- Planning Policy 3.3.1 - Control of Advertisements
- Planning Policy 3.3.8 - East Rockingham Industrial Zones
- Planning Policy 3.3.14 - Bicycle Parking and End of Trip Facilities
- Planning Policy 3.4.3 - Urban Water Management

Consultation:

Public Consultation

Pursuant to Clause 64(1)(c) of the Deemed Provisions of the *Planning and Development (Local Planning Schemes) Regulations 2015*, the local government has the discretion to advertise, or not to advertise an application seeking Development Approval.

As the proposed development is consistent with the applicable planning framework and complies with the required separation distances to sensitive land uses (discussed further below), advertising was not considered to be necessary.

Referrals/consultation with Government/Service Agencies

The following Government Departments were consulted:

- Department of Fire & Emergency Services (DFES);
- Public Transport Authority of Western Australia (PTA);
- Department of Planning, Lands & Heritage (DPLH);
- Department of Mining, Industrial Regulation & Safety (DMIRS);
- Department of Water & Environmental Regulation (DWER); and
- Water Corporation.

Where advice and/or comments have been received relevant to the assessment, these are summarised below:

1. Department of Fire & Emergency Services (DFES) summarised

Modifications to the Applicant's Bushfire Management Plan (BMP) are required for the following:

- Justification required for the vegetation classification of 'Plot 2' as 'Class D Scrub'. DFES considers this Plot may be better classified as 'Class A Forest' (refer to Figure 11);
- Further evidence required to demonstrate compliance with 'Element 2 - Vehicular Access' of the Guidelines for Planning in Bushfire Prone Areas; and
- Further evidence required to demonstrate compliance with Element 4 - Water' of the Guidelines for Planning in Bushfire Prone Areas.

The Hazardous Materials team from DFES were unable to provide specific comments on the proposed development due to commitments with deployment in relation to Cyclone Ilsa.

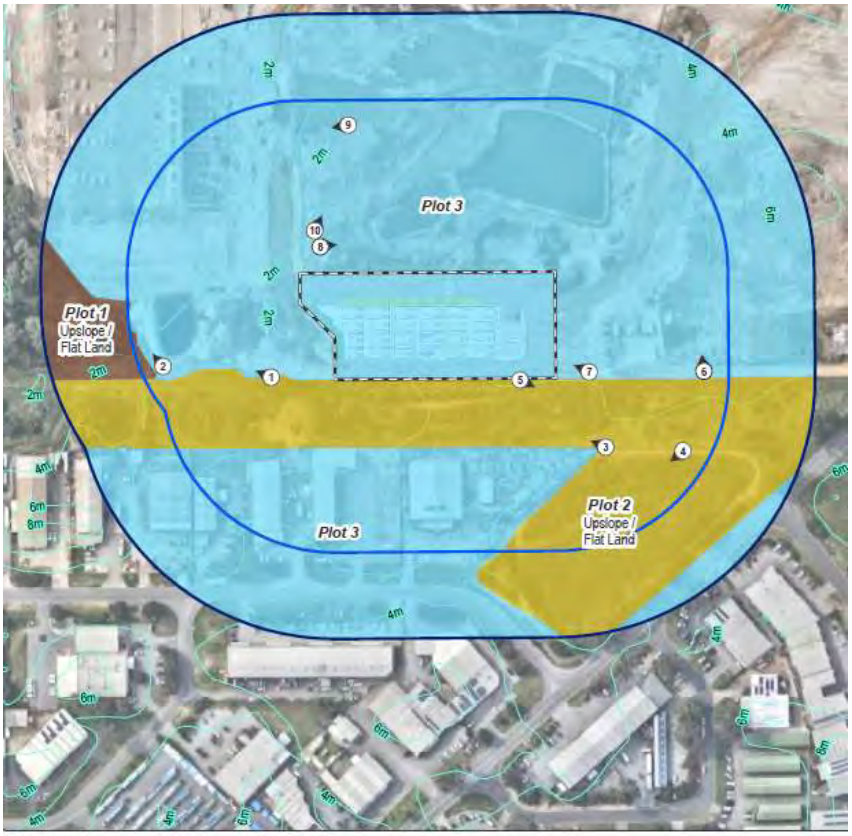


Figure 4: Vegetation Classification

Subject site
100m site assessment
150m site assessment
Contour (2m)
Photo location

Vegetation classification
Class A Forest
Class D Scrub
Excluded as per clause 2.2.3.2 (e) and (f)

0 20 40 60
Metres

Datum/Projection: GDA 1994 MGA Zone 50
22PER3908-ED Date: 15/12/2022

N

eco logical AUSTRALIA A TETRA TECH COMPANY

4. Vegetation Classification from Bushfire Management Plan

Applicant's Response

The Applicant has provided a response from EcoLogical Australia (ELA) to address the concerns raised by DFES, as follows:

- *"ELA disagrees with this comment. A comprehensive site assessment was undertaken by ELA to classify vegetation for the BMP. The vegetation within Plot 2 is comprised of Proteaceous, Myrtaceous and Acacia shrubs. These species do not mature into trees. In addition, the Class D Scrub classification is consistent with that within the approved BMP for the subdivision of the site (ELA 2022b).*
- *The subject site requires reticulated water and will be connected to the existing supply in the area. Water reticulation plans will be submitted to the City to be assessed as part of engineering approvals rather than within this BMP. ELA believe this can be a condition of development approval if required."*
- *With regard to the missing response from DFES' Hazardous Material team, the Applicant has advised that the issues regarding the management of hazardous materials on site should be addressed as part of the Dangerous Goods licensing.*

DFES Updated Response

The following comments were provided by DFES on the 2nd May, 2023, with regard to ELA's formal response above:

- *"The vegetation for Plot 2 may currently be at a height that could present as Class D Scrub however as Plot 2 abuts Class A Forest (Plot 1), and contains similar species to Plot 1, it is likely that without management Plot 2 will mature into Class A Forest. The updated comments from the practitioner have not provided additional information (including the requested use of height sticks to determine the current height of vegetation within Plot 2) to satisfy DFES that the area will not reach a mature state of Class A Forest."*
- It is DFES' view that the BMP should be updated with the additional information provided demonstrating full compliance with 'Element 3 - Vehicular Access' and' 'Element 4 - Water'.

Comments from DFES' Hazardous Materials were still unable to be provided at this point in time.

City's Comment

The following comments are provided in respect of the above:

- Due to reporting timeframe constraints, the Applicant was unable to respond to the updated comments provided by DFES above. As such, the bushfire matter regarding the vegetation classification remains outstanding until such time that the Applicant can provide an updated BMP demonstrating that the proposed development can achieve compliance with 'Element 1 - Location'.
- The City is satisfied that the Applicant has provided further evidence to demonstrate compliance with 'Element 3 - Vehicular Access'. It is further noted that the vehicular access/egress points have been provided on site in accordance with the approved Bushfire Management Plan for the subdivision. Should Development Approval be granted, a Condition will be imposed requiring an updated BMP to be submitted including this further information.
- The Applicant has confirmed the subject site has been connected to reticulated water, as per the requirements of the Subdivision Approval. The City is satisfied this connection demonstrates compliance with Element 4 - Water. Confirmation of the site's connection to reticulated water will need to be included in the amended BMP that will be required should Development Approval be granted.

The City has attempted to follow up with the Hazardous Materials (HazMat) team at DFES to obtain its comments on multiple occasions with no success. The HazMat

team at DFES comprises a group of professionals who are specially trained to handle hazardous materials or dangerous goods, and can provide advice in this regard. Given the proposed development involves the storage of hazardous (combustible) materials on site, the City considers that comments from the HazMat team should be obtained to ensure the proposed development meets HazMat requirements.

2. Public Transport Authority (PTA) of Western Australia summarised

The PTA has no objections to the proposal subject to the following conditions being imposed:-

- Prior to the commencement of the use, the applicant/landowner must construct a fence along the shared boundary of Lot 2 and the railway reserve at the expense of the applicant/landowner, to the PTA's standards and to the satisfaction of the PTA.
- Prior to the commencement of construction, the applicant/landowner must have a soil contamination assessment completed (within the railway reserve) by a suitably qualified professional and at the expense of the applicant/landowner, to the satisfaction of the PTA.

Any fuel transported to/from the site, as well as fuel being stored on the site (above and below ground), must not leak into the railway reserve.

City's Comment

Noted. The City considers these PTA matters can be addressed by conditions should Development Approval to be granted.

3. Department of Planning, Lands & Heritage (DPLH) summarised

DPLH has no objections to the proposal but raised the following concern with the City:

- It is recommended that the submitted swept path plans at section 5.5 of the TIS for 'RAV 7' B-Triple trucks be verified/checked to the satisfaction of the City of Rockingham's Technical Services Directorate as a minor encroachment shown.

City's Comment

The Applicant's formal response to the RFI confirmed that the development will be serviced by B-Double trucks only, instead of B-Triple trucks as proposed originally at the time of lodgement. The City is satisfied that B-Double trucks will be able to adequately enter and exit the subject site without encroaching the adjoining property.

4. Department of Mining, Industrial Regulation & Safety (DMIRS) summarised

DMIRS has no objections to the proposal, subject to the following requirements being met:

A Dangerous Goods Site licence is required for the subject development as it is to be used to store Dangerous Goods above manifest quantity 100kL in the case of diesel.

City Comment

The City notes the storage of bulk fuel is governed by AS1940-2004- *The Storage and Handling of Flammable and Combustible Liquids*, and that the subject development will require a Dangerous Goods Site Licence. Should Development Approval be granted, an Advice Note can be applied advising the Applicant of the requirement to obtain a Dangerous Goods Site Licence for the proposed development.

5. Department of Water & Environmental Regulation (DWER) summarised

DWER has no objections to the proposal, subject to the following requirements being met:-

- A Works Approval/License is required for the subject development as it constitutes a Prescribed Premise (73 - Bulk Storage of Chemicals) under the *Environmental Protection Act 1986* (the 'EP Act').
- An onsite Stormwater Management Plan is to be prepared and approved to the satisfaction of the City of Rockingham. The proposed stormwater system is to be designed, constructed and managed in accordance with the *Decision process for stormwater management in WA* (DWER 2017) and the *Stormwater Management Manual for Western Australia* (DWER, 2022), including Chapter 9, section 6.2 Hydrocarbon management. As a minimum, stormwater should pass through oil-water separators for hydrocarbon removal.

City's Comment

- DWER regulates industrial emissions and discharges to the environment through a works approval and licensing process, under Part V of the EP Act. Industrial premises with potential to cause emissions and discharges to air, land or water are known as 'Prescribed Premises' and trigger regulation under the EP Act. Prescribed Premises categories are outlined in Schedule 1 of the *Environmental Protection Regulations 1987*. Refer to the 'Legal and Statutory' section below.

  The EP Act requires a Works Approval to be obtained before constructing a 'Prescribed (Industrial) Premises' and makes it an offence to cause an emission or discharge unless a licence or registration is held for the premises. The City notes that the applicant has not submitted an application for Works Approval with DWER.
  Should Development Approval be granted, an Advice Note can be applied advising the applicant of the requirement to obtain a Works Approval prior to any works commencing on site.
- Should Development Approval be granted, it is recommended a Condition be imposed requiring a Stormwater Management Plan be submitted to the satisfaction of the City and be designed for conformity with the documents referred to by DWER.

6. Water Corporation

The Water Corporation had no objections to the proposal, but provided the following comments:

- Connection to reticulated sewer is dependent on construction of East Rockingham Wastewater Pump Station 'E' and extension of gravity sewers from the pump station. The pump station is currently schedule for completion in July of 2024, the extension of the gravity sewers will be delivered by the developer as such will be dependent on their schedule.

Reticulated water is available for connection in Lodge Drive. Extension of the water main will be required along Venture Place to connect Lot 2 to the network.

Applicant's Response

The Applicant has confirmed the subject site has been connected to reticulated water, as required by the WAPC Subdivision Approval.

City's Comment
The Water Corporation's submission is noted.

A copy of the external comments received from the consulted Government Agencies is within Attachment 11.

Planning Assessment:

State Planning Policy 3.7 - Planning in Bushfire Prone Areas (SPP3.7)

SPP3.7 guides the implementation of effective risk-based land use planning and development to preserve life and reduce the impact of bushfire on property and infrastructure. The development site has been designated bushfire prone under the Fire and Emergency Services Act 1998 (as amended) and therefore the requirements of SPP3.7 are applicable.

As the proposed development is classified as a high-risk land use (combustible on-site hazards) in a bushfire prone area, the applicant has submitted a Bushfire Management Plan (BMP) and a Bushfire Risk Management Plan (BRMP) in support of the application, as per the requirements of SPP3.7.

The BRMP assesses the bushfire risk of the development site and outlines strategies to manage that risk, including personnel training, ongoing maintenance & management practises and landscaping requirements. The primary risk identified in the BRMP is that a bushfire could potentially ignite the combustible materials (diesel fuel) being stored on site, thus necessitating appropriate risk management measures.

The City is of the view that the BRMP has identified adequate mitigation methods to reduce the inherent bushfire risk to life and property within and surrounding the subject site. Should Development Approval be granted, it is recommended a Condition be applied requiring the applicant implement the bushfire mitigation measures recommended in the BRMP.

An assessment of the BMP in accordance with the Bushfire Protection Criteria outlined in the Guidelines for Planning in Bushfire Prone Areas is detailed in the next section of this Report.

Guidelines for Planning in Bushfire Prone Areas (the Guidelines)

The Guidelines provide supporting information to assist in the interpretation of the objectives and policy measures outlined in SPP3.7. An assessment against the Guidelines is provided as follows:

Element	Provided
1. Location	The Applicant has not provided suitable justification to support the vegetation classification of Plot 2, as per DFES' comments. As such, the BMP for the proposed development has not demonstrated compliance with Element 1 - Location.
2. Siting and Development	Compliance with Element 2 is pending the Applicant's submission of an amended BMP that demonstrates compliance with SPP3.7 and the Guidelines to the satisfaction of DFES.
3. Vehicular Access	The development complies with the relevant Acceptable Solutions for this Element as multiple egress options have been provided, as listed below:- • Egress via Venture Place to the west; • Egress via the reciprocal access easement through adjoining lots to the north; and

Element	Provided
	• Egress via the EAW through adjoining lots to the east, connecting to Day Road.
4. Water	The Applicant has confirmed the subject site has been connected to reticulated water supply, as required by the WAPC Subdivision Approval.

In consideration of the above, the City considers that an amended BMP is required to be submitted addressing the outstanding bushfire concerns to the satisfaction of DFES.

State Planning Policy 4.1 - Industrial Interface (SPP4.1)

The key purpose of SPP4.1 is to seek to prevent conflict and encroachment between industrial and sensitive land uses. This Policy ensures planning decisions consider the locational constraints of land uses, the significant investments represented, and the current and future benefits and costs to communities when assessing proposals where land use conflict may exist or result.

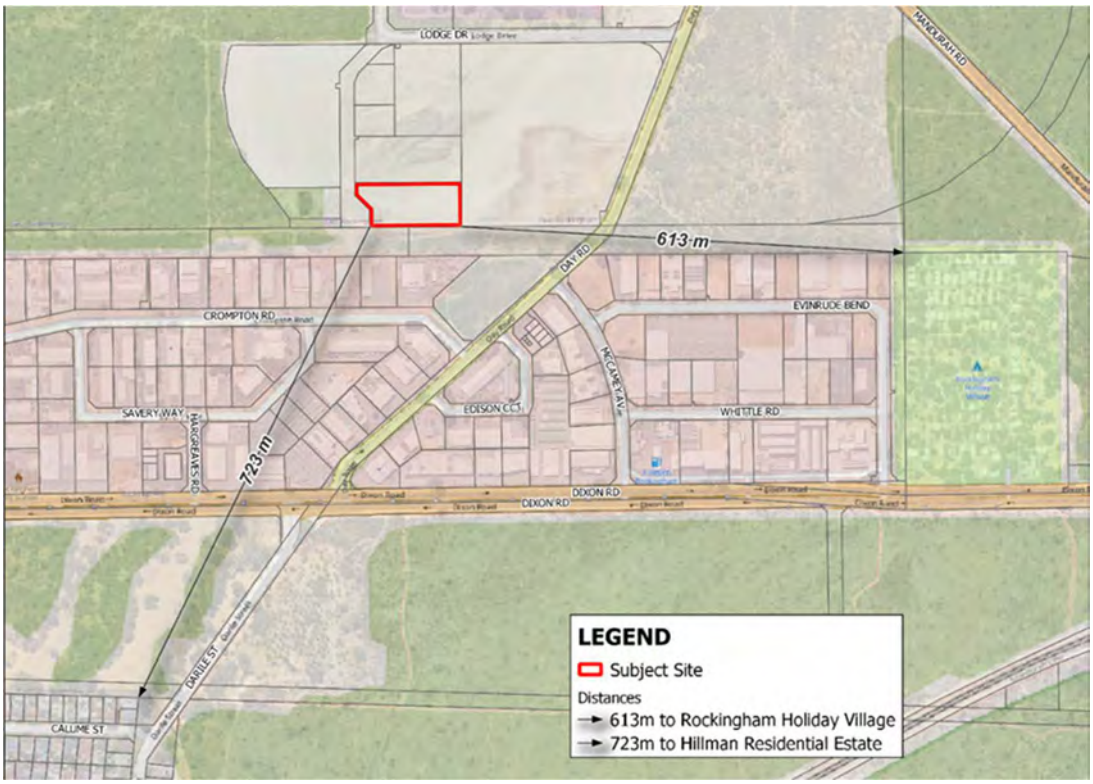
The proposal is considered to be compatible with existing and future industrial development, within the RIZ. Detailed discussion is provided in the following section regarding separation distances.

Environmental Protection Authority (EPA) - Separation Distance between Industrial and Sensitive Land Use No.3 (Guidance Statement)

The EPA Guidance Statement provides advice to proponents, responsible authorities, stakeholders and the public, on the minimum requirements for environmental management which the EPA would expect to be met when the Authority considers a development proposal.

For the purpose of the Guidance Statement, 'industrial land use' is used in a general way to encompass a range of industrial, commercial, and rural activities, associated with off-site emissions that may affect adversely the amenity of sensitive land uses. A table of land uses is provided in the Guidance Statement.

The proposal constitutes a 'Fuel Storage' type land use as defined within the Guidance Statement. The nearest sensitive land uses – the suburb of Hillman (approximately 700m to the south) and Rockingham Holiday Village (approximately 600m to the east) - are situated outside the minimum 300-500m generic separation requirement for this type of industrial land use and thus, is compliant with the EPA Guidance Statement.



5. Separation Distance to Sensitive Land Uses

Local Planning Policy No.3.3.1 - Control of Advertisements (LPP3.3.1)
As part of the DAP application, the Applicant has submitted signage plans and details for a proposed pylon sign within the front setback landscaped area. The proposed pylon sign has demonstrated compliance with the Policy requirements set out in LPP3.3.1.

Local Planning Policy No.3.3.8 - East Rockingham Industrial Zones (LPP3.3.8)
The proposed development has demonstrated compliance with the planning criteria in LPP3.3.8 relating to building setbacks, car parking, fencing, signage and landscaping. The Table below details the areas of non-compliance and the City's assessment:

General Development Provisions	Proposal	Officer Comment
Site Layout, Building Orientation and Materials		
Office and administrative buildings must be designed to address the street, providing a legible entrance for pedestrians and a positive contribution to the streetscape through the use of glazing, a mixture of materials and architectural features.	No office or administrative buildings have been provided on site. The Applicant has advised the proposed shed is more akin to an outbuilding, rather than a traditional administrative building incorporating a customer reception/corporate administration. Whilst the shed provides basic amenities for site	With consideration for the intended operation of the development, with only restricted personnel permitted on site and no visitors, the City considers the lack of office/administrative entrance to be acceptable. In addition, the subject site is situated discretely within an industrial estate

	personnel, its primary function is to accommodate equipment, and accessories.	at the end of a cul-de-sac, adjacent to a railway reserve. There is unlikely to be a high level of pedestrian and/or vehicular traffic passing this site. The proposal involves landscaping (with a 3-tiered composition) and fencing to create a positive contribution to the streetscape. Should Development Approval be granted, a Condition will be imposed requiring a Landscape Plan to be submitted for approval by the City.
The ground floor facades of all buildings visible from the primary road or open space area must be of masonry construction with exposed aggregate or coated with a textured finish or equivalent. The second floor or its equivalent may be constructed of other materials.	The proposed shed is to consist of steel cladding, rather than masonry construction.	The proposed shed is setback approximately 100m from the primary street frontage and will be largely screened by the fuel containers in the containers court and the proposed landscaping / fencing. The City considers the shed's location to be acceptable in the circumstances.
Landscaping Setback Requirements		
Minimum 10.0 metres landscaping, plus the street verge, to primary street frontage	A landscaping strip ranging from 5.0m to 20.0m in width (approx. 410m^2) has been provided adjacent to the primary street frontage.	Due to the subject site's irregular lot configuration, a minimum 10.0m wide landscaping strip was unable to be provided adjacent to the primary street frontage. It is noted, however, that the Applicant has provided more landscaping under the current proposal (410m^2) than what would have been provided within the required 10.0m landscaping strip (364m^2). As such, the proposed landscaping has been considered acceptable in the circumstances.

Service, Storage and Display Areas		
Service and storage areas must be located behind the front building line.	The service and storage areas for the development will not be located behind the front building line as there is no front building proposed.	The Applicant has proposed landscaping with a 3-tiered composition, inclusive of shade trees, and a 1.8m high garrison fencing to screen the service/storage areas from the street.
Plant & Equipment		
All plant and equipment is to be screened or placed remote from the street public areas where appropriate.	The fuel containers will be partially screened by the front landscaping strip and fencing.	The landscaping and fencing proposed should provide an adequate level of screening of the development from the street.

Local Planning Policy No.3.3.14 - Bicycle Parking and End-of-Trip Facilities (LPP3.3.14)

The aim of the LPP3.3.14 is to appropriately provide for secure, well defined and effective on site bicycle parking and end-of-trip (EOT) facilities, to encourage the use of bicycles as a means of transport and access within the City.

With consideration for the intended operation of the development (only restricted personnel permitted on site and no visitors, with large industrial trucks accessing the site), the City considers it acceptable for bicycle parking to not be provided within the proposed development.

Local Planning Policy No.3.4.3 - Urban Water Management (LPP3.4.3)

A Stormwater Management Plan (SMP) was not submitted as part of the Development Application but the applicant has noted that a SMP will be developed as part of the detailed design stage.

The City holds concerns with the development site's ability to contain stormwater on site due to the significant amount of hardstand and impervious surface proposed. A SMP will be required as a condition of Development Approval (as requested by the Applicant). Should the strategy in the SMP fail to satisfy DWER advice and/or LPP3.4.3, the Applicant will be required to investigate alternatives.

Town Planning Scheme No.2

Clause 3.2 - Zoning Table

The subject site is zoned 'General Industry' under TPS2. The proposed development is consistent with the land use of 'Fuel Depot', meaning:

"premises used for the storage and sale in bulk of solid or liquid or gaseous fuel but does not include premises used –

(a) as a service station; or

(b) for the sale of fuel by retail into a vehicle for use by the vehicle."

A 'Fuel Depot' land use is not permitted ('D') unless the local government has exercised its discretion by granting Development Approval.

It is noted that the proposed development constitutes a 'Prescribed Premises' as set out in Schedule 1 of the *Environmental Protection Regulations 1987.* The Applicant has advised that separate environmental approvals, including a Works Approval and a Dangerous Goods Licence for the storage of fuels, will be sought separately to this DAP application.

Clause 4.10.1 Objectives of Industrial Zones
The following objectives apply to Industrial Zoned land within the TPS2 are:

> *"(a) to provide for a range of industrial land uses by establishing guiding principles and policies that are environmentally and socially acceptable;*
> *(b) to encourage and facilitate the establishment of attractive and efficient industrial areas ensuring that acceptable levels of safety and high standards of amenity are provided through the application of appropriate land use, design and landscaping controls; and*
> *(c) to ensure that industrial areas are developed in a manner which has due regard to potential industries and their infrastructure needs, and that adjacent urban areas are not subjected to pollution and hazards."*

The proposed development is considered consistent with the objectives of the Industry zone.

Clause 4.10.2 - Form of Development
In considering an application for Development Approval, the decision maker shall have regard to the following:

> *"(a) promotion of a high standard of building development, landscaping and working environment;*
> *(b) protection of the amenity of adjacent residential and open space areas;*
> *(c) management of drainage systems and land uses to promote groundwater conservation; and*
> *(d) to ensure safe movement of vehicular and pedestrian traffic in the area."*

The proposed development was subject to assessment against LPP3.3.8, which details specific design and landscape requirements for the site. The proposed development is considered to be acceptable as outlined in the 'Policy' section of this Report.

Should Development Approval be granted, a SMP will be required to be submitted to the City's satisfaction.

The applicant has provided a Transport Impact Statement (TIS) to support the application. Upon review of the TIS, the City is satisfied the traffic volumes produced from the proposed development will not impact on the locality.

Clause 4.10.3 - Parking
The development complies with the car parking requirements.

Use Class	Minimum Requirement	Floor Area/Staff Numbers	Required Car Bays	Provided Car Bays
Industry	1 bay per 50m^2 NLA for factory units and bulky goods showrooms, plus 1 bay per 100m^2 NLA for warehouses or 1 bay per employee, whichever is the greater	226m^2/ 3 staff	3	3

Clause 4.10.4 - General Development Provisions
Clause 4.10.4 provides for development provisions on all Industrial zoned land within the City. The provision below is considered in relation to the proposed development.

General Development Provisions	Provided	Officer Comment
The facades of all buildings visible from the primary road or open space area shall be of masonry construction or any other material approved by the Local Government in respect of the ground floor level, provided that if concrete panels are used, such panels must have an exposed aggregate or textured finished. The second floor level or its equivalent may be constructed of any other material in accordance with the Building Code of Australia and to the satisfaction of Local Government.	The proposed shed is to consist of steel cladding, rather than masonry materials.	As the shed will be setback approximately 100m from the primary street, and will be screened by the containers court, the landscaping, and the fencing, the City considers the proposed steel cladding to be acceptable in the circumstances.

Clause 4.10.6 - Setbacks and Landscaping for Industrial Zones
The 'General Industry' provisions below are considered in relation to the proposed development.

Building Setback Requirements	Provided	Officer Comment
• Primary Street Frontage: 15.0m, plus the street verge	The fuel containers on site have been setback a distance ranging between 21m to 8m from the primary street boundary.	Whilst not fully complying with the required setback, consideration is given with regard to the irregular lot configuration. The fuel containers will be setback a distance comparative to approved developments on adjoining and surrounding sites. The proposed setback is considered acceptable in this context.
• Side and rear Setbacks: In accordance with the Building Code of Australia	The side and rear setbacks proposed are in accordance with the Building Code of Australia.	Compliant
Landscaping Setback Requirements	**Provided**	**Officer Comment**
• Primary Street Frontage: 10.0m, plus the street verge	A landscaping strip ranging from 5.0m to 20.0m in width has been provided adjacent to the primary street frontage.	The proposed landscaping strip width is considered acceptable in the circumstances. Refer to the 'Policy' section of this Report for further information in this regard.

Conclusion:

The proposed Fuel Depot is compatible with the surrounding industrial context of the locality and is a permissible land use. The planning framework in the RIZ is designed to facilitate the establishment of general industrial land uses, subject to a set of development requirements.

Whilst not demonstrating full compliance with the requirements set out in LPP3.3.8 and TPS2, the City considers the proposal to be acceptable in the context of the General Industry zone and the intended operation of the development. The proposed development is considered to be well-integrated with the surrounding industrial estate with regard to the proposed vehicle access/egress and the layout of the development site.

The main outstanding matter with the proposal is the bushfire issues raised by DFES. As per DFES' comments, the Applicant has not provided adequate justification for the classification of Plot 2 as 'Class D Scrub'. Therefore, the proposed development at present has not demonstrated compliance with SPP3.7 and the Guidelines. Furthermore, the City is yet to receive comments from the Hazardous Materials

(HazMat) team at DFES. Given the proposal constitutes a 'High-risk Land Use', DFES need to advise the City if the proposed development will comply with SPP3.7 before the Development Application is determined.

The Development Application is therefore recommended for deferral pending the receipt of comments from the HazMat team at DFES, and further information from the Applicant to demonstrate the proposed development can achieve compliance with SPP3.7 and an acceptable level of bushfire risk, in consultation with DFES and to the satisfaction of the City.

APPLICATION FOR DEVELOPMENT APPROVAL

Before completing this form, please consider lodging your application on-line - https://rockingham.wa.gov.au and register via Rock Port to lodge your application.

OWNER DETAILS

Name : Rockingham 1 Pty Ltd as trustee for the Rockingham 1 Trust

ABN (if applicable) 652 517 907

Address : Level 3, 338 Barker Road Postcode: 6008

Phone: Work: 9381 8301 Home: _____ Mobile: _____

Fax: _____ Email: david@hesperia.com.au

Contact Person for correspondence: David Paz of Hesperia

Signature _____ Date 19 December 2022

Signature _____ Date 19 December 2022

The signature of the owner(s) is required on all applications. This application will not proceed without that signature. For the purposes of signing this application an owner includes the persons referred to in the Planning and Development (Local Planning Schemes) Regulations 2015 Schedule 2 clause 62(2).

APPLICANT DETAILS (if different from owner)

Name: element Advisory Pty Ltd

Address: PO Box 7375, Cloisters Square

_____ Postcode 6850

Phone: Work: 9289 8300 Home: _____ Mobile _____

Fax: _____ Email: leigh.caddy@elementwa.com.au

Contact person for correspondence: Leigh Caddy

The information and plans provided with this application may be made available by the City of Rockingham for public viewing in connection with the application. Yes ☑ No ☐

Signature: _____ Date: 19 December 2022

PROPERTY DETAILS

Lot No. 2 House/ Street No. 27 Street Name Day Road

Suburb Rockingham Nearest Street Intersection Lodge Road

Title Encumbrances (eg. Easements, Restrictive Covenants) N/A

Certificate of Title Vol. No: 4027 Folio 999 Diagram/Plan No: 424532

PROPOSED DEVELOPMENT

Nature of development: Works ☐

Use ☐

Works and Use ☑

Is an exemption from development claimed for part of the development? Yes ☐ No ☑

If Yes, is the exemption for: Works ☐

Use ☐

Description of proposed works and/or land use: Fuel storage facility.

Description of exemption claimed (if relevant)

Nature of any existing buildings and/or land use: semi rural use - paddocks and rural buildings.

Approximate cost of proposed development (exclusive of GST): $3,000,000.00

Estimated time of completion: December 2025

OFFICE USE ONLY

Acceptance Officer's Initials: _____ Date Received: _____

Application Reference No. 20.2023.29.1

Parcel No. 63446 File No. 20.2023.29.1

Application Fee $ 8,191 Date Sought 08/02/2023 Date Received _____

Receipt No. _____ Planning Account No. 711 (Application Planning Fee)

DAP Fee $5,815

FEE STRUCTURE FOR DEVELOPMENT APPLICATIONS

ITEM	APPLICATION TYPE	FEE
1	Determination of an Application for Development Approval (other than an Extractive Industry) where the estimated cost of the development is:	
	(a) not more than $50,000	$147
	(b) more than $50,000 but not more than $500,000	0.32% of the estimated cost of the development
	(c) more than $500,000 but not more than $2.5M	$1,700 + 0.257% for every $1 in excess of $500,000
	(d) more than $2.5M but not more than $5M	$7,161 + 0.206% for every $1 in excess of $2.5M
	(e) more than $5M but not more than $21.5M	$12,633 + 0.123% for every $1 in excess of $5M
	(f) more than $21.5M	$34,196
2	Determining a Development Application (other than for an Extractive Industry) where the development has commenced or been carried out	The fee in Item 1 plus, by way of a penalty, twice that fee.
3	Determining an application to amend or cancel Development Approval	$295
4	Determining a Development Application for an Extractive Industry, where the development has not commenced or has not been carried out.	$739
5	Determining a Development Application for an Extractive Industry, where the development has commenced or has been carried out.	The fee in Item 4 plus, by way of a penalty, twice that fee.
6	Determining an Application for a **change of use** or for an **alteration or extension or change of a non-conforming use** to which Item 1 does not apply, where the change or the alteration, extension or change has not commenced or been carried out	$295
7	Determining an Application for a **change of use** or for an **alteration or extension or change of a non-conforming use** to which Item 1 does not apply, where the change or the alteration, extension or change has commenced or been carried out	The fee in Item 6 plus, by way of a penalty, twice that fee.
8	Building Envelope Variation	$500

Note: The estimated cost of Development is exclusive of GST. All fees are exclusive of GST unless otherwise indicated.

GENERAL INFORMATION REQUIRED FOR DEVELOPMENT APPLICATIONS

1. A completed **Application for Development Approval** (copy attached), signed by the landowner or party acting under written authority from the landowner.

2. The relevant **Development Application Fee**, as detailed above.

3. A **written explanation** of the proposal that expands on the information in the Application for Development Approval, including for example the proposed hours of operation, numbers of employees and clients at any one time.

4. Two (2) hard copies and one (1) electronic copy (PDF format) of plans at a scale of 1:100 or 1:200 including:

   (i) **Site Plan**, which shows the following:

   (a) street names, lot number(s), north point and the dimensions of the site;

   (b) the existing and proposed ground levels over the whole of the land the subject of the application and the location, height and type of all existing structures, as well as any structures and vegetation to be removed;

   (c) the existing and proposed use of the site;

   (d) dimensioned position of proposed buildings and structures to be erected on the site;

(e) the existing and proposed means of access for pedestrians and vehicles to and from the site;

(f) the location, number, dimensions and layout of all car parking spaces intended to be provided in accordance with Australian/ New Zealand Standard AS/NZS 2890.1:2004, *Parking facilities, Part 1: Off-street car parking* and Australia/ New Zealand Standard AS/NZS 2890.6:2009, *Parking facilities, Part 6: Of-street parking for people with disabilities*;

(g) the location and dimensions of any area proposed to be provided for the loading and unloading of vehicles carrying goods or commodities to and from the site and the means of access to and from those areas;

(h) the location, dimensions and design of any open storage or trade display area and particulars of the manner in which it is proposed to develop the same;

(i) the nature and extent of any open space and landscaping proposed for the site;

(j) existing and proposed walls and fences;

(k) existing and proposed sealed areas;

(l) stormwater drainage and method of on-site disposal;

(m) existing and proposed levels, embankments and retaining walls (where the proposed development involves alterations to the natural level of the ground); and

(ii) **Floor Plans, and Sections** of any building proposed to be erected or altered and any building that is intended to be retained which must also show dimensions of the buildings and setbacks from boundaries.

(iii) **Elevation Plans**, which show natural ground levels, proposed ground levels, finished floor levels, finished ceiling levels and ridge heights.

(iv) **Streetscape Elevation Plan**

(v) **Landscape Plan**

(vi) **Report** on any specialist studies in respect of the development that the City requires the applicant to undertake, such as a Bushfire Management Plan, Transport Impact Statement and Transport Impact Assessment, Heritage Impact Statement, Signage Strategy, site survey, environmental, engineering or urban design study; and

(vii) **Heritage** – Where the application relates to a place entered onto the City's Heritage List other information may be required as set out in the Planning and Development (Local Planning Schemes) Regulations 2015 (Regulation 63(3).

(viii) Written justification where any variations to the R Codes 'Deemed to Comply' criteria are proposed.

5. Any other information that the City reasonably requires to enable the application to be determined.

PRE LODGMENT CONSULTATION (Optional)

If you have had any pre-lodgment discussions with a City Planning Officer prior to the submission of this Development Application, please confirm the following:

Planning Officer: _____ Date (if known) _____

Matters Discussed _____

_____

Form of communication: Email ☐ Phone ☐ Meeting ☐ Letter ☐

Should you require further assistance, please call the City's Planning Services on 9527 0748.

Additional information for development approval for advertisements

Note: To be completed in addition to the Application for development approval form.

1. Description of property on which advertisement is to be displayed including full details of its proposed position within that property:

Lot 2 Day Road, East Rockingham

2. Details of proposed sign:

(a) Type of structure on which advertisement is to be erected (i.e. freestanding, wall mounted, other):

Pylon Sign

(b) Height: 8m Width: 2.45m Depth: .30m

(c) Colours to be used:

Pantone 1585

(d) Height above ground level –

To top of advertisement: 8m

To underside: 0.4m

(e) Materials to be used:

Steel structure boxed with Acrylic plastic panels 4.5mm thickness + digital print faces

Illuminated: ~~Yes~~ / No

If yes, state whether steady, moving, flashing, alternating, digital, animated or scintillating and state intensity of light source:

Steady led lights

3. Period of time for which advertisement is required:

Permanent

4. Details of sign (if any) to be removed if this application is approved:

N/A

Note: This application should be supported by a photograph or photographs of the premises showing superimposed thereon the proposed position for the advertisement and those advertisements to be removed as detailed in 4 above.

Signature of advertiser(s): _____

(if different from land owners) _____

Date: 02/02/23

Government of **Western Australia**
Development Assessment Panels

DAP FORM 1

Notice of Development Application to be Determined by a Development Assessment Panel

Planning and Development Act 2005
Planning and Development (Development Assessment Panel) Regulations 2011 – regulations 7, 10 and 21

Application Details

To	*Name of local government and/or Western Australian Planning Commission* City of Rockingham	
Planning Scheme(s)	*Name of planning scheme(s) that applies to the prescribed land* City of Rockingham Local Planning Scheme No. 2	
Land	*Lot number, street name, town/suburb* Lot 2 (No.27) Day Road, East Rockingham	
Certificate of Title (provide copy)	*Volume Number* 4027	*Folio* 999
	Location Number	*Plan / Diagram Number* 424532
Details of development application made to responsible authority	*Summary of Proposal* Fuel storage facility.	
Development Use	*Residential / Commercial / Industrial / Rural / Mixed Use / Other* Industrial	
Estimated cost of development (GST Exc)	$3,000,000.00	

Part A – Acknowledgement by Applicant and Landowner

Mandatory Application	☐ I give notice that I understand that this is a mandatory Development Assessment Panel application *(regulation 5)*
Optional Application	■ I give notice that I have elected to have the development application that accompanies this form determined by a Development Assessment Panel *(regulation 6)*
Delegated Application	☐ I give notice that I understand that this is an application of a class delegated to a Development Assessment Panel for determination *(regulation 9)*

Applicant Details (to be completed and signed by applicant)

- By completing this notice, I declare that all the information provided in this application is true and correct.
- I understand that the information provided in this notice, and attached forming part of the development application will be made available to the public on the Development Assessment Panel and local government websites.

Name		
Company	element Advisory Pty Ltd	
Address	*Street Number/PO Box number, street name, suburb, state, postcode* PO Box 7375, Cloisters Square	
Contact Details	*Email* leigh.caddy@elementwa.com.au	*Phone* 9289 8300
Signature	L Caddy	*Date* 19 December 2022

Landowner Details (to be completed and signed if landowner is different from applicant)

- By completing this notice, consent is provided to submitting this application.
- If there are more than two landowners, please provide all relevant information on a separate page.
- Signatures must be provided by all registered proprietors or by an authorised agent as shown on the Certificate of Title.
- Alternatively, a letter of consent, which is signed by all registered proprietors or by the authorised agent, can be provided.
- Companies, apart from sole directors, are required to provide signatories for two directors, a director and the company seal or a director and a company secretary.

Company (if applicable)	Rockingham 1 Pty Ltd as trustee for the Rockingham 1 Trust	
Contact Details	*Email* David@hesperia.com.au	*Phone* 04096886377
Address	*Street Number/PO Box number, street name, suburb, state, postcode* Level 3, 338 Barker Road, Subiaco 6008	
Name/s		
Title/s	*Landowner/Sole Director/Director (2 signatures required)*	*Additional Landowner/ Director/Secretary (if applicable)*
Signature/s		
Date	19 December 2022	19 December 2022

Part B – Local government acceptance for assessment

Responsible Authority	■ Local Government (LG) ☐ * Western Australian Planning Commission (WAPC) ☐ * Dual – Local Government and Western Australian Planning Commission ☐ Building Management and Works (Department of Finance) – *Public Primary School Applications*	
* WAPC/DUAL reporting details	*If WAPC or DUAL is selected, please provide details of relevant provision (or within covering letter)*	
Fees for applications *(DAP Regulations - Schedule 1)*	$ 5,815.00 Amount that has been paid by the applicant $ Amount to be paid by local government *(delegated applications only - regulation 22)*	
Statutory Timeframe *(regulation 12)*	■ 60 days (advertising not required) ☐ 90 days (advertising required or other scheme provision)	
LG Reference Number	20.2023.29.1	
Name of planning officer *(Report Writer)*	Nyah Cheater	
Position/Title	Planning Officer	
Contact Details	*Email* nyah.cheater@rockingham.wa.gov.au	*Phone* 9528 0316
Planning Officer's Signature	NCheater	*Date accepted for assessment* 21/02/2023

Please refer to the Guidance Note: Lodging a DAP Application for further information.

GOVERNMENT OF WESTERN AUSTRALIA

Western Australian Planning Commission

MRS | Form 1 Application for Planning Approval

Owner/s details

Registered proprietor/s (landowner/s) or the authorised agent's details **must** be provided in this section. If there are more than two landowners please provide all relevant information on a separate page. Signature/s must be provided by all registered proprietors or by an authorised agent.

Alternatively, a letter of consent, which is signed by all registered proprietors or by the authorised agent, can be provided.

Full name	
Company/agency (if applicable)	Rockingham 1 Pty Ltd atf the Rockingham 1 Trust
ACN/ABN (if applicable)	652 517 907
Postal address	Level 3, 338 Barker Road
Town/suburb	Subiaco **Postcode** 6008
Signature	The landowner/s or authorised agent consents to the applicant submitting this application **Date** 19 December 2022
Print name and position (if signing on behalf of a company or agency)	Ben Lisle - Director

Applicant details

Name/company	element Advisory Pty Ltd
Contact person	Leigh Caddy
Postal address	PO Box 7375, Cloisters Square
Town/suburb	PERTH **Postcode** 6850
Phone	9289 8300 **Email** leigh.caddy@elementwa.com.au
Applicant signature	
Print name and position (if signing on behalf of a company or agency)	Leigh Caddy, Senior Consultant - Planning **Date** 19 December 2022

Property details

Certificate of title description of land:	**Lot No**	2	**Location No**	
Plan or diagram 424532	**Vol**	4027	**Folio**	999
Certificate of title description of land:	**Lot No**		**Location No**	
Plan or diagram	**Vol**		**Folio**	

Title encumbrances (e.g. easements, restrictive covenants)	N/A
Locality of development (house no., street name, suburb, etc)	27 Day Road, East Rockingham
Nearest street intersection	Lodge Road
Existing building/land use	Existing semi rural use - paddocks and rural buildings.
Description of proposed development and/or use	Fuel storage facility.
Nature of any existing buildings and/or use	Existing semi rural use - paddocks and rural buildings.
Approximate cost of proposed development (excl. gst) $	3,000,000.00
Estimated time of completion	

Office use only

Acceptance officer's initials		Date received	
Local government reference No.		Commission reference No.	

Version: 9.2 (December 2018)

The information and plans provided with this application may be made available by the WAPC for public viewing in connection with the application.

Additional Information to be provided on the MRS Form 1

Is the development within a designated Bushfire Prone Area?	✓ Yes	No
If 'yes', have bushfire hazard issues been identified and addressed (e.g.by providing a BAL Assessment(s) or BAL Contour Map and a Bushfire Management Plan with the application)?	✓ Yes	No
	N/A	

If NA is selected and the development is in a designated bushfire prone area then a short statement justifying why SPP 3.7 does not apply should be included.

Does your application require determination by a Development Assessment Panel? (DAP)	✓ Yes	No

Please refer to the following website for DAP requirements: **www.dplh.wa.gov.au/daps**

If yes, please complete DAP Application Form as per DAP requirements.

Checklist (supporting information)

Please complete the checklist below and ensure that all the relevant information is provided with the application.

1. Completed Metropolitan Region Scheme (MRS) Form 1
2. Plans at a scale not less than 1:500 (A3) showing:-
   - (i) the location of the site including street names, lot number(s), north point and the dimensions of the site;
   - (ii) the existing and proposed ground and floor levels over the whole of the land that is the subject of the application, including details of proposed cut and fill, and retaining walls;
   - (iii) the location, metric dimensions, materials, finishes and type of all existing and proposed structures, including services, on the land that is the subject of the subject of the application and all existing structures and vegetation proposed to be removed;
   - (iv) the existing and proposed use of the site, including proposed hours of operation and buildings to be erected on the site;
   - (v) the existing and proposed means of access and egress for pedestrians and vehicles to and from the site;
   - (vi) the location, number, dimensions and layout of all car parking spaces intended to be provided, including provision for the disabled;
   - (vii) the location and dimensions of any area proposed to be provided for the loading and unloading of vehicles carrying goods or commodities to and from the site and the means of access to and from those areas;
   - (viii) the location, dimensions and design of any open storage or trade display area and particulars of the manner in which it is proposed to develop those areas;
   - (ix) the nature and extent of any open space and landscaping proposed for the site; and
   - (x) proposed external lighting and signage.
3. Plans, elevations and sections, as appropriate, of any building or structure proposed to be erected or altered and of any building or structure it is intended to retain;
4. Any specialist studies that the responsible authority may require the applicant to undertake in support of the application such as traffic, heritage, environmental, engineering or urban design studies;
5. Any management plans the responsible authority may require to support or implement the application; and
6. Any other plan or information that the responsible authority may require to enable the application to be determined. This may include scale models or information in digital formats.

For additional information please refer to Development Control Policy 1.2
www.dplh.wa.gov.au/getmedia/37533b97-e0ad-4947-9d00-c4d62fa92746/DCP_1-2_general_principles

Version: 9.2 (December 2018)

The information and plans provided with this application may be made available by the WAPC for public viewing in connection with the application.

Development application checklist - lodgement requirements

Application signatures	The MRS Form is to be signed by the registered proprietor/s as shown on the certificate/s of title. Where the landowner/s cannot sign, an authorised agent can sign and attach evidence of the authority. If the subject land is owned by a company, you must confirm whether it is a sole proprietorship company and state the full name/s and position/s of the company signatory/ies. Appropriate company signatory/ies include one director and the company seal, two directors, or one director and one secretary. Eg: _____ _____ John F. Smith - Director, Smith Pty Ltd — Peter S James - Director, Smith Pty Ltd Or _____ John F. Smith - Sole Director, Smith Pty Ltd If the subject land is owned by a strata company, consent can be signed by the strata company secretary or by an elected person of the strata company providing proof of authority either by letter of delegated authority, signed by all strata owners or minutes showing delegated authority.
Certificate of Title	Ensure the Certificate of Title/s is/are current (within 6 months) and provide copy/s.
Change of name	Applications made by either private owners or companies who have changed names to that depicted on the Certificate of Title, must provide supporting documentation showing the change of name such as: • a transfer of land document that incorporates a lodgement receipt, • a company search from the Australian Securities and Investment Commission, • a marriage certificate or • a change of name certificate.
Contacts	A contact name, phone and email address is essential, in the event more information is required and for issuing correspondence relating to the Department's decision.
Contracts of sale	Where the land is subject to a contract of sale or offer and acceptance, evidence of landowner's consent must be provided. Relevant evidence may include; • an express provision of consent by the vendor on the contract of sale or offer and acceptance, • a letter of consent from the registered proprietor/s giving prospective purchaser/s consent to lodge the application or • a copy of the transfer of land document that incorporates a lodgement receipt.
Crown land	Where the land is registered in the name of the Crown, the application form must be signed by an authorised officer of the Department of Lands, stating the name and position. Alternatively, a letter of consent from the authorised Crown land officer.
Deceased estates	Where the land is registered in joint tenants, a copy of the death certificate of the deceased landowner must be provided. Where the land is registered in tenants in common, a copy of the grant of probate or endorsed enduring power of attorney must be provided.
Designated Bushfire Prone Area	If the proposed development is located within a Bushfire Prone Area according to the Map of Bush Fire Prone Areas, then bushfire hazard issues should be identified and addressed (e.g. by providing a BAL assessment(s) or BAL Contour Map and a Bushfire Management Plan with the application). If NA is selected and the development is in a designated bushfire prone area then a short statement justifying why SPP 3.7 does not apply should be included.
Emailed documents	Emailed applications or documents are acceptable, however the application must be signed by the registered proprietor/s.
Government agencies	Where the land is registered in the name of a government authority, the application form must be signed by an authorised officer of the relevant authority, stating the name and position of the signatory/s. Alternatively, a letter of consent signed by an authorised officer.

Version: 9.2 (December 2018)

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Details	Amount
DA Planning Fees – F	8191.00
DAP – Fuel Depot (Di	5815.00
Total Value:	14006.00
Tendered	
Other	14006.00
Change	0.00

TAX INVOICE
Have a nice day

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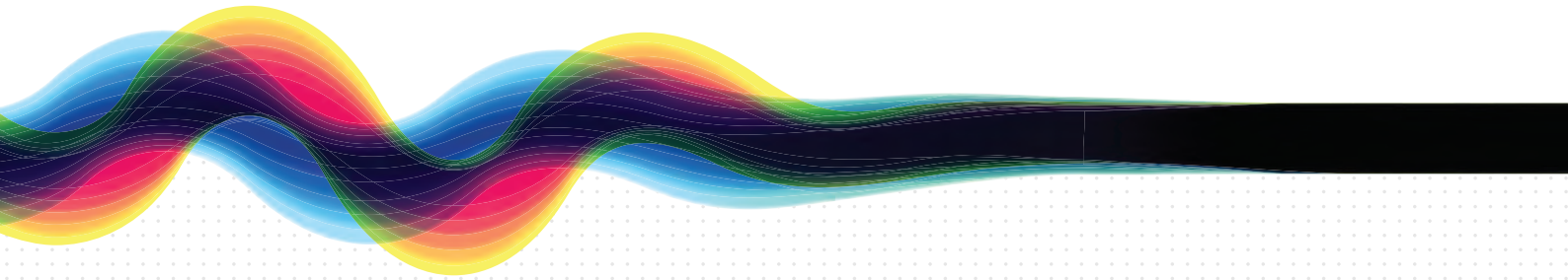
Proposed Fuel Storage Facility
Lot 2 Day Road, East Rockingham
Development Application

February 2023 | 22-477



element.
the art and science of place

We acknowledge the Whadjuk people of the Noongar nation as traditional owners of the land on which we live and work.

We acknowledge and respect their enduring culture, their contribution to the life of this city, and Elders, past and present.

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1. Introduction

This report has been prepared by **element** on behalf of Aksara in support of a development application at Lot 2 (No. 27) Day Road, East Rockingham (the subject site).

The development application proposes a diesel fuel storage facility comprising a fuel containers court, shed, fuel delivery point, parking and loading area, truck standing area, landscaping and associated signage.

The subject site is well suited to accommodate the proposal, providing an industrial land use within a strategic industrial precinct.

The following report provides an overview of the proposed development, as well as a breakdown of the relevant town planning and design considerations and an assessment of the planning merits of the proposal in the context of statutory compliance and policy requirements.

2. Site Details

2.1 Site Location and Property Description

The subject site is described as Lot 2 (No. 27) Day Road, East Rockingham and is located in the municipality of the City of Rockingham, approximately 36 kilometres south of the Perth central area.

The subject site has a total land area of 13.539 hectares and is bound by Lodge Drive to the north, Day Road to the east.

The subject site comprises one (1) land parcel, the title particulars of which are outlined in the table below.

Table 1 – Certificate of Title Details

Lot	Diagram	Vol	Folio	Street Address	Registered Proprietor	Land Area
2	424532	4027	999	27 Day Road, East Rockingham	Rockingham 1 Pty Ltd	13.539ha

2.1.1 Encumbrances on Title

The Certificate of Title identifies a memorial pursuant to the Heritage of Western Australia Act 1990, which relates to a residential dwelling ("Day Cottage") located in the south eastern corner of the site. The encumbrance, which identifies a curtilage around the building does not affect the proposed development, as the building is proposed to be retained within a new separate lot.

Refer Attachment One – Certificate of Title.

Refer Figure 1 – Location Plan.

Refer Figure 2 – Aerial Plan.

Refer Figure 3 – Site Plan.

2.1.2 Proposed Subdivision

On the 25 July 2022, the Western Australian Planning Commission (WAPC) granted subdivision approval over the site (WAPC ref: 162110) to subdivide the land into 17 freehold industrial lots, and two new internal access roads.

The development subject of this application will be constructed on Lot 13 of the subdivision, being a lot of 8,410m^2 in area, and located at the end of a new internal access road (Venture Place). Refer to the subdivision plan contained within Appendix Two – Development Plans.

A 6 metre wide fire easement is proposed along the southern boundary of the lot, to provide emergency fire access and egress for the subdivision between the new internal road and Day Road.

2.1.3 Existing Land Use and Development

The subject site is vacant, and cleared as a result of earthworks being progressed ed in accordance with the subdivision approval.

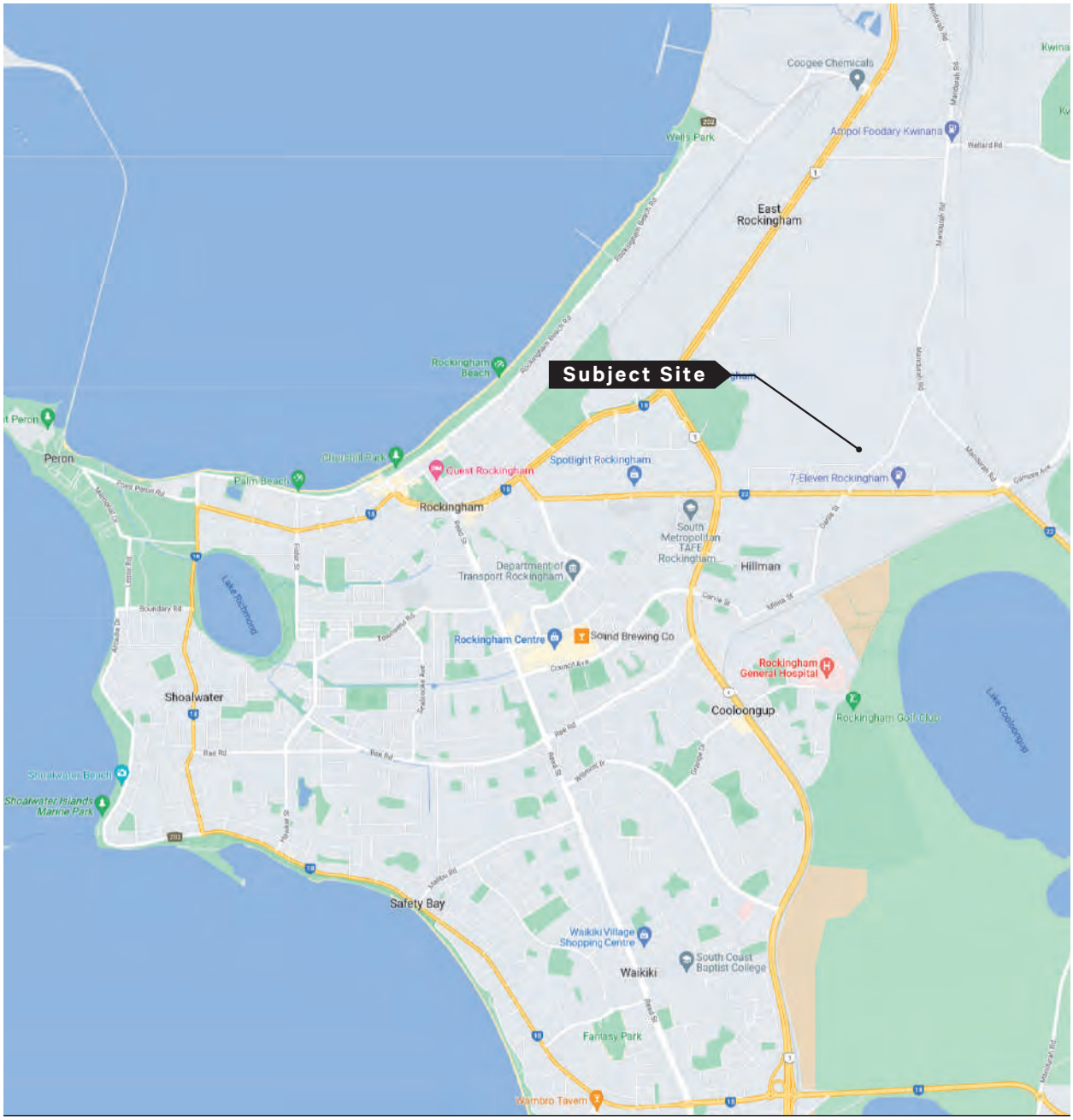

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Figure 1. Location Plan.

Figure 2. Aerial Plan.

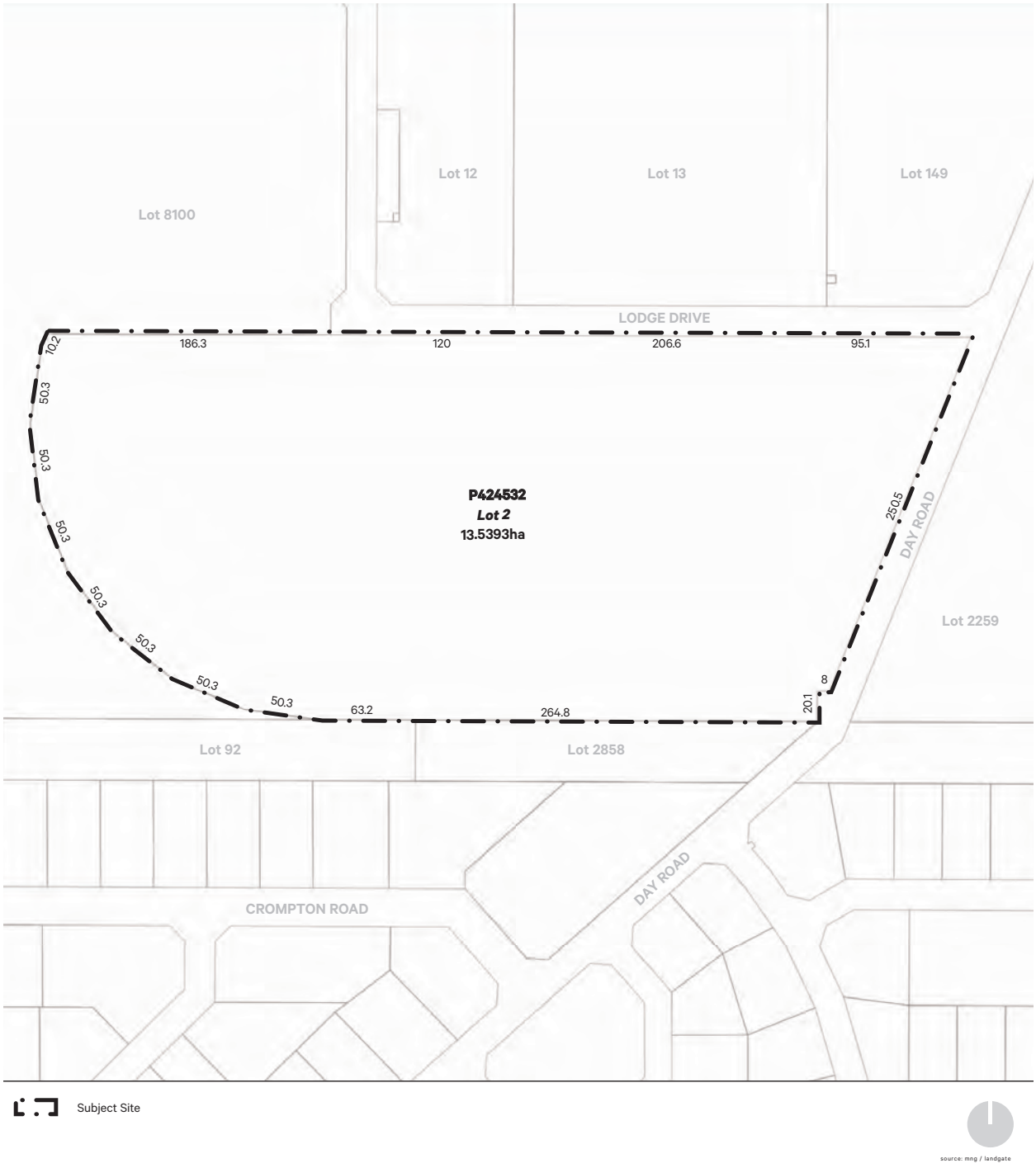


Figure 3. Site Plan.

2.2 Site Context

The subject site forms part of the State Government's "Rockingham Industrial Zone" (RIZ), which comprises some 1,150 hectares of land earmarked for a range of industrial uses including warehousing, transport and logistics, medium to large fabrication works and maritime-related industries, to support future demand from the Kwinana Industrial Area.

The RIZ is a strategic industrial area which benefits from having direct access to nearby sea transport and established infrastructure. The RIZ is part of the broader Western Trade Coast, which also includes the Kwinana Industrial Area, Latitude 32 Industry Zone, the Australian Marine Complex and the outer harbour operations of Cockburn Sound.

The RIZ was established in 1988 under the Western Australian Planning Commission's Improvement Plan No.14 (IP-14), the purpose of which is to advance the planning, development and use of the land for industrial purposes.

2.3 Site Considerations

2.3.1 Heritage

A desktop search of the Department of Planning Lands and Heritage's Aboriginal Heritage Inquiry System indicates that there are no places of Aboriginal cultural heritage significance at the subject site.

The subject site contains the Day Cottage (ruin), currently included on the State Register of Heritage Places and the City of Rockingham Heritage List and Municipal Heritage Inventory (MHI). The place has been identified as having an exceptional level of significance to the City of Rockingham with Category A Management Category which requires the place to be retained and conserved. The proposed development will not adversely impact the heritage significance of the site as it will be located on a separate subdivision lot.

2.3.2 Contamination

A desktop search of the Department of Water and Environmental Regulation's (DWER) Contaminated Sites Database indicates that the site is not identified as being contaminated.

2.3.3 Bushfire

A desktop search of the Department of Fire and Emergency Services' ('DFES') Map of Bushfire Prone Areas indicates that a large portion of the subject site is bushfire prone. A Bushfire Management Plan ('BMP') has been prepared to support the proposed development, demonstrating that the proposal will not adversely impact fire management within the locality.

2.3.4 Acid Sulphate Soils

A desktop search of Landgate's mapping system, Landgate Locate, indicates that the site at risk of acid sulphate soils.

3. Description of Proposal

3.1 Development Summary

This development application seeks approval from the City of Rockingham (the 'City') to construct a diesel fuel storage facility at the subject site. Key components of the proposed development are summarised below:

- 230m^2 Warehouse, comprising:
  - Office / Control Room;
  - Staff Amenities including toilet, shower, kitchenette and break room;
  - Storage area.
- 3,100m^2 Containers Court area, comprising:
  - 41 fuel storage containers (refer to Indicative Imagery of Fuel Container below and Appendix F - Indicative Tank Specifications);
  - Fuel delivery point
- Fuel Gantry;
- Truck Standing Area;
- 3 car parking bays and 1 loading bay.

Refer Appendix B – Development Plans and Appendix F – Indicative Tank Specifications.

Indicative Imagery of Fuel Container

3.2 Operational Characteristics

The proposed Fuel Storage Facility will operate 24 hours a day, seven (7) days a week.

A total of four (4) staff members will work at the proposed development, three (3) will be on site during the day and one (1) staff member during the night.

The facility will be subject to restricted (controlled) access, with the only personnel on site being operational employees of the facility.

3.3 Car Parking and Access

3.3.1 Car Parking

A total of three (3) car bays are to be provided for the development.

The parking provision for the site has been based on the maximum number of employees that will be on site. As the only personnel on site are the operational employees of the facility, no visitor parking is proposed.

3.3.2 Vehicular Access

The site is proposed to be accessed via two (2) new crossovers from Venture Place (the new internal subdivision road). The 16 metre wide crossover to the north will provide access for trucks only to enable vehicles to enter the site lane correctly. A smaller 10 metre wide crossover to the south of the truck-only access is proposed to provide a point of egress for b-triple vehicles to access the refuelling points and will also provide access for light vehicles to the staff/visitor car parking area. Vehicles will be able to exit the site via the reciprocal easement at the northern boundary to the east of the lot towards Lodge Drive.

3.4 Landscaping

The development provides for a 5 metre wide landscape strip (approx. 200m^2 in area) to the street front, and which is proposed to comprise of low evergreen shrubs (*Lomandra labill*) within a mulched garden bed.

3.5 Signage

The approximate location of signage associated with the proposed development is detailed on the development plans. The signage proposed will be comprised of one (1) pylon sign, approximately 8m in heigh and 2.45m in width, located at the vehicle entrance from the future Venture Place. The sign will assist with wayfinding and business identification, detailing the company logo and fuel prices.

Refer to Figure 4 – Details of the signage proposed as part of the development.

3.6 Stormwater Management

Stormwater will be contained on site to the extent possible. A stormwater management plan will be developed as part of detailed design through an appropriately worded condition of development approval.

3.7 Waste Management

As the development is principally a storage facility, the generation of waste will be minimal, and limited to typical domestic waste generation. Accordingly waste management is expected to be via the City's regular waste collection service.

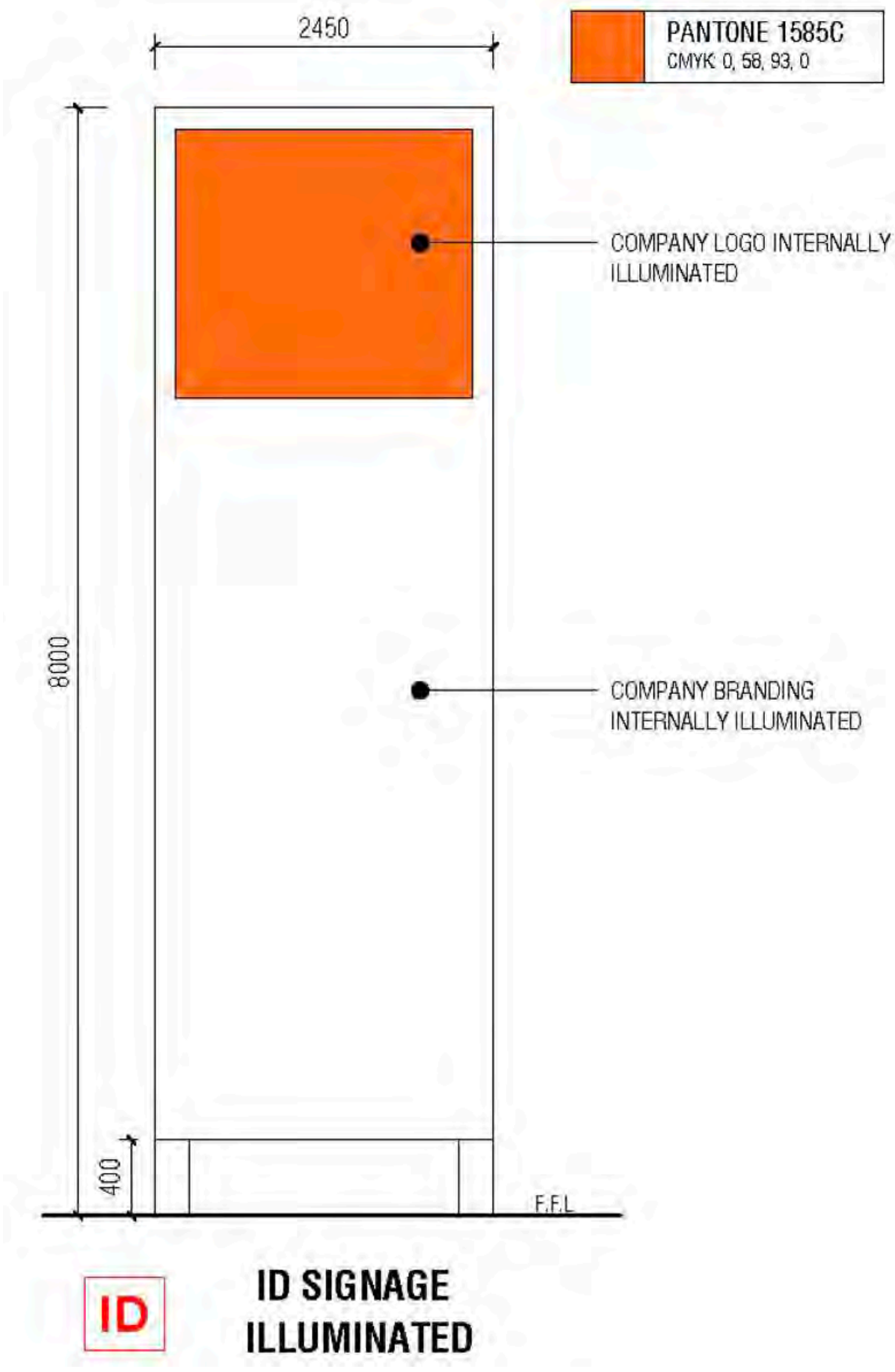


Figure 4. Details of the signage proposed as part of the development.

4. Town Planning Framework

4.1 Metropolitan Region Scheme

Pursuant to the provisions of the Metropolitan Region Scheme ('MRS'), the subject site is zoned 'Industrial'. The Industrial zone is described as follows:

> *Land in which manufacture, processing, warehousing and related activities are undertaken.*

The proposed fuel storage facility is consistent with the intent of the Industrial zone.

Abutting the site immediately to the south is land reserved 'Railways'. The land reserved for railway purposes is to facilitate the provision of an alternative future freight rail line (Kwinana Rail Loop) to access the various port terminals, sidings and private industrial terminals within the Western Trade Coast.

Refer to Figure 5 - MRS Zoning Plan

4.2 State Planning Policies

4.2.1 State Planning Policy 3.7 Planning in Bushfire Prone Areas

State Planning Policy 3.7 Planning in Bushfire Prone Areas (SPP3.7) and associated Guidelines for Planning in Bushfire Prone Areas (Guidelines) provide the foundation for land use planning to address bushfire risk management in Western Australia.

The subject site is identified as a 'bushfire prone area' under the Department of Fire and Emergency Services Map of Bushfire Prone Areas (2019). As such, the provisions of SPP3.7 and the Guidelines apply to the development.

Pursuant to the requirements of SPP3.7, Eco Logical Australia have prepared a Bushfire Management Plan (BMP). The BMP demonstrates that the proposed can achieve an acceptable rating and management measures in accordance with SPP7.3 and the Guidelines.

Refer to Appendix E – Bushfire Management Plan

4.2.2 State Planning Policy 4.1 State Industrial Buffer Policy

State Planning Policy 4.1 State Industrial Policy (SPP4.1) seeks to protect industry, infrastructure and special uses form the encroachment of incompatible uses as well as provide for the safety and amenity of land uses surrounding industry. As a result, various industrial activities need to be separated from residential areas and other sensitive uses within a buffer area.

The Environmental Protection Authority's Guidance Statement 'Separation Distance between Industrial and Sensitive Land Uses No. 3' provides generic separation distances which are intended as a guide in the consideration of potential off-site impacts associated with industrial activities having regard to other matters such as management measures, site specific considerations.

The Guidance Statement identifies a minimum separation distance of 300 metres for a fuel storage facility (exceeding 2000 tonnes capacity).

The proposal is considered to be compatible with existing and future industrial development within the East Rockingham Industrial Area, noting that there is no sensitive land uses within 300 metres of the site as land within the surrounding area is generally zoned for industrial purposes.

The design and operation of the facility will be in accordance with and subject to separate environmental approvals, including a Works Approval from the Environmental Protection Authority and a Prescribed Premise License and Dangerous Goods Licence for the storage of fuels from the Department of Mines. A Hazard Identification and Risk Assessment report that outlines potential risk scenarios and incident probabilities relating to the storage of diesel fuel has been prepared for the facility and included with this application.

4.3 City of Rockingham Town Planning Scheme No. 2

The City of Rockingham Town Planning Scheme No. 2 ('TPS 2') sets out the provisions for land use and development within the City. Under the provisions of TPS 2, the subject site is zoned 'General Industry'.

The objectives for the 'General Industry' zone as contemplated under TPS 2 are as follows:

- *to provide for a range of industrial land uses by establishing guiding principles and policies that are environmentally and socially acceptable;*
- *to encourage and facilitate the establishment of attractive and efficient industrial areas ensuring that acceptable levels of safety and high standards of amenity are provided through the application of appropriate land use, design and landscaping controls; and*
- *to ensure that industrial areas are developed in a manner which has due regard to potential industries and their infrastructure needs, and that adjacent urban areas are not subjected to pollution and hazards.*

The proposed development provides for an industrial land use consistent with the objectives of the General Industry zone. The development provides for a functional, and operationally efficient layout in terms of vehicle movement. The development responds to an increased demand for readily available diesel fuel within the metropolitan area, to meet the needs of retail fuel suppliers and local industry.

The design and operation of the facility will be in accordance with relevant Environmental Protection Authority and Department of Mines approvals and requirements for the storage of fuel. The Hazard Identification and Risk Assessment report included with this application demonstrates appropriate risk management strategies to achieve an acceptable level of risk.

Refer Figure 6 – Zoning Plan.

4.3.1 Scheme Amendment No. 178 to Town Planning Scheme No. 2

Scheme Amendment No. 178 forms part of a broader review and update of the City's industrial planning framework relating to the East Rockingham Industrial Area. The principal changes proposed under the amendment include the insertion of provision to maintain existing vegetated buffers along the major gateway roads of Mandurah Road and Patterson Road, as well as prescribe appropriate building and landscaping setbacks for industrial development generally within the various industrial zones. The amendment also proposes to delete clauses and references to Improvement Plan No. 14 – Kwinana-East Rockingham Industrial Area ('IP 14'), and updated zone objectives.

Following final consideration of the Amendment by the WAPC and Minister, the City was directed to make further modifications to the amendment documents, to provide for reduced setback and landscaping requirements for industrial development along the major gateway roads. At the time of writing this report, gazettal of Amendment 178 is expected imminently.

With respect to development within the General Industry zone, the Amendment prescribes the following development standards:

Setbacks	Primary Street Frontage	Secondary Street Frontage	Side and Rear Setbacks
Minor Structures (e.g. offices, reception, staff amenities, showroom, lunch room)	Minimum: 15 metres	Minimum: 10 metres	In accordance with the Building Code of Australia. (Side and Rear Building
Major Structures (e.g. fuel depot, stacks, sheds and industrial activities)	Minimum: 25 metres	Minimum: 10 metres	
Landscaping	Minimum: 10 metres, plus the street verge.	Minimum: 5 metres, plus the street verge.	

Figure 5. MRS Zoning Plan

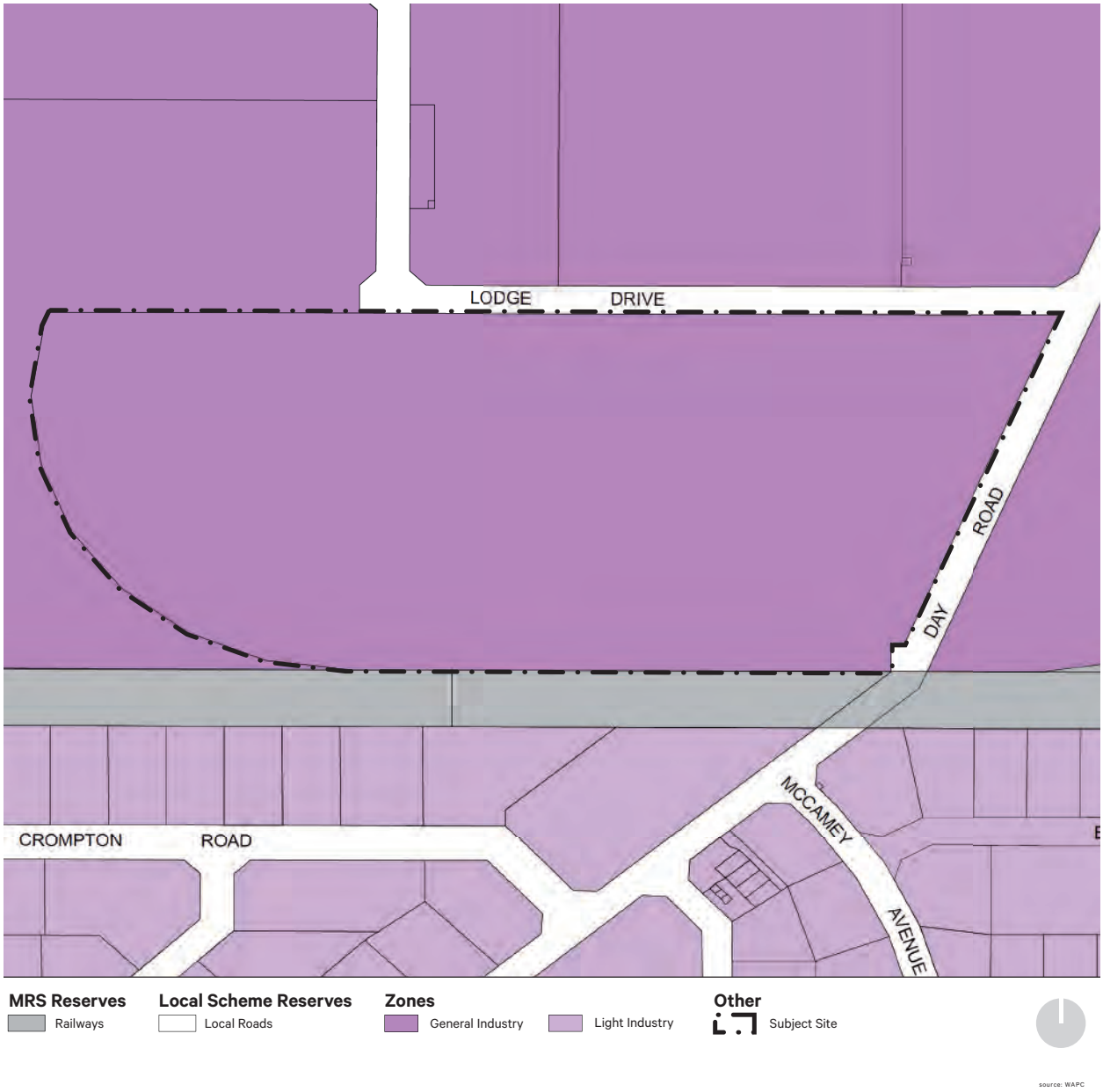


Figure 6. Zoning Plan

4.3.2 Land Use Permissibility

The proposed development is considered to fall within the following use classes, which are defined under TPS 2 as:

Use Class	Definition	Permissibility
Fuel Depot	*means premises used for the storage and sale in bulk of solid or liquid or gaseous fuel but does not include premises used –* • *as a service station; or* • *for the sale of fuel by retail into a vehicle for use by the vehicle.*	D

Pursuant to TPS 2, the 'Fuel Depot' use is classified as 'D' use classes, meaning that is capable of approval at the discretion of the Council.

The proposed shed will serve as a warehouse and office for the facility, principally for the storage of equipment associated with general operation and management of the facility, and are incidental to the primary fuel depot land use.

4.4 Local Planning Policies

4.4.1 Local Planning Policy 3.3.8 – East Rockingham Development Guidelines

This policy prescribes building and development standards for the development of industrial land within the East Rockingham Industrial Park (now known as the Rockingham Industrial Zone (RIZ)).

At its Ordinary Council Meeting of the 23 June 2020, the City of Rockingham Council resolved to adopt a revised planning policy to guide future redevelopment within the RIZ (referred to as Planning Policy No.3.3.8 - East Rockingham Industrial Zones).

The revised policy sets out development standards with respect to site layout, building setbacks and landscaping requirements, building design, fencing and servicing considerations. The policy, which has been progressed as part of a broader review of the City's industrial planning framework, will come into effect upon gazettal of Scheme Amendment No. 178.

The proposed development is generally consistent with the development standards of the existing and proposed policy. A full assessment of the proposed development against the development guidelines is provided at Attachment Three – Planning Assessment.

4.4.2 Local Planning Policy 3.4.3 – Urban Water Management

This policy prescribes standards for urban water management to achieve the best possible environmental and water management outcomes for the City of Rockingham. The policy is applied by the City of Rockingham in the assessment and determination of development applications.

The Better Urban Water Management framework (WAPC 2008) requires the preparation of engineering and landscape designs for developments, to ensure water sensitive urban design is achieved.

Stormwater will be contained on site to the extent possible. A stormwater management plan will be developed as part of detailed design through an appropriately worded condition of development approval.

4.4.3 Local Planning Policy No. 7.1 - East Rockingham Industrial Park: Environmental Planning Policy (2004)

Local Planning Policy No. 7.1 (LPP7.1) establishes guiding principles and policies for the environmental acceptability of industrial development on industrial zoned land within the City of Rockingham. LPP7.1 contains policies in relation to Air Quality, Risks and Hazards, Noise, Water Quality, and Social Issues.

The proposed development will be regulated by Department of Water and Environmental Regulation (DWER) and Department of Mines, Industry Regulation and Safety (DMIRS) and relevant approvals. Detailed design of the facility, including operating risks will be addressed as part of the approval and licencing processes that Askara must complete once Development Approval has been obtained.

Consideration against each of LPP7.1 policies are discussed in the following table.

Air Quality: including standards and limits for SO2 and dust, implementation and monitoring programs, adoption of NEPM Standards for Ambient Air Quality for CO, NO2 ozone, SO2 and PM 10, installation of best practice technology, and the progressive reassessment of air quality in the buffer zone.	**Managing Odours** LPP7.1 provides for the control of potential odour impacts by a combination of best practice technology available and generic buffer distances between industrial and sensitive land uses. Generic buffer distances are provided by reference to EPA Guidance Note No 3. Relevant generic buffer distances are those for fuel storage with tanks greater than 2000 tonnes capacity (depending on fuel stored and size): • 300 to 500 metres (fixed rooves) Land within 500 metres of the facility consists of a conservation reserve to the west, a rail reserve and light industrial development to the south, and future general industrial development to the east and north. No sensitive land uses (ie. residents, schools, hospitals etc) exist within 500 metres. While the Department of Environment Regulation provides advice on odour impact assessments on a case by case base, in practice this reverts to applying minimum buffer distances for analogous facilities and imposition of world's best practice technology to minimise and control emissions. The tanks (and systems generally) associated with the facility will be compliant to both AS 1940-2017 *"The Storage and Handling of Flammable and Combustible Liquids"* and AS 1962 *"Steel tanks for flammable and combustible liquids"*. It should be noted that diesel fuel is classified as a combustible liquid, not flammable. Accordingly no vapour recovery system is required.
Risks and Hazards: including compliance with the individual fatality risk criterion, and limit at the site boundary, cumulative risk level, risk level for sensitive developments and non-industrial activity in the buffer zone, a clear preference for industries with a low risk profile, and planning to relieve Patterson Road from non-industrial traffic.	**Risk Assessment** The facility design and operating risks will be addressed by the appropriate regulatory agencies in the approval processes that Askara must complete. Fuel depots typically comply with standards specified in AS 1940-2017 "*The Storage and Handling of Flammable and Combustible Liquids"* (AS1940), to manage the risks associated with receipt, storage and loading of large quantities of flammable and combustible products. It should be noted that diesel fuel is classified as a combustible liquid, not flammable. The tanks are designed in accordance with AS 1962 "Steel tanks for flammable and combustible liquids". AS1940 outlines a range of considerations including, but not limited to: general site planning considerations; appropriate separation distances (between storage tanks, tanks to property boundaries, and between storage tanks and ignition sources); tank design, location of fill points; bunds/compounds and spill containment; and fire protection. Design and preventative measures will be used to limit the risk and control the consequences of any fire, explosion or major spill or loss of containment occurring within the facility. A bunded area will be provided around the truck loading/unloading points to contain any spill. Spill kits will also be located at both the loading and the unloading points only. Before the site itself is opened, a fully documented operations manual would need to be in place which would also detail the procedures for spill management. A Risk Assessment for the facility has been prepared as part of detailed design (refer to Appendix G – Risk Assessment Report). The report states that the proposal complies against the relevant requirements of the standards.
Noise: including assessment of industrial and transportation noise under the provisions of the Environmental Protection (Noise) Regulations 1997, application of the EIA Policy No. 14 in relation to railway movements, and the implementation of a complaints management program.	**Noise Assessment** The only noise source associated with the facility will be that generated by trucks accessing the facility (consistent with that associated with other industrial activities in the area). As there are no other noise sources associated with the operation of the facility, no adverse noise impacts on the surrounding area are anticipated.

Water Quality: including the management of surface and ground water quality, and the application of relevant DWER policies.	Askara is committed to meeting world's best practice for stormwater management. Stormwater management, including water management containment and treatment measures will be undertaken as part of subsequent detailed design and in accordance with relevant City of Rockingham and DWER requirements. It is requested that a condition be placed on the approval requiring a Stormwater Management Plan to be prepared to the satisfaction of the City.
Social Environment: including image (visibility of industry from residential areas), skill requirements of the industry and potential for local employment, and potential for multiplier impacts benefiting the local economy.	**Visual Impact** Elevations of the proposed development are included as part of this application. The structures proposed will not adversely impact on the visual amenity of the Kwinana Industrial Area. The storage tanks are of a relatively small scale (approx. 3 metres in height), as compared to existing and proposed developments in the vicinity, including the approved MSC Fabrication and Duralite Trailers facility immediately to the north (proposed Lot 4) which comprises a 600sqm warehouse approx. 7.3 metres in height, and the Bestbar metal fabrication development which comprises an 8,500sqm warehouse approx. 12 metres in height (proposed Lot 2). The facility is located at the back of the industrial estate (adjacent to a rail corridor) with no passing traffic. **Operational Impact** The proposed facility will have no adverse impacts in terms of potential emissions or environmental contamination on the local community. Access to the facility will be restricted and will not be accessible to members of the public. **Employment** Askara is committed to supporting the local communities in which its businesses operate, in terms of employment and the use of local materials and services. This commitment will be extended to the construction and operation of the proposed facility. The project will create both on and off site employment from detailed engineering design, off site fabrication, assembly and construction of the tanks and site infrastructure. Once construction is completed, the facility is expected to employ up to 3 staff.
Other Issues: including the management of light spill from illuminated industrial areas at night.	Lighting design will comply with the relevant standards applied by the City of Rockingham to prevent light spill from occurring.

5. Planning Justification

A full assessment of the proposed development against the relevant proviosn of the planning framework is provided at Attachment Three – Planning Assessment. The following section provides discussion and justification of those matters where a variation to the relevant standard is sought.

5.1 Site Layout and Building Orientation

The City's Local Planning Policy 3.3.8 East Rockingham Development Guidelines (and proposed draft Policy) require "office and administrative buildings" be designed to address the street to provide "a legible entrance for pedestrians and a positive contribution to the streetscape".

The policy (and TPS2) prescribes setbacks for minor and major structures, the intent of which is to ensure larger (primary) structures associated with an industrial activity (such as warehouse buildings, sheds) are located behind smaller (ancillary) structures typically comprising administrative functions, and which serve to define the operation and address the street.

In this instance the development is essentially a storage facility, rather than a traditional industrial activity incorporating a manufacturing or processing function that typically comprises a larger workforce and is open to visitors. The proposed shed (whilst consisting of ancillary office space and staff amenities) is not intended as a typical 'administration' building. Rather it is primarily a structure to accommodate the delivery and storage of mechanical equipment, parts and accessories required to operate the facility. Additionally, the facility will be subject to restricted (controlled) access to employees and fuel trucks only, and will not be accessible to the general public.

Accordingly, the policy provisions regarding an administrative building to address the street and provide a legible entrance for pedestrians is not applicable in this instance. Notwithstanding, the location of the shed (which represents the largest structure on the site) is in keeping with the principle intended under both the policy and TPS2 whereby 'major' structures are located behind 'minor' structures.

Landscaping within the front setback and the street will serve to soften the appearance of the development as viewed from the street.

5.2 Setbacks

The development proposes a minimum setback of 23 metres, in lieu of the 25 metre minimum contemplated under the Guidelines for major structures. The proposed variation to the minimum primary street setback is minor in nature and will not have an adverse impact on the surrounding streetscape.

Although a fuel depot is considered a major structure under the Guidelines, the proposed storage tanks are of a relatively small scale (akin to a 'shipping container'), and will not impose on the streetscape.

5.3 Fencing

The development provides for 2.4 metre high colourbond fencing to all side and rear boundaries. 1.8 metre high balustrade fencing (incorporating gates) is proposed to the street front (behind the landscaped area), as well as along the southern and eastern extents of the container court and shed, to provide both security and visual permeability through to the development.

6. Supporting Technical Studies

6.1 Traffic Impact Statement

A Traffic Impact Statement has been prepared by Cardno to support the proposed development. A copy of the Traffic Impact Statement ('TIS') is provided at Appendix D of this report.

The TIS concludes that the proposed development is supported and is unlikely to have a material impact on the surrounding road network. Key comments from the TIS are summarised below as follows:

- The proposed development consists of a fuel storage facility;
- The site is estimated to generate 16 trips in the AM peak hour and 16 trips in the PM peak hour. This level of traffic generation is considered to be negligible and is expected to be adequately catered for by the surrounding road network; and
- Parking provision is adequate for the estimated number of future employees and visitors.

Refer Appendix D – Traffic Impact Statement.

6.2 Bushfire Management Plan

A Bushfire Management Plan ('BMP') and Bushfire Risk Management Plan ('BRMP') have been prepared by Eco Logical Australia to support the proposed development.

The BMP and BRMP (prepared to meet the requirements of SPP3.7 for high-risk land uses) states that the development is consistent with the aims and objectives of SPP3.7 and able to meet the relevant Acceptable Solutions under the Bushfire Guidelines, subject to a number of management measures.

Refer to Appendix E - Bushfire Management Plan and Bushfire Risk Management Plan.

7. Conclusion

This development application has been prepared by **element** on behalf of Askara, in support of a proposed diesel fuel storage facility at Lot 2 (No. 27) Day Road, East Rockingham.

The development comprises a 'Fuel Depot' land use, inclusive of an ancillary office component, associated parking, landscaping, signage and canopy areas, consistent with the provisions of the City of Rockingham Town Planning Scheme No. 2.

The development responds to the relevant standards and requirements of the planning framework and has been demonstrated to be satisfactory from a traffic and bushfire perspective. The technical reports accompanying the application demonstrate that any potential amenity impacts are capable of being managed.

The subject site and its location at the end of Venture Place is well suited to accommodate the proposed facility, as it is a low intensity land use with relatively low traffic volumes and activity. The design of the facility ensures a highly functional layout that will facilitate the efficient access and movement of vehicles through the site.

The development responds to an increased demand for readily available diesel fuel within the metropolitan area, to meet the needs of retail fuel suppliers and local industry.

Based on the information provided within this report and the accompanying plans, it is respectfully requested that the City of Rockingham recommend approval of the development by the Metro Outer Joint Development Assessment Panel.

Appendix A – Certificate of Title

WESTERN AUSTRALIA

REGISTER NUMBER	
2/DP424532	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	N/A

VOLUME 4027 FOLIO 999

RECORD OF CERTIFICATE OF TITLE

UNDER THE TRANSFER OF LAND ACT 1893

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.

BGRoberts

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 2 ON DEPOSITED PLAN 424532

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

ROCKINGHAM 1 PTY LTD OF LEVEL 3 338 BARKER ROAD SUBIACO WA 6008
(AF P339995) REGISTERED 2/11/2022

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

1. *I120923 MEMORIAL. HERITAGE OF WESTERN AUSTRALIA ACT 1990. AS TO PORTION ONLY. LODGED 29/5/2002.
2. *O918469 MORTGAGE TO COMMONWEALTH BANK OF AUSTRALIA REGISTERED 25/10/2021.

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.

SKETCH OF LAND:	DP424532
PREVIOUS TITLE:	254-30A
PROPERTY STREET ADDRESS:	27 DAY RD, EAST ROCKINGHAM.
LOCAL GOVERNMENT AUTHORITY:	CITY OF ROCKINGHAM

NOTE 1: DUPLICATE CERTIFICATE OF TITLE NOT ISSUED AS REQUESTED BY DEALING O918469
NOTE 2: P378879 DEPOSITED PLAN 61713 LODGED

LANDGATE COPY OF ORIGINAL NOT TO SCALE 01/02/2023 11:42 AM Request number: 64658653

Landgate
www.landgate.wa.gov.au

Lot 2 Day Road, East Rockingham

DRAWING SCHEDULE		
CODE	**CONTENT**	**REVISION**
P-00	COVER SHEET AND DRAWINGS SCHEDULE	**Rev-A4**
P-01	PLAN OF SUBDIVISION	**Rev-A4**
P-02	SITE PLAN	**Rev-A4**
P-03	SITE ELEVATIONS AND SHED DETAILS	**Rev-A4**
P-04	FUEL GANTRY DETAILS	**Rev-A4**
P-05	LANDSCAPING PLAN	**Rev-A4**

PHOTO MAP

ISSUE FOR PLANNING PERMIT

PO BOX 494
Flinders Lane
Melbourne VIC 8009

E: info@aksara.com.au
ACN 141 232 877

PROJECT:

ROCKINGHAM DEVELOPMENT

Lot 2 Day Road, East Rockingham

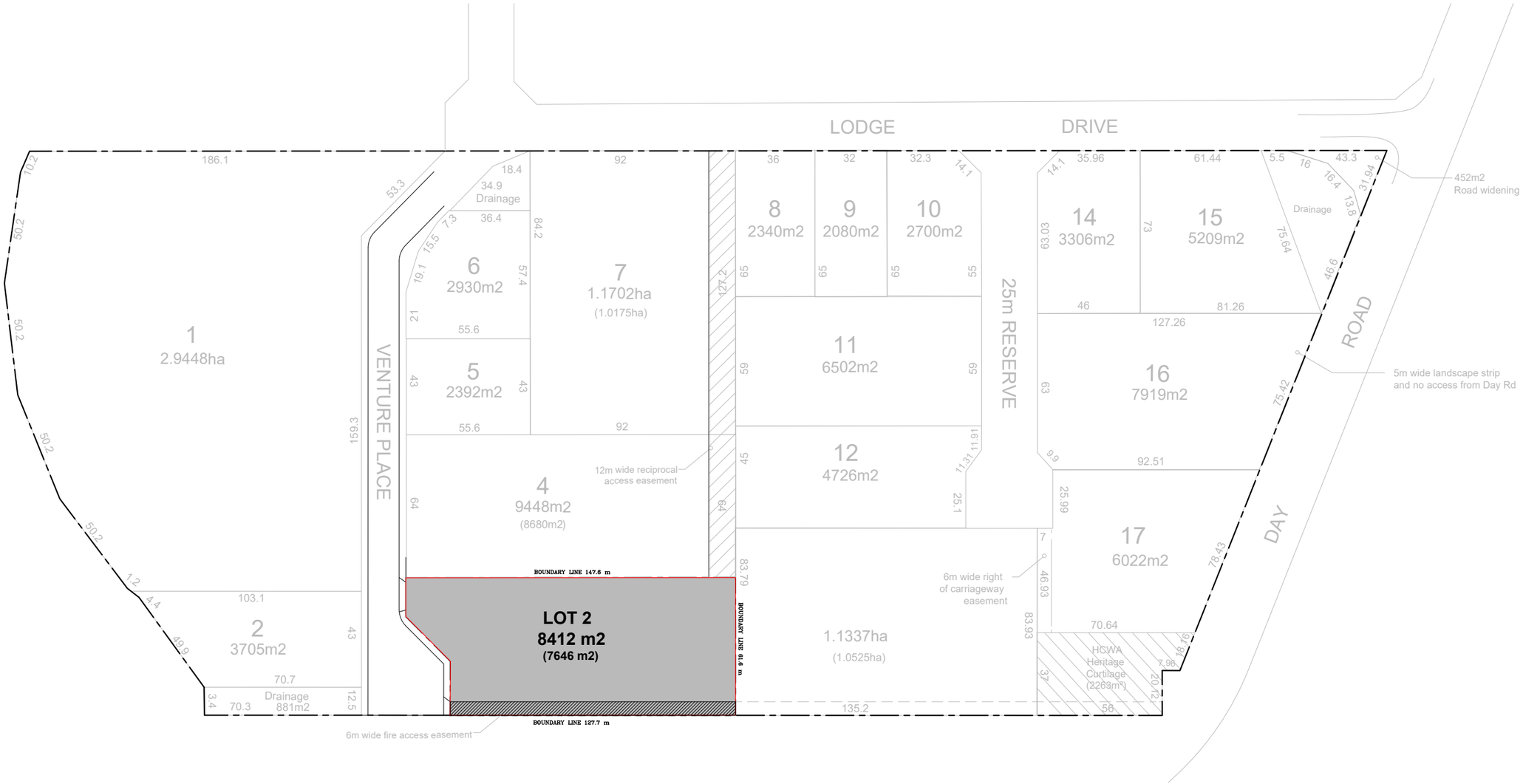
AMMENDMENT	
DATE	01/02/2023
DRAWING TITLE	COVER PAGE
SCALE	N/A

SPECIAL COMMENTS

AMMENDMENT	DATE	BY
FOR PLANNING PERMIT	27/10/2022	JC
FOR PLANNING PERMIT	12/12/2022	JC
FOR PLANNING PERMIT	10/01/2023	JC
FOR PLANNING PERMIT	01/02/2023	JC

DRAWING No.

P-00
Rev-A4



PLAN OF SUBDIVISION scale 1:2000

ISSUE FOR PLANNING PERMIT

PO BOX 494
Flinders Lane
Melbourne VIC 8009

E: info@aksara.com.au
ACN 141 232 877

PROJECT:

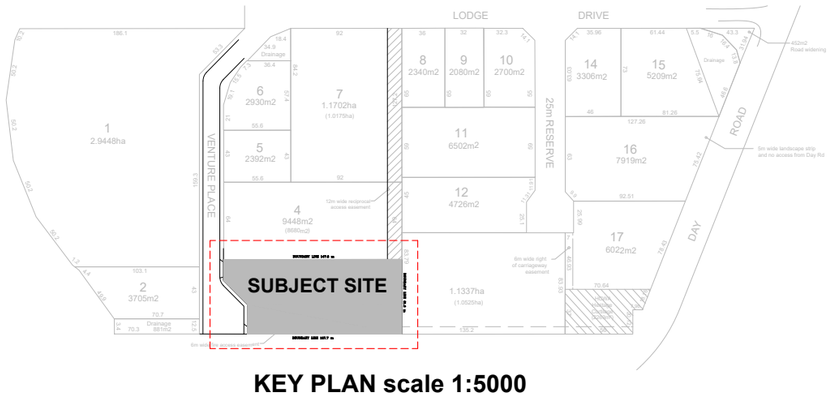
ROCKINGHAM DEVELOPMENT

Lot 2 Day Road, East Rockingham

AMMENDMENT	
DATE	01/02/2023
DRAWING TITLE	PLAN OF SUBDIVISION
SCALE	AS SHOWN @ A3

SPECIAL COMMENTS

AMMENDMENT	DATE	BY	DRAWING No.
FOR PLANNING PERMIT	27/10/2022	JC	**P-01** **Rev-A4**
FOR PLANNING PERMIT	12/12/2022	JC	
FOR PLANNING PERMIT	10/01/2023	JC	
FOR PLANNING PERMIT	01/02/2023	JC	



KEY PLAN scale 1:5000

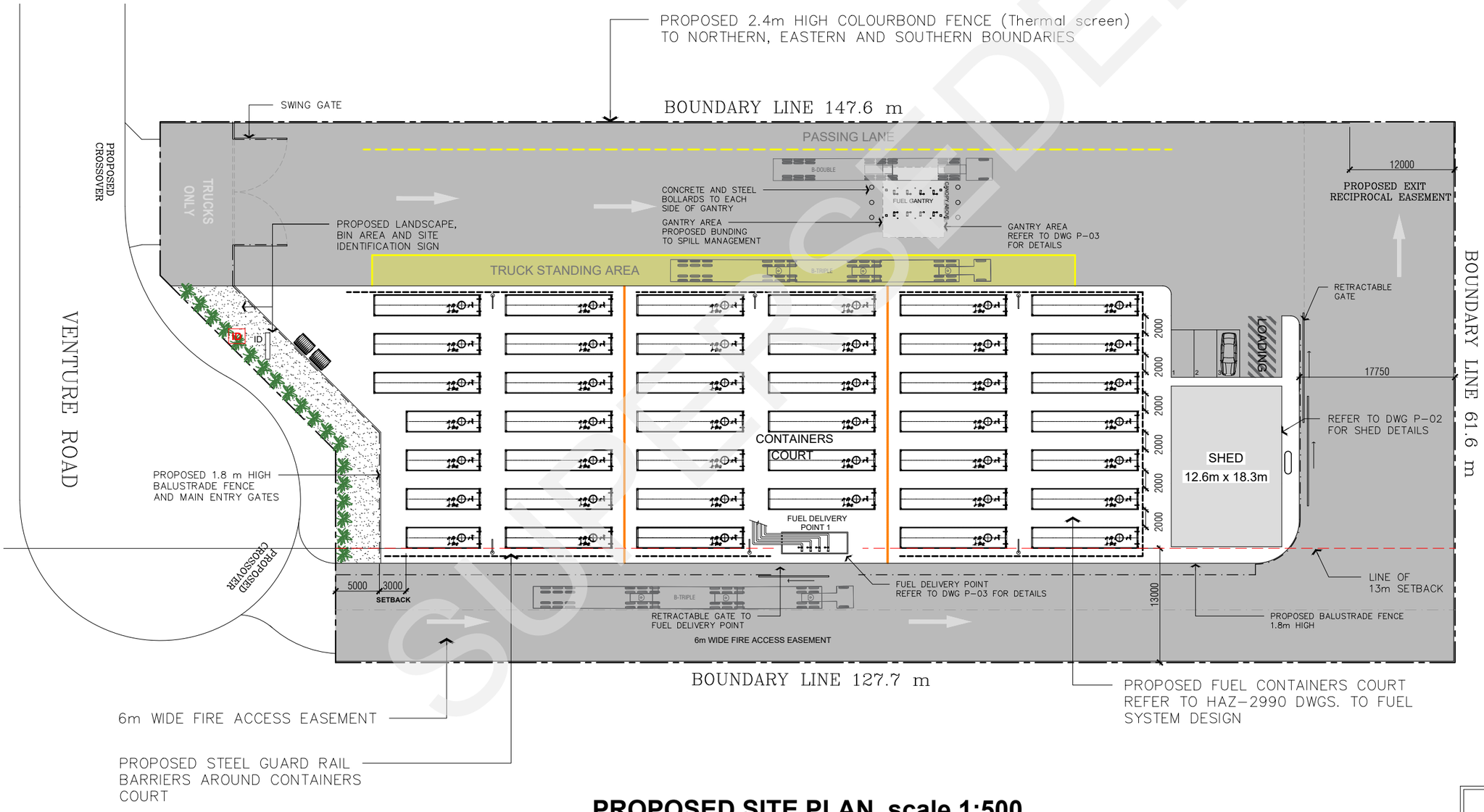
DEVELOPMENT TABLE	
AREA	TOTAL
SUBJECT SITE AREA	8,410 m²
DEVELOPMENT AREA	3,216 m²
WAREHOUSE AREA	230.58 m²
CONTAINERS COURT AREA	2,248 m²

PROPOSED FIREWALL 3.3m HIGH

SETBACK LINES

BOUNDARIES

BALUSTRADE FENCE 1.8m HIGH



PROPOSED SITE PLAN scale 1:500

ISSUE FOR PLANNING PERMIT

SUPERSEDED

PO BOX 494
Flinders Lane
Melbourne VIC 8009

E: info@aksara.com.au
ACN 141 232 877

PROJECT:

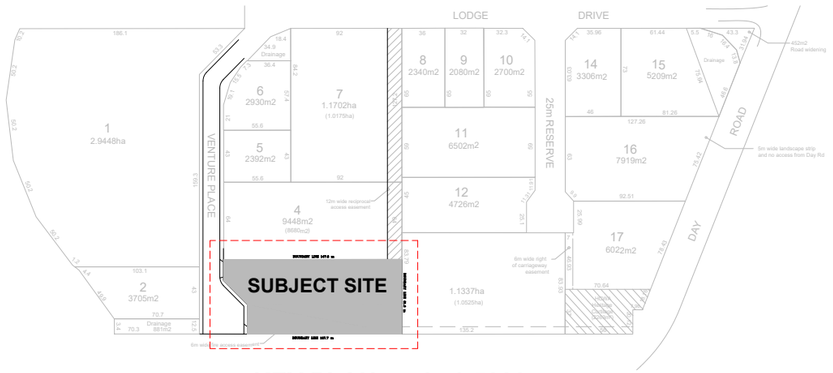
ROCKINGHAM DEVELOPMENT

Lot 2 Day Road, East Rockingham

AMMENDMENT	
DATE	01/02/2023
DRAWING TITLE	SITE PLAN
SCALE	AS SHOWN @ A3

SPECIAL COMMENTS

AMMENDMENT	DATE	BY	DRAWING No.
FOR PLANNING PERMIT	27/10/2022	JC	
FOR PLANNING PERMIT	12/12/2022	JC	**P-02**
FOR PLANNING PERMIT	10/01/2023	JC	
FOR PLANNING PERMIT	01/02/2023	JC	**Rev-A4**



KEY PLAN scale 1:5000

PROPOSED CROSSOVERS DETAILS:

A– NORTHERN CROSSOVER. Ingress for fuel loading truck ONLY.

B– SOUTHERN CROSSOVER. Ingress for fuel delivering truck and visitor light vehicles ONLY. Fire access easement to local authority requirements.

C– EASTERN CROSSOVER. Reciprocal egress for fuel trucks and light vehicles to Lodge Drive.

D– FIRE ACCESS WAY EASEMENT. Fire services access, No ingress or egress of vehicles other than fire services vehicles.

DEVELOPMENT TABLE	
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WAREHOUSE AREA	230.58 m²
CONTAINERS COURT AREA	2,248 m²

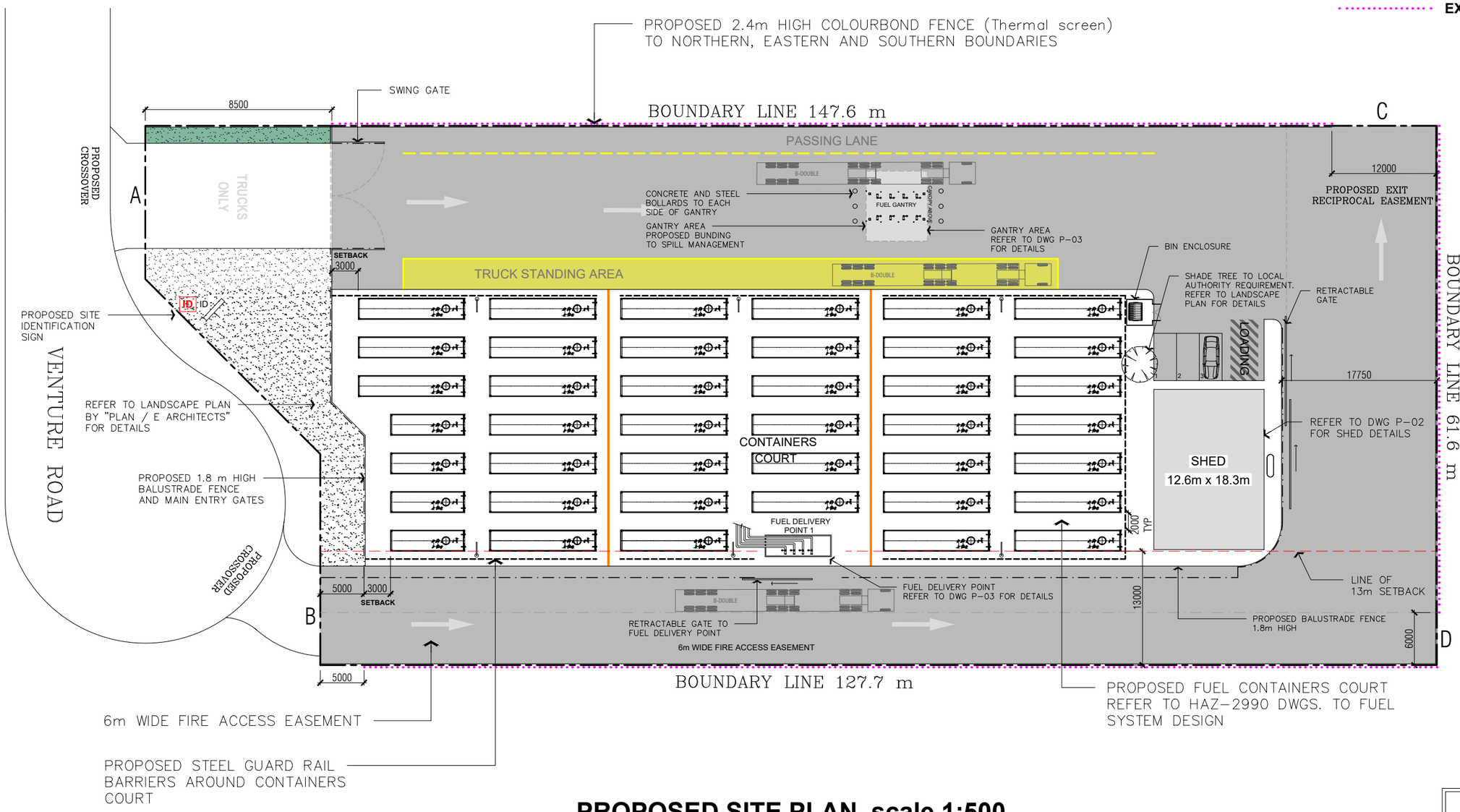
PROPOSED FIREWALL 3.3m HIGH

SETBACK LINES

BOUNDARIES

BALUSTRADE FENCE 1.8m HIGH

EXTEND OF FENCE 2.4m HIGH



PROPOSED SITE PLAN scale 1:500

ISSUE FOR PLANNING PERMIT

PO BOX 494
Flinders Lane
Melbourne VIC 8009

E: info@aksara.com.au
ACN 141 232 877

PROJECT:

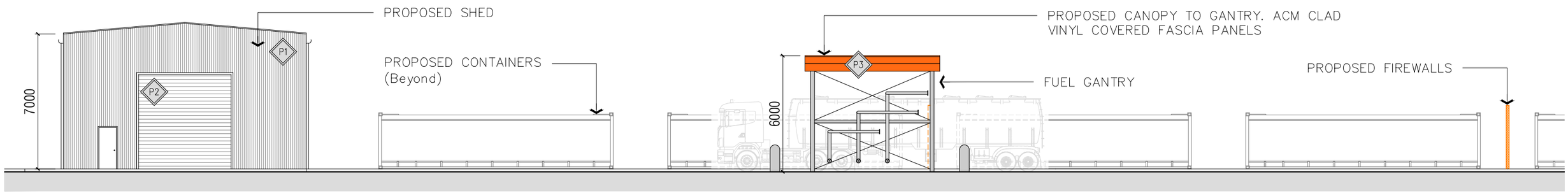
ROCKINGHAM DEVELOPMENT

Lot 2 Day Road, East Rockingham

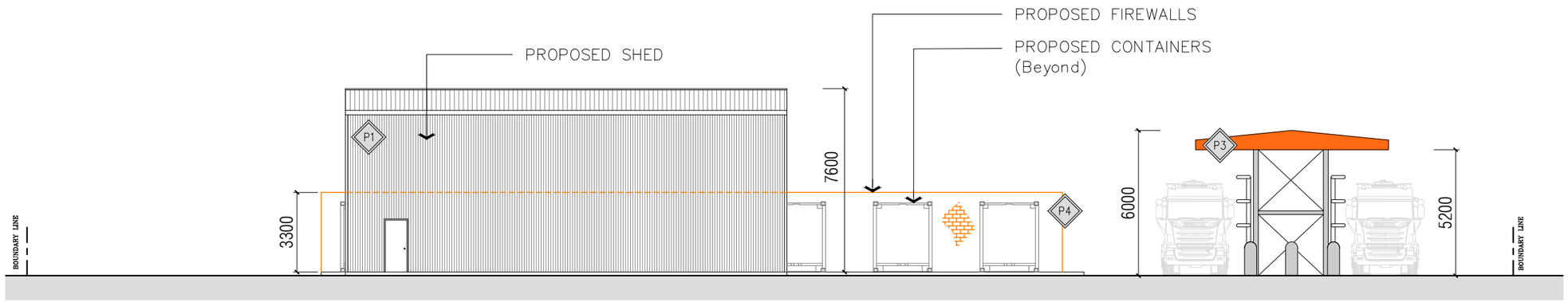
AMMENDMENT	
DATE	27/04/2023
DRAWING TITLE	SITE PLAN
SCALE	AS SHOWN @ A3

SPECIAL COMMENTS

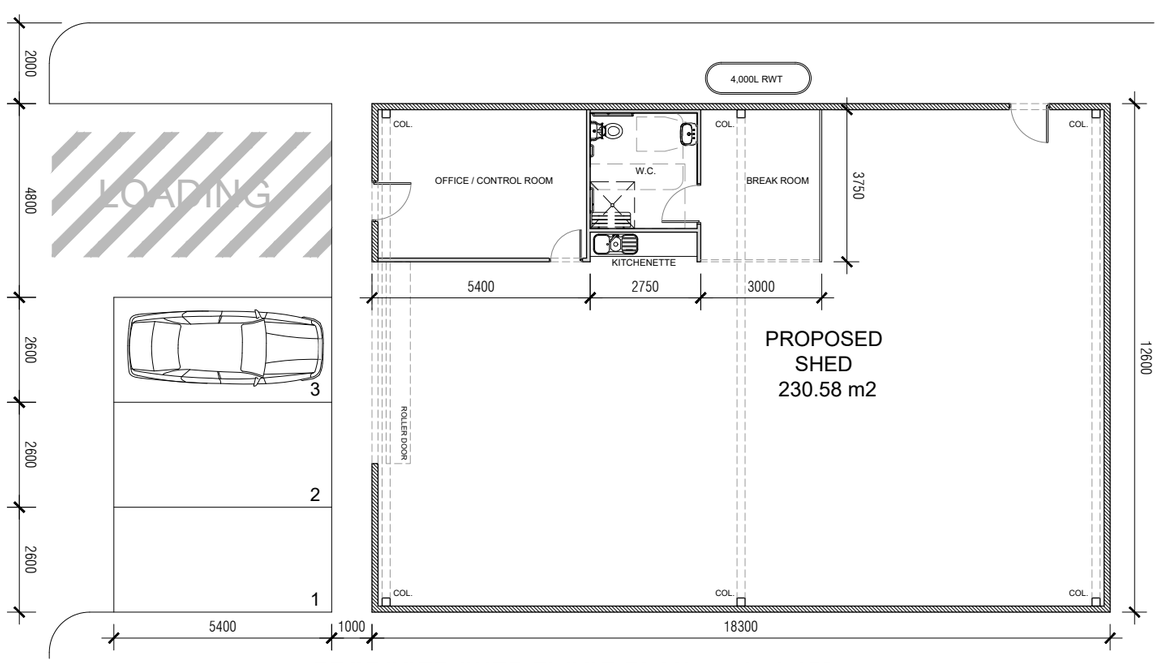
AMMENDMENT	DATE	BY	DRAWING No.
FOR PLANNING PERMIT	10/01/2023	JC	
FOR PLANNING PERMIT	01/02/2023	JC	**P-02**
FOR PLANNING PERMIT	12/04/2023	JC	
FOR PLANNING PERMIT	27/04/2023	JC	**Rev-A6**



PARTIAL SITE NORTH ELEVATION scale 1:200



PARTIAL SITE EAST ELEVATION scale 1:200



PROPOSED SHED FLOOR PLAN scale 1:150

FINISHES SCHEDULE				
ID	FINISH / MATERIAL	SPECIFICATIONS	LOCATION	INTERNAL / EXTERNAL
P1	TRIMDEK WALL SHEETING	COLOUR FINISH TO MATCH TENANT SPECS.	WAREHOUSE	EXTERNAL
P2	COLORBOND ROLLER DOOR	COLOUR FINISH TO MATCH TENANT SPECS.	WAREHOUSE	EXTERNAL
P3	ALUMINUM COMPOSITE	SELECTED PAINT FINISH TO MATCH TENANT SPECS.	CANOPY FASCIA AND	EXTERNAL
P4	CONCRETE BLOCK	COLOUR TO BE CONFIRMED	FIREWWALL	EXTERNAL

DEVELOPMENT TABLE	
AREA	TOTAL
SUBJECT SITE AREA	8,410 m²
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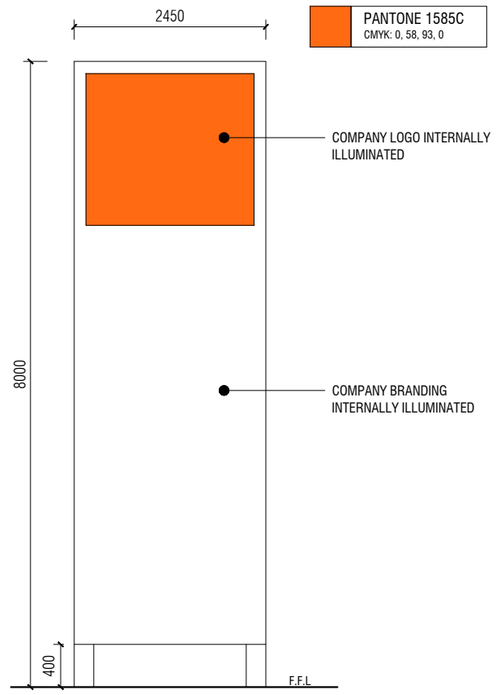


ID **ID SIGNAGE ILLUMINATED**

SIGNAGE SCHEDULE

CODE	DESCRIPTION	ILLUMINATION	QTY.
ID	SITE BUSINESS IDENTIFICATION 8.0 m High x 2.45 m Wide	☑	1 DOUBLE SIDED

PROPOSED ELEVATIONS & SHED PLAN

ISSUE FOR PLANNING PERMIT

PO BOX 494
Flinders Lane
Melbourne VIC 8009

E: info@aksara.com.au
ACN 141 232 877

PROJECT:

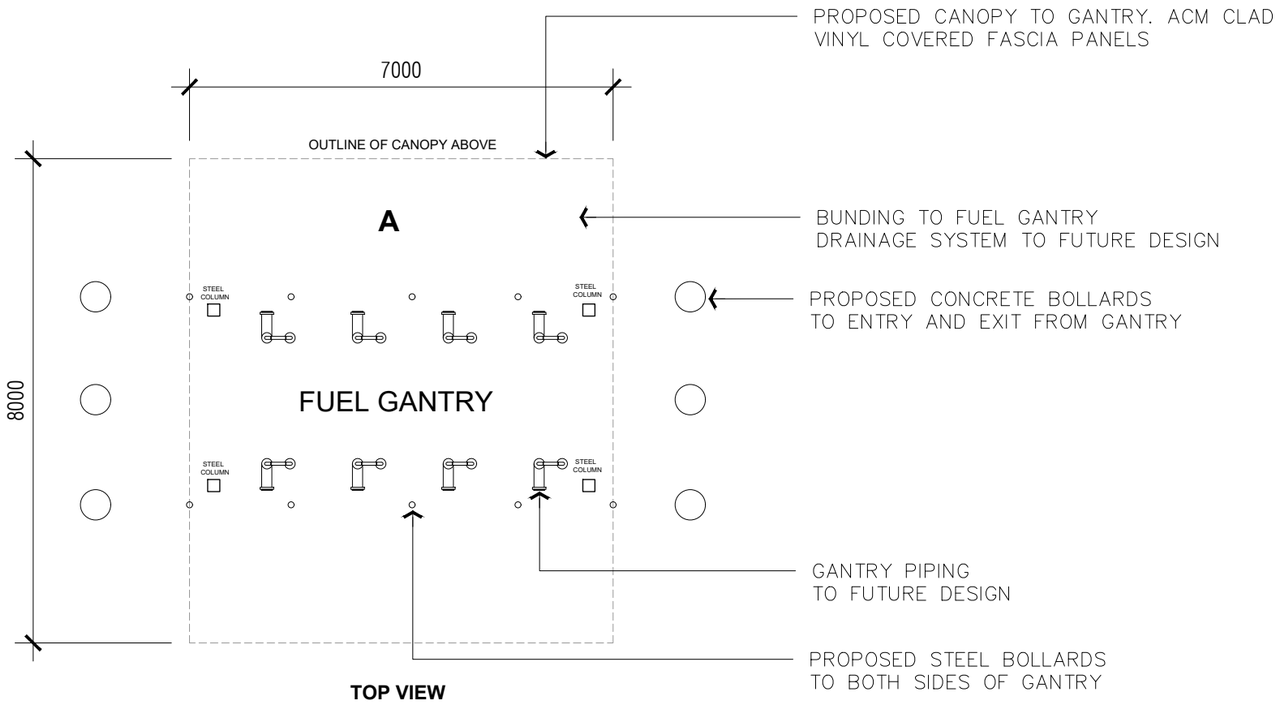
ROCKINGHAM DEVELOPMENT

Lot 2 Day Road, East Rockingham

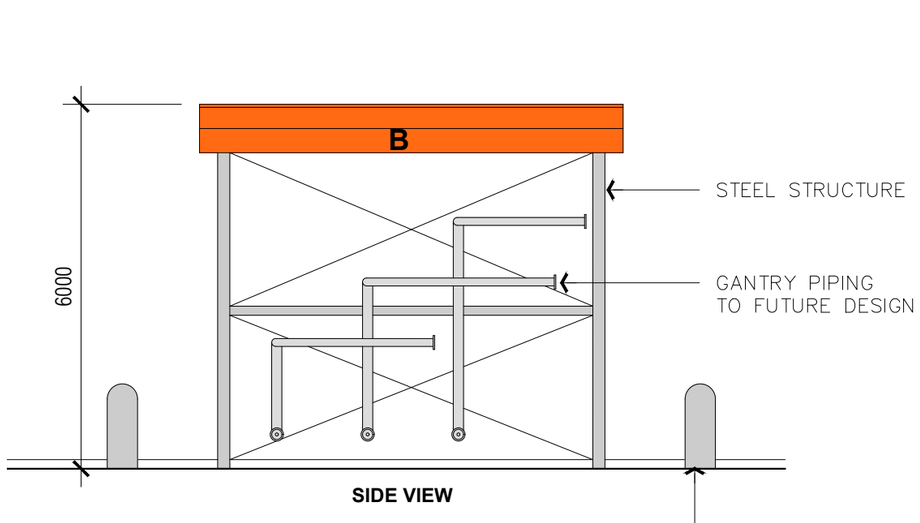
AMMENDMENT	
DATE	01/02/2023
DRAWING TITLE	SITE PLAN
SCALE	AS SHOWN @ A3

SPECIAL COMMENTS

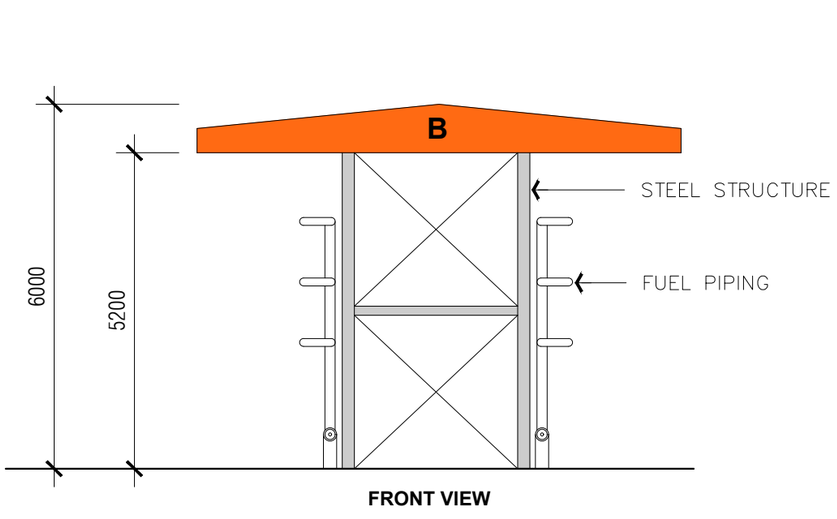
AMMENDMENT	DATE	BY	DRAWING No.
FOR PLANNING PERMIT	27/10/2022	JC	
FOR PLANNING PERMIT	12/12/2022	JC	**P-03**
FOR PLANNING PERMIT	10/01/2023	JC	
FOR PLANNING PERMIT	01/02/2023	JC	**Rev-A4**



TOP VIEW

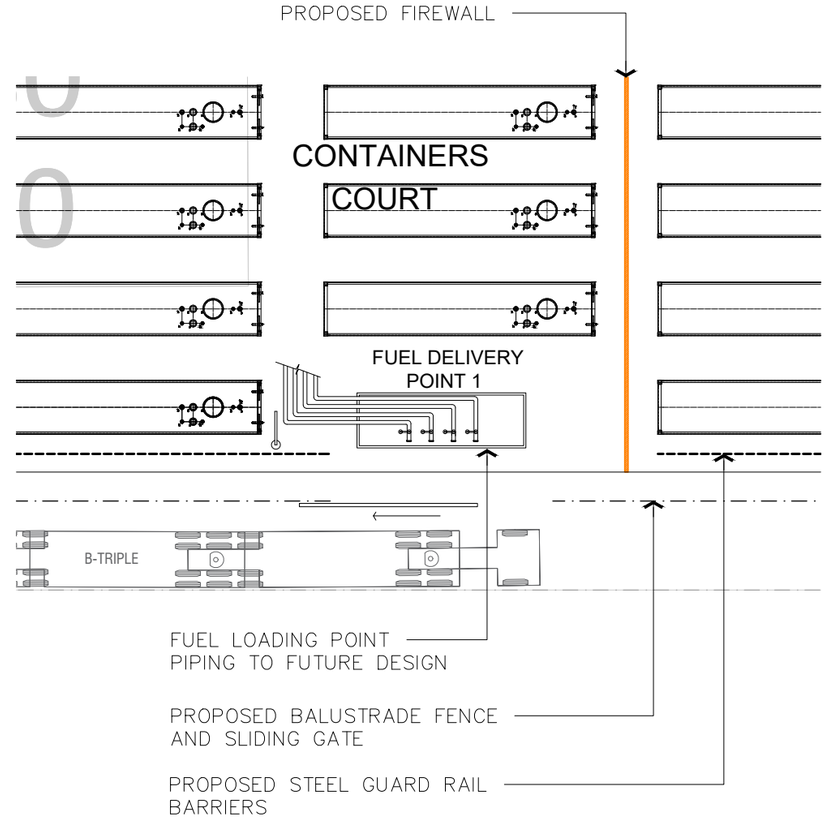


SIDE VIEW



FRONT VIEW

FUEL GANTRY DETAILS



FUEL DELIVERY POINT DETAILS

FUEL GANTRY DETAILS:

A– FUEL GANTRY TO FUTURE FUEL SYSTEM DESIGN

B– CANOPY TO FUEL GANTRY
Orange Colour to match tenant specs

Canopy lighting to be directional
No Spotlights to be used.

ISSUE FOR PLANNING PERMIT

PO BOX 494
Flinders Lane
Melbourne VIC 8009

E: info@aksara.com.au
ACN 141 232 877

PROJECT:

ROCKINGHAM DEVELOPMENT

Lot 2 Day Road, East Rockingham

AMMENDMENT	
DATE	01/02/2023
DRAWING TITLE	GANTRY & FUEL DELIVERY
SCALE	N/A

SPECIAL COMMENTS

AMMENDMENT	DATE	BY
FOR PLANNING PERMIT	27/10/2022	JC
FOR PLANNING PERMIT	12/12/2022	JC
FOR PLANNING PERMIT	10/01/2023	JC
FOR PLANNING PERMIT	01/02/2023	JC

DRAWING No.

P-04
Rev-A4

Appendix C – Planning Assessment

Site Layout, Building Orientation and Materials

Development Standard	Compliance	Comment
Office and administrative buildings must be designed to address the street, providing a legible entrance for pedestrians and a positive contribution to the streetscape through the use of glazing, a mixture of materials and architectural features.	**NA**	The proposed staff area and office are located within the warehouse area and are primary associated with maintenance/management of the facility. No visitors are anticipated and therefore the office facilities are well set back from the street.
The ground floor facades of all buildings visible from the primary road or open space area must be of masonry construction with exposed aggregate or coated with a textured finish or equivalent. The second floor or its equivalent may be constructed of other materials.	**Y**	Warehouse building is well setback from the primary street.
Walls on side or rear boundaries must be exposed aggregate or coated with a textured finish or equivalent.	**NA**	No boundary walls proposed.
Customer service areas and employee amenities must be located within the front portion of the buildings, with operational areas being located to the rear of the site.	**Y**	Staff Amenities are located at the front entrance to the warehouse, with direct access from the staff parking area.
Corner lots must apply articulated elevations to both street frontages.	**NA**	Not a corner lot.
Buildings must be oriented to take advantage of passive solar values and prevailing winds for improved energy efficiency.	**NA**	All structures at the site are primary used for fuel storage and site maintenance.
Direct vehicle access to the western and eastern sides of Patterson Road and the western side of Mandurah Road is not permitted.	**NA**	No direct vehicle access proposed via Patterson Road or Mandurah Road.

Setbacks

	Required Minimum Setback	Proposed	Compliant
Primary Street	Major Structures: 25 metres	23 metres	**N**
	Landscaping: 10 metres, plus the street verge	9.5 metres	**Y**
Side and Rear Setbacks	In accordance with Building Code of Australia	Side: 13 metres Rear: 17.75 metres	**Y**

Car Parking

Development Standard	Compliance	Comment
Car parking provision must be in accordance with the minimum requirements of Table No. 2 of TPS 2;	Y	TPS 2 contemplates a rate of 1 car bay per 100m^2 NLA, generating a requirement for 3 bays. The proposed car bays are consistent with this requiremenet.
Parking for service/haulage vehicles is to be separated from visitor/staff parking areas;	Y	Truck standing area is located separate to visitor/staff parking area.
The number and location of crossovers must consider traffic safety, ease of vehicle movement and the location of existing and proposed vegetation;	Y	Refer Section 6.1 – Traffic Impact Statement.
All commercial vehicles and passenger vehicles must be able to enter and leave the site in a forward gear;	Y	Vehicles enter the site from Venture Place and leave the site via the reciprocal access easement to the north eastern lot boundary.
Provide shade trees at a ratio of 1 per 4 car bays, evenly throughout customer/staff parking areas;	Y	3 staff car parking bays proposed. Landscaping plan to be provided as a condition of development approval.
Provide clear footpaths for pedestrian movement separate from areas of frequent vehicular movement;	Y	Clear footpaths are provided from the car parking area to the warehouse/office area.
Parking and access for people with disability must be designed in accordance with AS 2890.6.2009 – Parking Facilities Off-street parking for people with disabilities (as amended);	N	Car parking bays are provided to cater for the maximum 3 employees that will be on site at one time. As the land use is solely for the purpose of fuel storage and subject to controlled access by the operator, few visitors are anticipated and will only access the site for short periods of time.
Car parking areas must be designed in accordance with AS 2890.1 (as amended);	Y	
Car parking areas must be constructed using concrete, bitumen or trafficable brick paving.	Y	Car parking area constructed of concrete.

Fencing

Development Standard	Compliance	Comment
Security fencing will be permitted on side and rear lot boundaries;	Y	
Security fencing within the street setback area is discouraged and must be considered on a case-by-case basis. Where security fencing is required to the street frontage, the fence line should be setback at the building line or behind the required landscaping area;	Y	Fencing is proposed to all side and rear boundaries. Security fencing is proposed to the street front located behind the required landscaped area.
The minimum standard for fencing is black PVC coated galvanised link mesh. Colourbond or fibre cement fencing is not supported within the primary or secondary street setback;	Y	2.4 metre high colourbond fencing to all side and rear boundaries. 1.8 metre high balustrade fencing (incorporating gates) is proposed to the street front (behind the landscaped area), as well as along the southern and eastern extents of the container court and shed.
Masonry fencing is permitted subject to open style fencing being incorporated to facilitate passive surveillance to the street:	NA	
Long expanses of fencing or solid wall structures are generally not supported to prevent monotony; and	Y	Colourbond fencing provided to side and rear boundaries only.
Fencing to otherwise be in accordance with the City's Fencing Local Law.	NA	

Service, Storage and Display Areas

Development Standard	Compliance	Comment
Loading and storage areas are to be effectively screened with appropriately placed, quality visual screening. Landscaping and approved obscure fencing can be utilised to screen such areas;	Y	Fuel storage tanks are screen via colorbond fencing to all boundaries.
Service and storage areas must be located behind the front building line; and	Y	
Adequate provision for turning and reversing of vehicles on-site and appropriately sized crossover is to be provided.	Y	

Plant and Equipment

Development Standard	Compliance	Comment
All plant and equipment is to be screened or placed remote from the street public areas where appropriate.	Y	

Outbuildings and Other Structures

Development Standard	Compliance	Comment
Where numerous separate buildings are located on the site, the design of each should be considered with a 'whole of site' planning approach, so that they may present as an integrated development; and	Y	
Future expansion and staging should be considered so as to integrate with these buildings. The use of colours, form and materials should otherwise match existing buildings on site.	Y	

Landscaping

Development Standard	Compliance	Comment
Landscaping and revegetation of buffers to have a 3 tier composition, to include ground covers (grasses etc.), middle section (bushes, small trees) and upper storey (larger trees etc.).	Y	• Indicative landscape plan provided. Anticipated that landscaping will be subject to a condition of approval if required.
The Landscape Plan as a condition of Development Approval must include a list of planting species, the density and location of plants. The plant species selected must be in accordance with DevelopmentWA's Development Guidelines or Water Corporation's Water Wise plant list.	Y	
Verge areas are to be landscaped and reticulated at the time of development by the owner/operator. This may include turf, mulch or some other form of groundcover, unless where natural vegetated swales have already been installed by DevelopmentWA at the time of subdivision. The owner/operator is to maintain landscaping accordingly.	Y	
Shade trees in the verge (outside of buffer areas) must be provided at 1 tree per 10 metres of street frontage, unless otherwise approved.	Y	
Existing native vegetation must be retained in buffer areas and where practical, existing trees are to be retained elsewhere.	Y	
Landscaping is to be provided within parking areas to provide shade for parked vehicles and soften the impact of hardstand areas. Shade trees are to be provided at a ratio of 1 per 4 car bays, evenly throughout parking areas.	Y	
Soil conditioner (humus) and mulch must be used in all planted areas to help retain soil moisture and nutrients. Fertilisers should be slow release to minimise leaching of nutrients into groundwater as coastal soils have a low nutrient retention capacity.	Y	
Landscaping is to be used to screen service and storage areas.	Y	
On-site and verge landscaping must be maintained for the life of the development.	Y	
Landscaping to be considered together with Planning Policy 3.4.3 – Urban Water Management.	Y	

Appendix D – Traffic Impact Statement

Transport Impact Statement

Lot 2 Day Road, East Rockingham

CW1200491 / 304900873

Prepared for
Aksara Pty Ltd
31 January 2023

Cardno

now

Stantec

Contact Information

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226 Adelaide Terrace
Perth WA 6000

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Fax +61 8 9468 9664

Document Information

Prepared for	Aksara Pty Ltd
Project Name	Lot 2 Day Road, East Rockingham
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Version Number	C

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Effective Date	31/01/2023

Approved By:

Ray Cook
Business Leader – Traffic and Transport Planning

Date Approved	31/01/2023

Document History

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B	16/12/2022	Updated Plans	EH	DH
C	31/01/2023	For Issue	EH	DH

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1 Introduction

1.1 Background

Cardno now Stantec has been commissioned by Aksara Pty Ltd ('the Client') to prepare a Transport Impact Statement for a proposed fuel storage facility located at Lot 2 Day Road, East Rockingham ('Site') within the City of Rockingham.

This report has been prepared in accordance with the *Western Australian Planning Commission (WAPC) Transport Impact Assessment Guidelines for Developments: Volume 4 – Individual Developments (2016)* and the checklist is included at **Appendix C**.

1.2 Existing Site

The Site is located at Lot 2 Day Road, East Rockingham. **Figure 1-1** shows an aerial image of the Site.

The Site currently comprises of a single residential dwelling and is predominately surrounded by rural and industrial development, within an approved industrial estate.

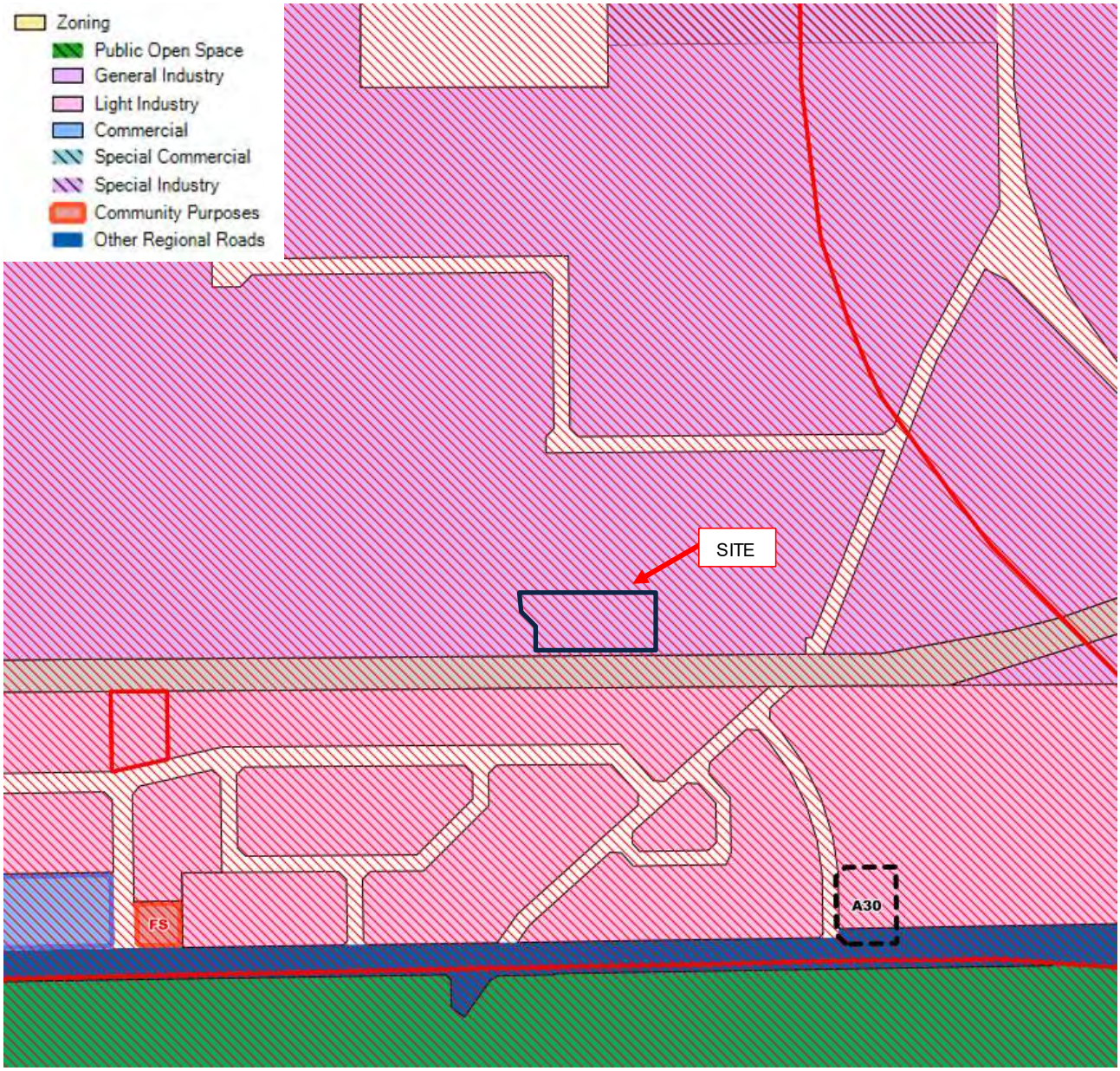
Figure 1-1 Aerial Image of Site

Source: MetroMap (2022)

1.3 Existing Land Use

Under the provisions of the *City of Rockingham Town Planning Scheme No. 2 (TPS2),* the Site is zoned as '*General Industry*" use, as shown in **Figure 1-2.** The Site is surrounded by other light industrial uses to the east and west, with general industrial uses to the south.

Figure 1-2 Site Locality within City of Rockingham Zoning Map



Source: City of Rockingham Town Planning Scheme No.2

2 Road Network

2.1 Existing Road Network

Road Classifications are defined in the Main Roads Functional Hierarchy as follows:

- **Primary Distributors (light blue):** Form the regional and inter-regional grid of Main Roads WA traffic routes and carry large volumes of fast-moving traffic. Some are strategic freight routes and all are National or State roads. They are managed by Main Roads.
- **Regional Distributors (red):** Roads that are not Primary Distributors, but which link significant destinations and are designed for efficient movement of people and goods within and beyond regional areas. They are managed by Local Government.
- **District Distributor A (green):** These carry traffic between industrial, commercial and residential areas and connect to Primary Distributors. These are likely to be truck routes and provide only limited access to adjoining property. They are managed by Local Government.
- **District Distributor B (dark blue):** Perform a similar function to District Distributor A but with reduced capacity due to flow restrictions from access to and roadside parking alongside adjoining property. These are often older roads with traffic demand in excess of that originally intended. District Distributor A and B roads run between land-use cells and not through them, forming a grid that would ideally be around 1.5 kilometres apart. They are managed by Local Government.
- **Local Distributors (orange):** Carry traffic within a cell and link District Distributors at the boundary to access roads. The route of the Local Distributor discourages through traffic so that the cell formed by the grid of District Distributors only carries traffic belonging to or serving the area. These roads should accommodate buses but discourage trucks. They are managed by Local government.
- **Access Roads (grey):** Provide access to abutting properties with amenity, safety and aesthetic aspects having priority over the vehicle movement function. These roads are bicycle and pedestrian friendly. They are managed by Local Government.

The Site is bounded by the future Venture Place to the west and surrounded by industrial development. The surrounding road network is further described in **Table 2-1** and **Figure 2-1** shows the hierarchy as per the Main Roads WA Road Information Mapping System. Venture Place does not currently exist but is planned to be a north-south oriented road linking to Lodge Drive on the northern end and a cul-de-sac to the southern end.

Table 2-1 Road Network Classification

Road Name	Road Hierarchy	Jurisdiction	No of Lanes	No of Footpaths	Approximate Width (m)	Speed Limit (km/h)
Lodge Drive	Access Road	Local Government	2	0	8.2m	50 km/h
Day Road	Distributor A	Local Government	2	0	9.2m	60-70 km/h
Mandurah Road	Regional Distributor	Local Government	2	0	8.1m	70-80 km/h

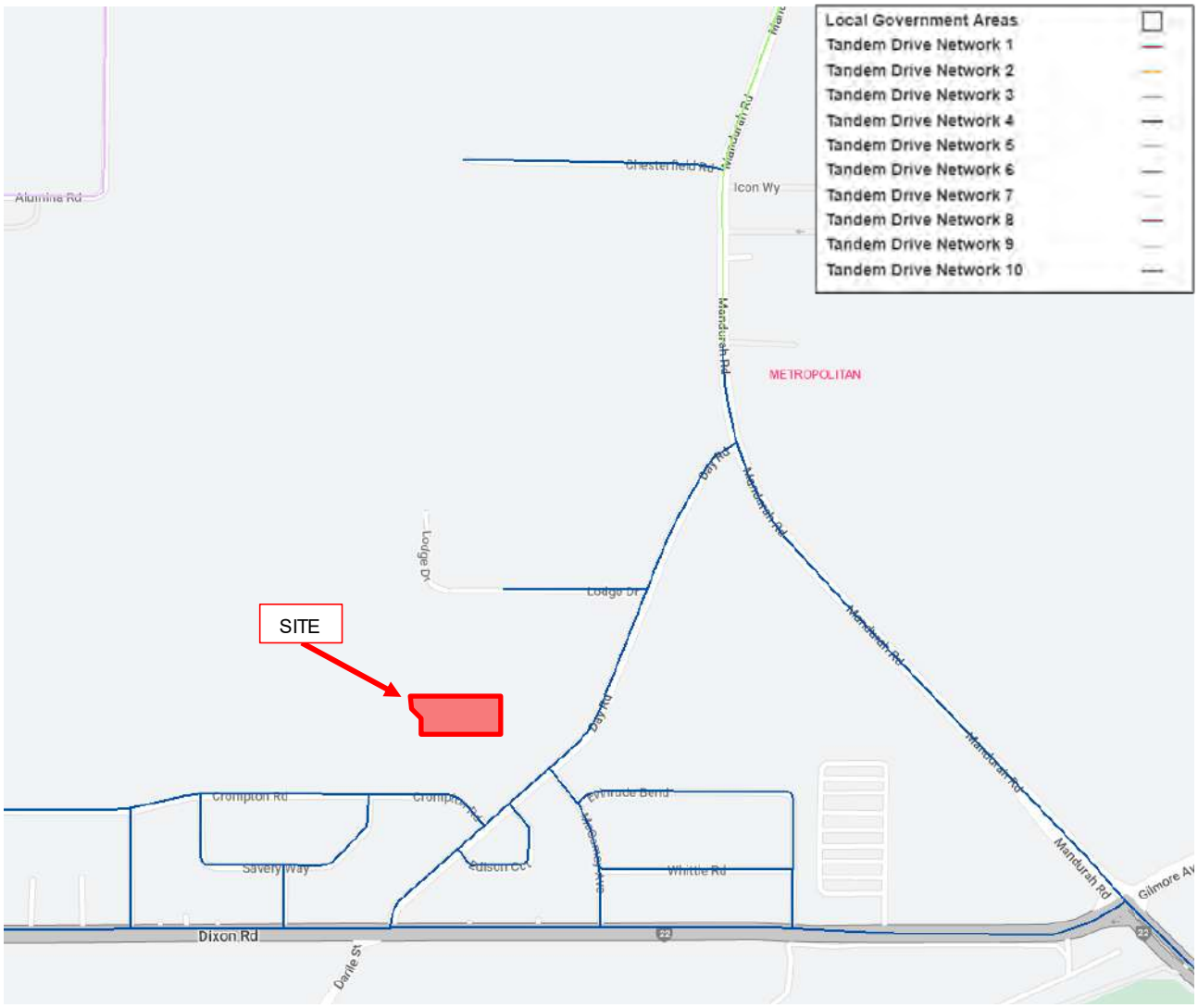
Figure 2-1 Road Hierarchy

Source: Main Roads WA Road Information Mapping System (2022)

2.2 Existing Restricted Access Vehicle (RAV) Network

The existing RAV network is shown in **Figure 2-2**. There is currently no RAV designation for the proposed Venture Place as it currently does not exist. Lodge Drive and Day Road are classified as RAV 4 whereas Mandurah Road is classified as RAV 4 for the section south of Day Road and RAV 5 for the section north of Day Road. It is anticipated that RAV 7 vehicles will be accommodated by the Site when the development is operational.

Figure 2-2 Existing RAV Network



Source: Main Roads HVS Network Map

2.3 Traffic Volumes

Existing traffic volumes were sourced from Main Road WA Traffic Map and are summarised in **Table 2-2**.

Table 2-2 Traffic Volumes

Road	Date	Existing Traffic Volumes			
		Weekday AM Peak Hour	Weekday PM Peak Hour	Daily	HV%
Mandurah Road (South of Office Road)	2020/21	914	1,096	9,884	5.5%

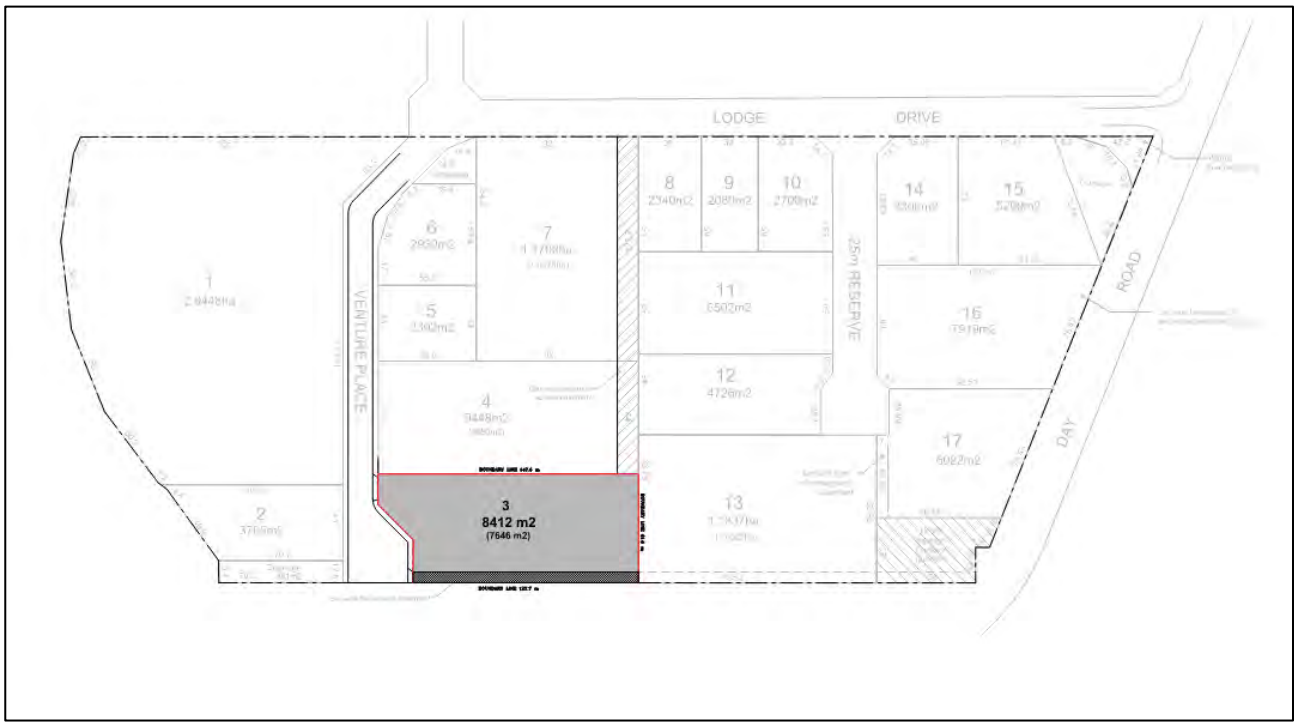
Source: Main Roads Traffic Map

2.4 Future Road Network

As part of the Rockingham Industrial Estate, several new roads branching off Lodge Drive are planned which would provide access to each of these lots. The proposed roads are summarised below and shown in **Figure 2-3**.

- Venture Place
- Unnamed 25m road reserve
- 12m wide reciprocal easement access road (one way northbound)
- 6m wide right of carriageway easement

Figure 2-3 Road Network within the Rockingham Industrial Estate



Source: Hesperia (Dec 2022)

3 Public Transport Facilities

3.1 Existing Public Transport Facilities Existing Public Transport Facilities

The Site is not currently directly served by any existing public transport services. The closest public transport service is bus route 549 that runs along Dixon Road located approximately 750m southwest "as the crow flies". The route and the frequency of this service is summarised in **Table 3-1.**

Table 3-1 Bus Routes

Route No.	Route Description	Peak Service Frequency (at nearest bus stop)	
		Weekdays	Saturday
549	Fremantle Stn – Rockingham Stn via Rockingham Rd & Kwinana Town Centre	20 mins	30 mins

Overall, public transport within the surrounding area of the Site is poor due to the limited number of services available. Access to the nearest bus stop to/from the Site is inconvenient as it lacks a direct route. The actual walking distance to the bus stop on Dixon Road is excessive (approximately 2km) as the southern boundary of the Site is blocked off by other industrial developments which will require pedestrians to reach the bus stop via Lodge Drive and Day Road. Additionally, this walking route also lacks footpaths along Lodge Drive and Day Road.

3.2 Future Public Transport Facilities

The Public Transport Authority (PTA) have advised that there are no changes proposed to the existing public transport network in the short term.

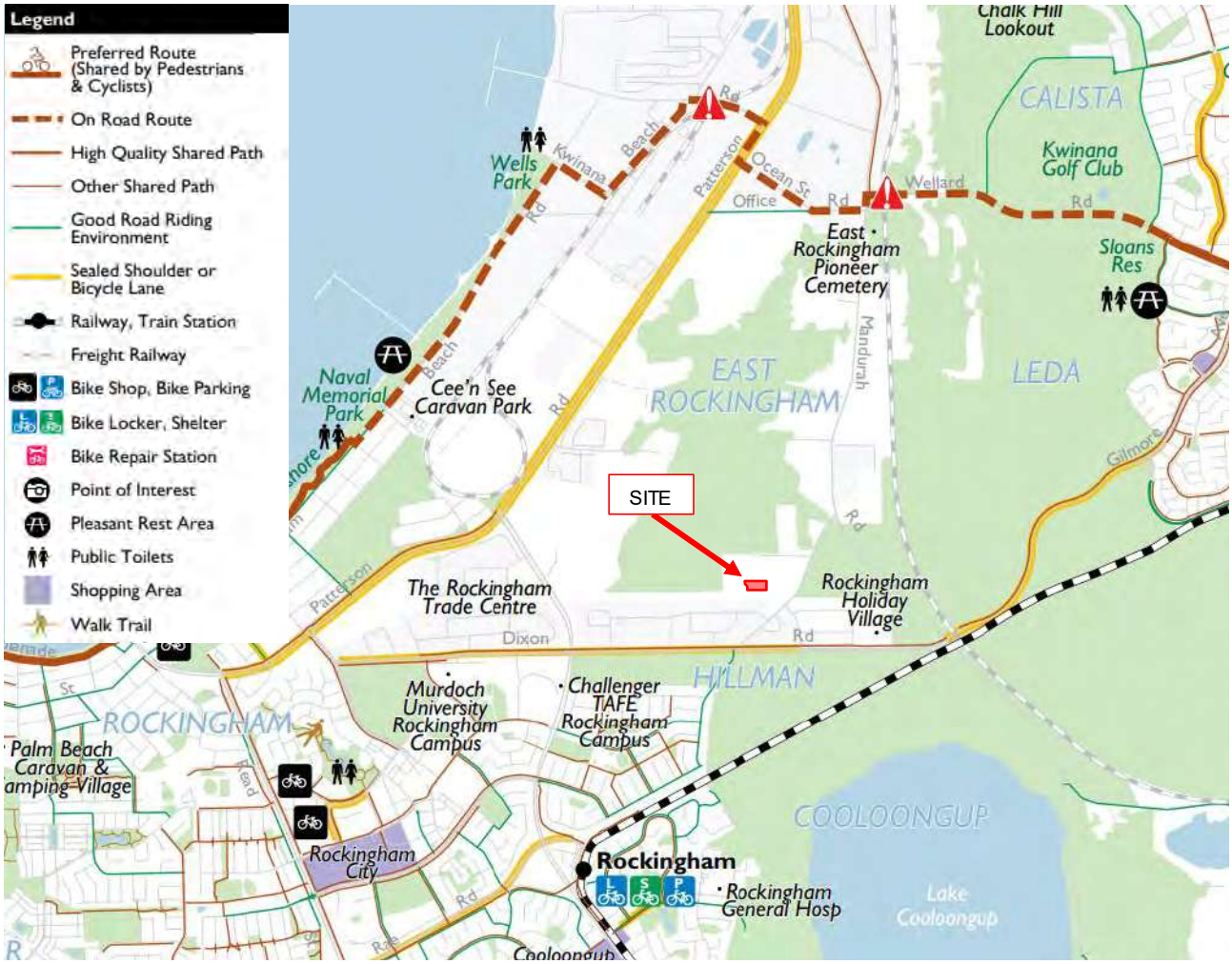
4 Pedestrian/Cycle Networks and Facilities

4.1 Existing Pedestrian/Cycle Networks

There is currently no walking or cycling paths along Lodge Drive. The nearest available waling and cycling paths is on Dixon Road where a shared path is provided on the northern side along with sealed shoulder cycling lanes. **Figure 4-1** shows the cycling network within the surrounding area of the Site.

Overall, pedestrian and cycling amenity within the surrounding area is poor due to the lack of supporting infrastructure. As the surrounding area comprises of industrial developments, the demand for these facilities are generally low as most employees and visitors will likely travel by private vehicle.

Figure 4-1 Existing Pedestrian / Cycle Networks

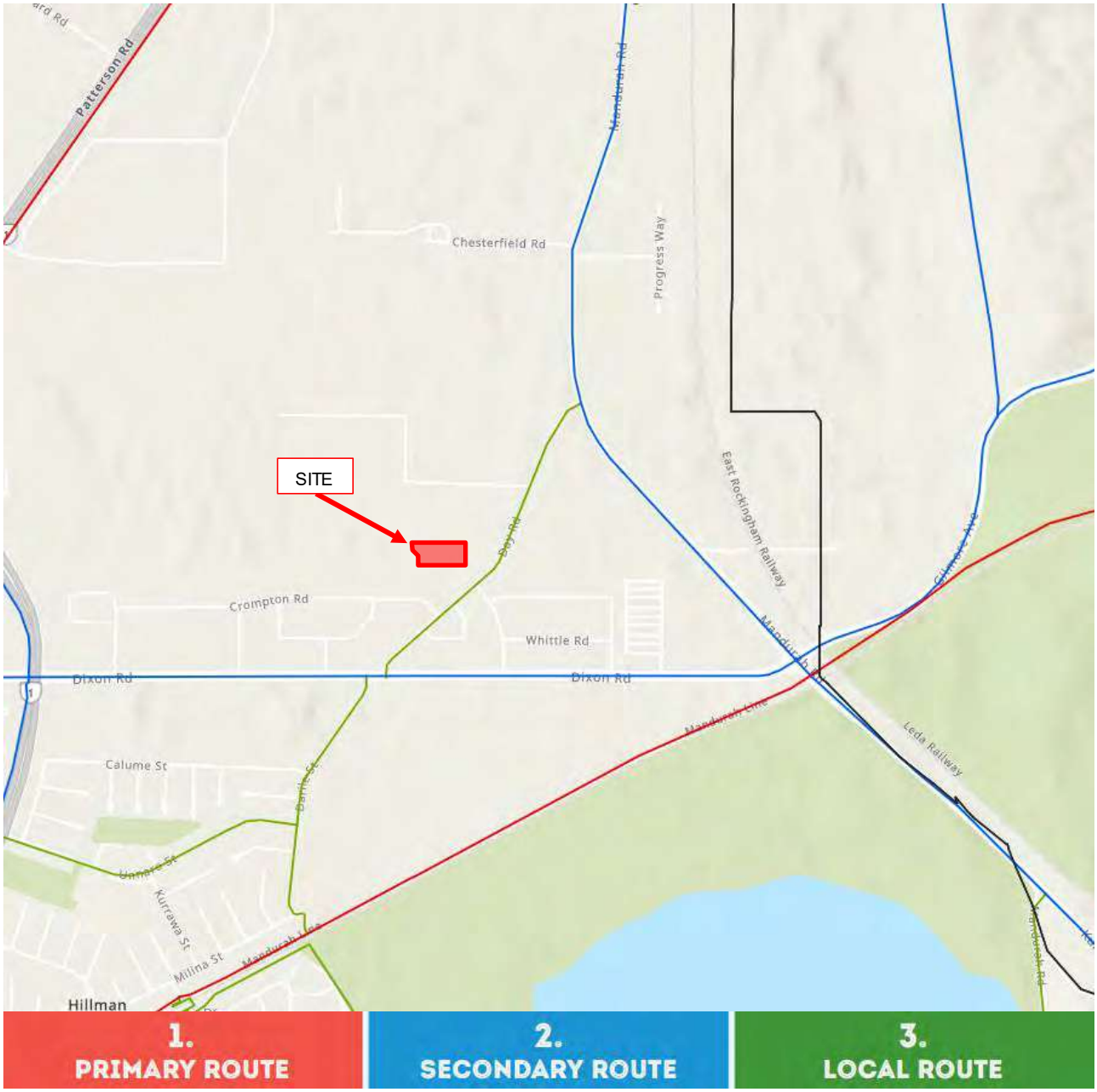


Source: Department of Transport Perth to Rockingham Bike Route Map

4.2 Future Pedestrian/Cycle Networks

A review of the Department of Transport's Long Term Cycle Network shows the only planned route within the vicinity of the Site is a local route along Day Road.

Figure 4-2 Long Term Cycle Network



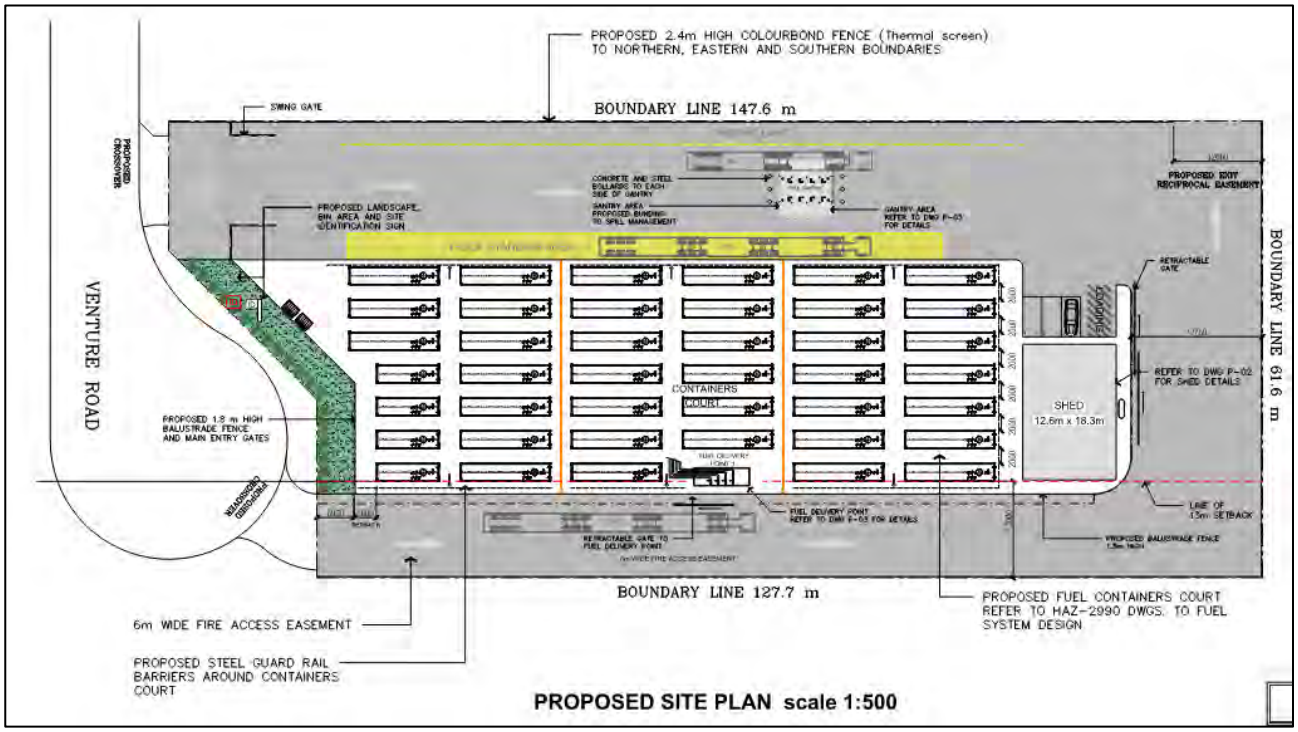
Source: Department of Transport's Long Term Cycle Network

5 Proposed Development

5.1 Proposed Development

The proposed development comprises of a fuel container storage facility. The layout of the proposed development at the Site is shown below in **Figure 5-1**. Detailed development plans are provided in **Appendix A**.

Figure 5-1 Site Plan



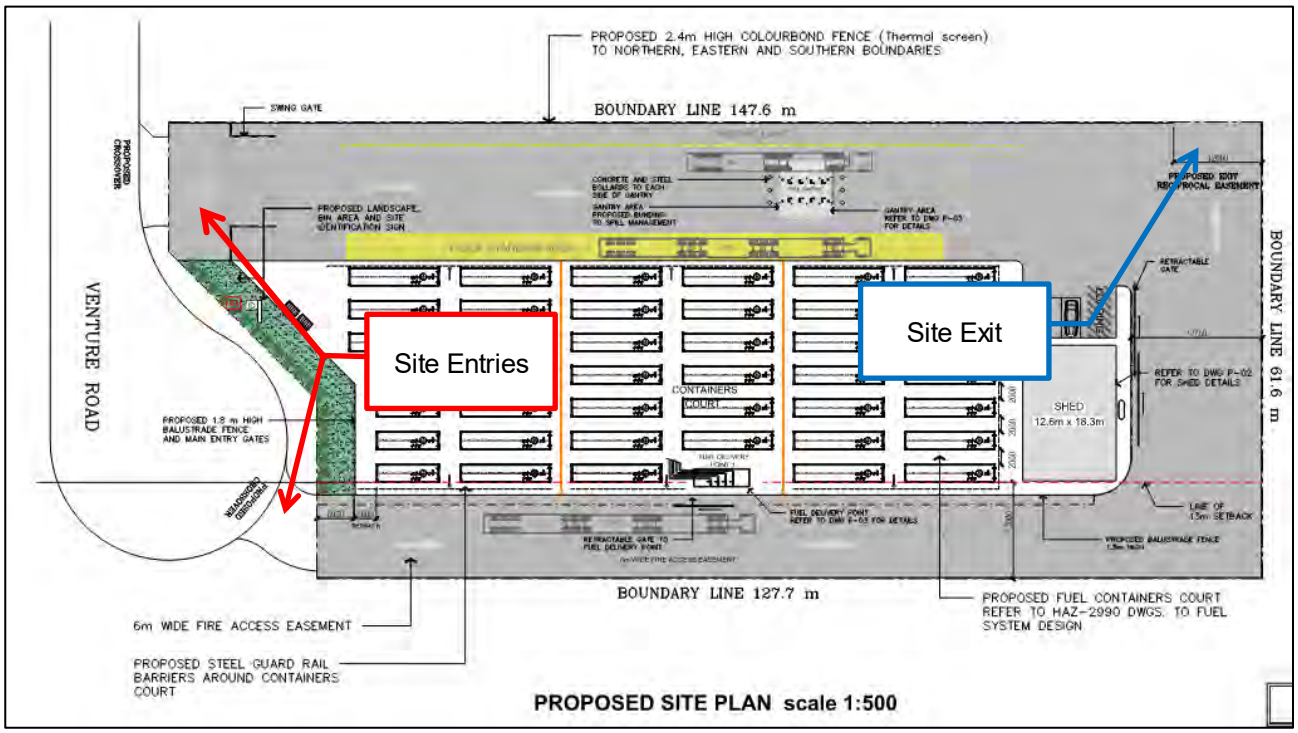
Source: Aksara Pty Ltd (Dec 2022)

5.2 Access Arrangements

Three new accesses are proposed for the Site as shown in **Figure 5-2** and described below:

- Access 1 & 2 – inbound only access
- Access 3 – outbound only access

Figure 5-2 Access Arrangements



Source: Aksara Pty Ltd (Dec 2022)

5.3 Hours of Operation

The proposed facility will operate 24 hours per day.

5.4 Traffic Generation

A breakdown of the estimated number of employees/shift times have been provided by the Client and included below:

- 3 staff during the day and 1 night staff.
- 2 visitors during the day.
- 5 delivery trucks during the peak periods

Delivery trucks are expected to arrive and leave within the respective peak periods. It is likely that delivery trucks will also arrive and leave throughout the day but at lower volumes.

It is assumed that majority of the staff will arrive on Site in the AM peak and leave during the PM peak periods with the exception of night shift staff who will arrive in the PM peak and leave in the AM peak.

For the purpose of this assessment, an assumption was made that two visitors will enter in the AM peak hour and two visitors will exit in the PM peak.

Table 5-1 provides a summary of the total estimated trips expected to be generated by the Site.

Table 5-1 Estimated Trip Generation

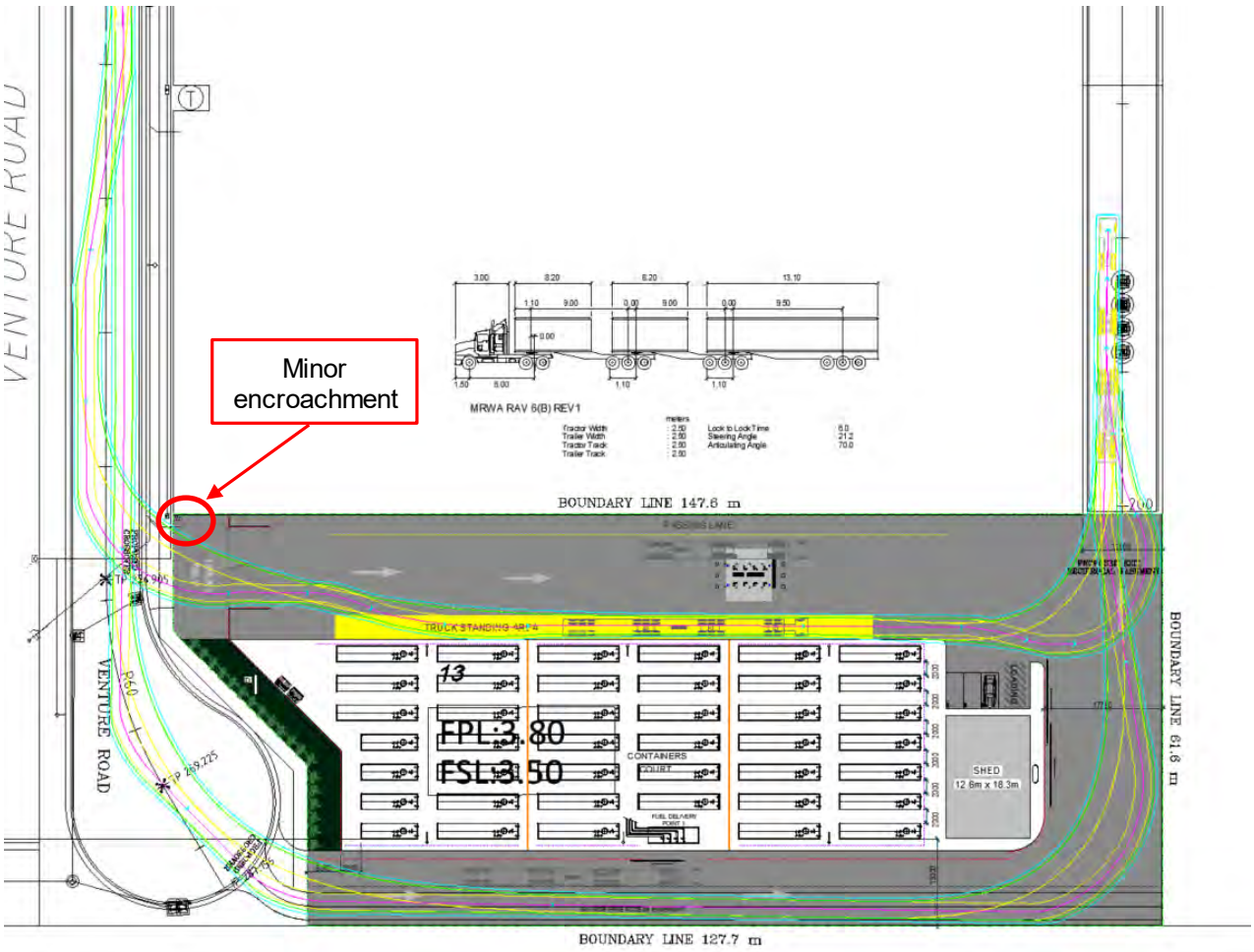
	AM Peak Hour		PM Peak Hour	
	In	**Out**	**In**	**Out**
Staff	3	1	1	3
Visitors	2	0	0	2
Deliveries	5	5	5	5
Total	**16**		**16**	

According to WAPC Transport Impact Assessment Guidelines, developments generating between 10 and 100 trips during the peak hour falls under the 'moderate impact' category and is not considered to have any substantial impact on the surrounding road network.

5.5 Swept Path Analysis

A swept path analysis has been undertaken for the largest vehicle that is expected to enter the Site (36.5m B-Triple). **Figure 5-3** illustrates the swept path diagram of this vehicle which indicates that a minor encroachment is expected to occur at the proposed crossover and it is recommended that this be resolved during the detailed design stage of this project. A full set of swept path drawings is included in **Appendix B.**

Figure 5-3 36.5m B Triple Swept Path



5.6 Parking

The Statutory parking requirements, in accordance with the *City of Rockingham Town Planning Scheme No. 2,* have been considered in the context of the proposed development and are summarised below in **Table 5-2.**

Table 5-2 Car Parking Requirements

Proposed Land Use	Parking Requirements	Yield	Parking Required	Parking Provided	Compliant
Warehouse/Storage	1 bay per 100m^2 NLA	230 m^2	3 bays	3 bays	Yes
Total			**3 bays**	**3 bays**	

3 car parking bays are proposed on-site which meets the *City of Rockingham Town Planning Scheme No. 2* car parking requirements.

6 Summary

This Transport Impact Statement (TIS) outlines the transport aspects of the existing transport depot and its proposed changes, focusing on access, parking, circulation, public transport, pedestrian and cycling.

This TIS has been prepared in accordance with the *Western Australian Planning Commission (WAPC) Transport Impact Assessment Guidelines for Developments: Volume 4 – Individual Developments (2016)* and the checklist is included at **Appendix A**.

The following conclusion outlines the analysis and discussions presented within this report:

- The proposed development consists of a fuel storage facility.
- The site is estimated to generate 16 trips in the AM peak hour and 16 trips in the PM peak hour. This level of traffic generation is considered to be negligible and is expected to be adequately catered for by the surrounding road network; and
- Parking provision is adequate for the estimated number of future employees and visitors.
- The swept path analysis for the B-triple design vehicle indicates that a minor encroachment is expected to occur at the proposed crossover and it is recommended that this be resolved during the detailed design stage of this project.

In summary, the proposed development is unlikely to have material impact to the surrounding road network.

Proposed Fuel Storage Facility – Lot 2
Day Road, East Rockingham

APPENDIX A

SITE PLAN

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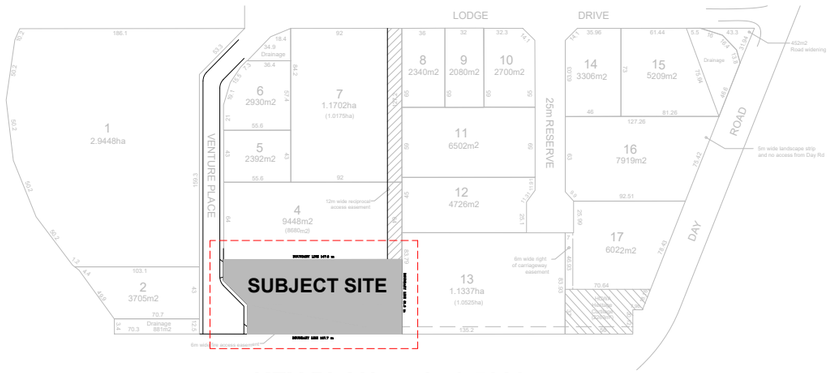
DEVELOPMENT TABLE	
AREA	TOTAL
SUBJECT SITE AREA	8,410 m²
DEVELOPMENT AREA	3,216 m²
WAREHOUSE AREA	230.58 m²
CONTAINERS COURT AREA	2,248 m²



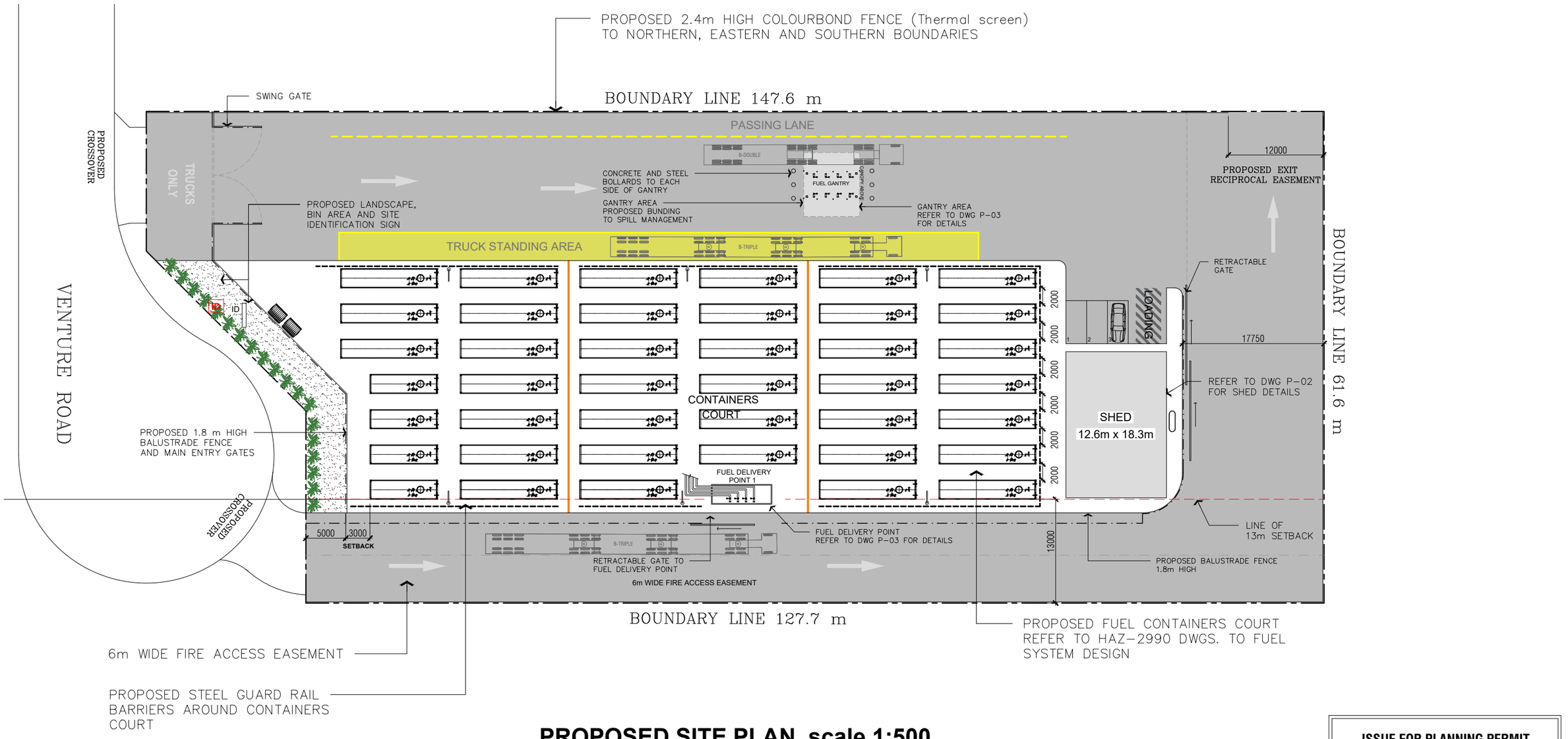
KEY PLAN scale 1:5000

PROPOSED FIREWALL 3.3m HIGH

SETBACK LINES

BOUNDARIES

BALUSTRADE FENCE 1.8m HIGH



PROPOSED SITE PLAN scale 1:500

ISSUE FOR PLANNING PERMIT

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ACN 141 232 877

PROJECT:

ROCKINGHAM DEVELOPMENT

LOT 3 ROCKINGHAM WA
AUSTRALIA

AMMENDMENT	
DATE	12/12/2022
DRAWING TITLE	SITE PLAN
SCALE	AS SHOWN @ A3

SPECIAL COMMENTS

AMMENDMENT	DATE	BY
FOR PLANNING PERMIT	29/09/2022	JC
FOR PLANNING PERMIT	18/10/2022	JC
FOR PLANNING PERMIT	27/10/2022	JC
FOR PLANNING PERMIT	12/12/2022	JC

DRAWING No.

P-02
Rev-A2

Proposed Fuel Storage Facility – Lot 2
Day Road, East Rockingham

APPENDIX B

SWEPT PATH

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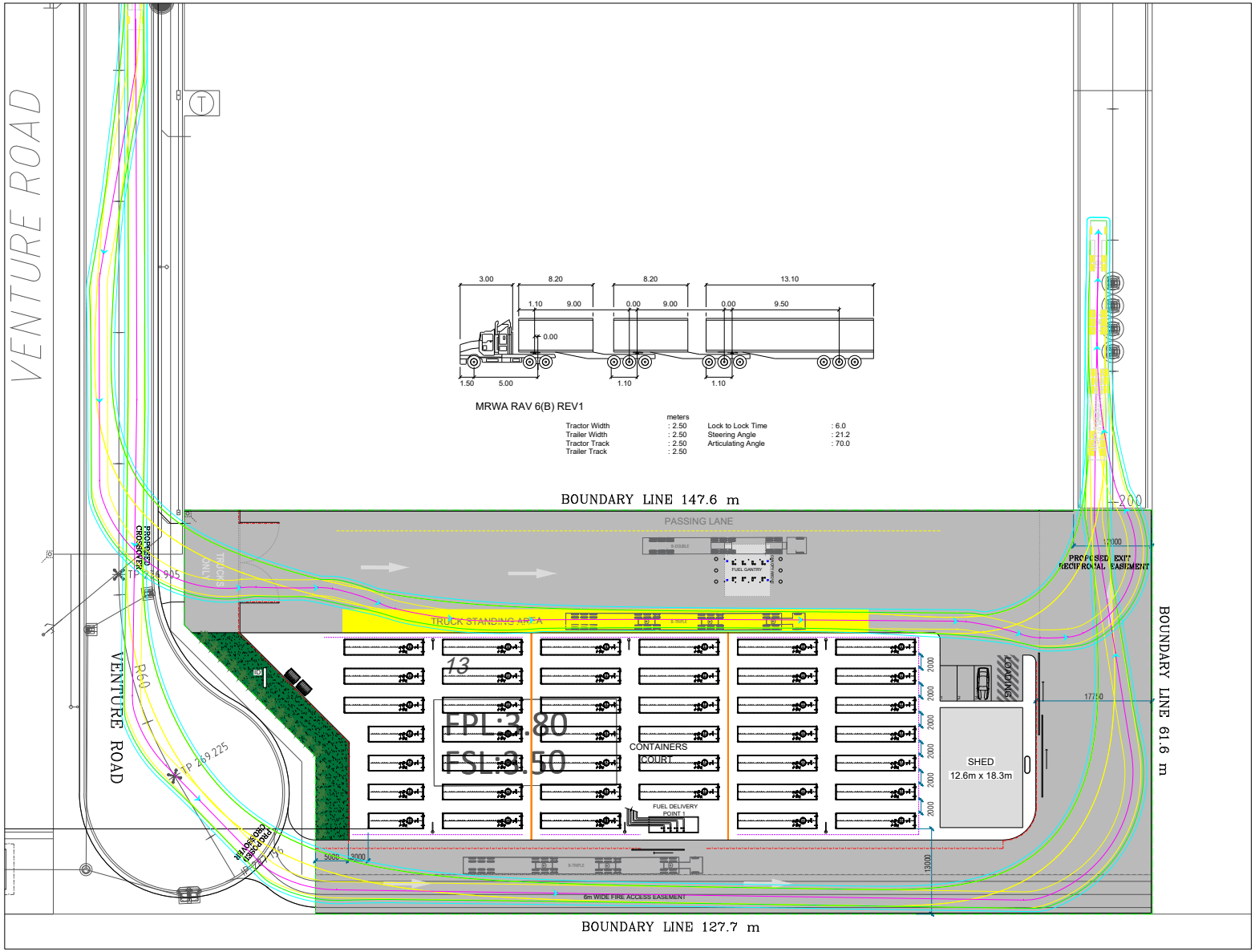
VENTURE ROAD
VENTURE ROAD
BOUNDARY LINE 147.6 m
BOUNDARY LINE 61.6 m
BOUNDARY LINE 127.7 m
PASSING LANE
TRUCK STANDING AREA
TRUCKS ONLY
PROPOSED CROSSOVER
PROPOSED EXIT RECIPROCAL EASEMENT
FUEL GANTRY
CONTAINERS COURT
FUEL DELIVERY POINT 1
SHED
12.6m x 18.3m
6m WIDE FIRE ACCESS EASEMENT
FPL:3.80
FSL:3.50
13
R60
TP 269 225
TP 236 905
3.00
8.20
8.20
13.10
1.10
9.00
0.00
9.00
0.00
9.50
0.00
1.50
5.00
1.10
1.10
MRWA RAV 6(B) REV1
meters
Tractor Width : 2.50
Trailer Width : 2.50
Tractor Track : 2.50
Trailer Track : 2.50
Lock to Lock Time : 6.0
Steering Angle : 21.2
Articulating Angle : 70.0
200
12000
17750
13000
5000
3000
2000

Proposed Fuel Storage Facility – Lot 2
Day Road, East Rockingham

APPENDIX C

WAPC CHECKLIST

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Item	Status	Comments/Proposals
Proposed Development		
proposed land use	Section 5	
existing land uses	Section 1	
context with surrounds	Section 1	
Vehicular access and parking		
access arrangements	Section 5	
public, private, disabled parking set down / pick up	Section 5	
Service vehicles (non-residential)		
access arrangements	Section 5	
on/off-site loading facilities	N/A	
Service vehicles (residential)		
Rubbish collection and emergency vehicle access	N/A	
Hours of operation (non-residential only)		
Traffic volumes		
daily or peak traffic volumes	Section 2	
type of vehicles (e.g. cars, trucks)	Section 5	
Traffic management on frontage streets		
Public transport access		
nearest bus/train routes	Section 3	
nearest bus stops/train stations	Section 3	
pedestrian/cycle links to bus stops/train station	Section 4	
Pedestrian access/facilities		
existing pedestrian facilities within the development (if any)	Section 4	
proposed pedestrian facilities within development	Section 4	
existing pedestrian facilities on surrounding roads	Section 4	
proposals to improve pedestrian access	NA	
Cycle access/facilities		
existing cycle facilities within the development (if any)	Section 4	
proposed cycle facilities within the development	Section 4	
existing cycle facilities on surrounding roads	Section 4	
proposals to improve cycle access	N/A	
Site specific issues	N/A	
Safety issues		
identify issues	N/A	
remedial measures	N/A	

About Cardno

Cardno is a professional infrastructure and environmental services company, with expertise in the development and improvement of physical and social infrastructure for communities around the world. Cardno's team includes leading professionals who plan, design, manage and deliver sustainable projects and community programs. Cardno is an international company listed on the Australian Securities Exchange [ASX:CDD].

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Appendix E – Bushfire Management Plan

Bushfire Management Plan:
Development Application: Lot 2 Lodge Drive, East Rockingham

Askara

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A TETRA TECH COMPANY

BPAD Bushfire Planning & Design Accredited Practitioner Level 3
www.ecoaus.com.au

DOCUMENT TRACKING

Project Name	Bushfire Management Plan: Development Application: Lot 2 Lodge Drive, East Rockingham
Project Number	600-22PER3908
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Reviewed by	Daniel Panickar (BPAD Level 3 – 37802)
Approved by	Daniel Panickar (BPAD Level 3 – 37802)
Status	Final
Version Number	V3
Last saved on	1 February 2023

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Template 2.8.1

Version control	
Version	**Purpose**
V1	Draft – Submission to client
V2	Final – For submission with Development Application
V3	Final – Minor amendment to parent lot number made

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1. Introduction

1.1 Proposal details

Eco Logical Australia (ELA) was commissioned by Askara to prepare a Bushfire Management Plan (BMP) to support a development application for: Lot 3 Lodge Drive, Rockingham (hereafter referred to as the subject site, Figure 1). The proposed development will result in an intensification of land use and involves the storage and dispensing of fuel (Figure 2).

The subject site is within a designated bushfire prone area as per the *Western Australia State Map of Bush Fire Prone Areas* (DFES 2021; Figure 3), which triggers bushfire planning requirements *under State Planning Policy 3.7 Planning in Bushfire Prone Areas* (SPP 3.7; Western Australian Planning Commission (WAPC) 2015) and reporting to accompany submission of the development application in accordance with the associated *Guidelines for Planning in Bushfire Prone Areas v 1.4* (the Guidelines; WAPC 2021).

The subject site is located in the City of Rockingham and is zoned 'General Industry' under the City of Rockingham Town Planning Scheme No. 2. The subject site will be serviced by Venture Road, which is currently being constructed (at the time this BMP was commissioned). As identified in the Bushfire Management Plan developed for the subdivision of land creating this lot, the subject site will have access to an Emergency Access Way (EAW) along the south of the subject site to the east and an easement to the north through neighbouring lots (ELA 2022a).

This assessment has been prepared by ELA Bushfire Consultant Lee Galer (FPAA BPAD Level 1 Certified Practitioner No. BPAD55096) with quality assurance undertaken by Principal Bushfire Consultant Daniel Panickar (FPAA BPAD Level 3 Certified Practitioner No. BPAD37802).

1.2 Purpose and application of the plan

The primary purpose of this BMP is to act as a technical supporting document to inform planning assessment. This BMP is also designed to provide guidance on how to plan for and manage the bushfire risk to the subject site through implementation of a range of bushfire management measures in accordance with the Guidelines.

The fuel storage facility proposed within the subject site is categorised as a high risk land use due to the activities planned on site and the definitions within the Guidelines (WAPC 2021). High risk land uses may expose the community, fire fighters and the environment to dangerous, uncontrolled substances during a bushfire event. High risk land uses may include, but are not limited to: service stations, landfill sites, bulk storage of hazardous materials, fuel depots and certain heavy industries as well as military bases, power generating land uses, saw-mills, highways and railways.

Planning and development applications that incorporate proposals for non-residential, high-risk land uses in bushfire prone areas are to comply with policy measure 6.6 which requires a Bushfire Management Plan and an emergency evacuation plan and/or a risk management plan for any flammable on-site hazards jointly endorsed by the local government and the Department of Fire and Emergency Services. In most instances the requirement of the bushfire risk management plan should be incorporated into the proposed site management plans.

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1.3 Environmental considerations

SPP 3.7 policy objective 5.4 recognises the need to consider bushfire risk management measures alongside environmental, biodiversity and conservation values.

The previous BMP (ELA 2022a) identified nearby wetlands & Environmentally Sensitive Area (ESA) as defined in the Environmental Protection (Environmentally Sensitive Areas) Notice 2005 under s. 51B of the *State Environmental Protection Act 1986* (EP Act) to be present on the original landholding. These areas do not occur within the subject site addressed in this BMP.

Subdivision of the original landholding has resulted in all vegetation being removed from the subject site.

All landscaping proposed within the subject site shall be maintained in a low-threat state as per clause 2.2.3.2(f) of AS3959 or in accordance with guidelines as stated in Appendix A.

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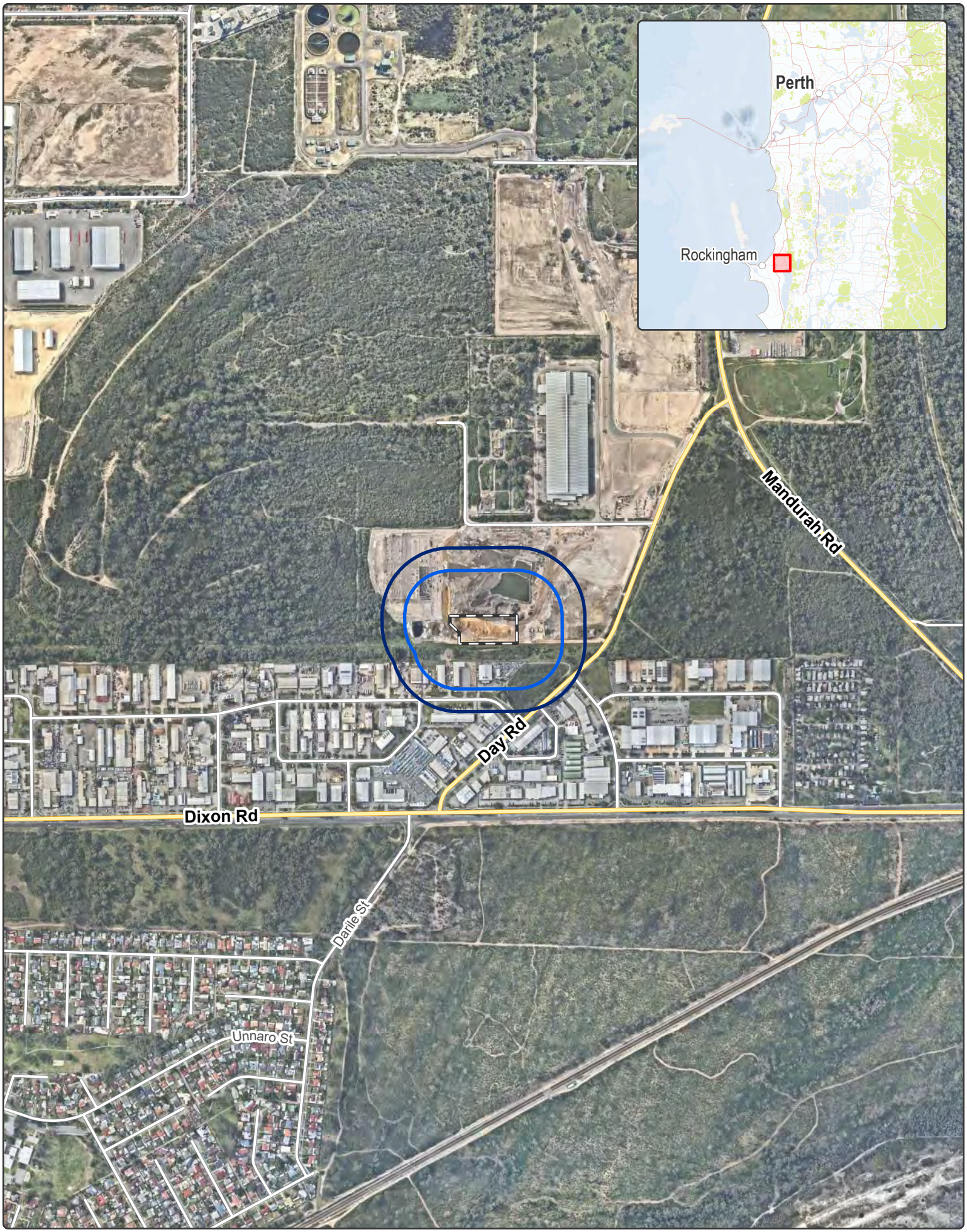

Figure 1: Site Overview

Subject site
100m site assessment
150m site assessment

N

0 100 200 400
Metres

Datum/Projection:
GDA 1994 MGA Zone 50

22PER3908-ED Date: 15/12/2022

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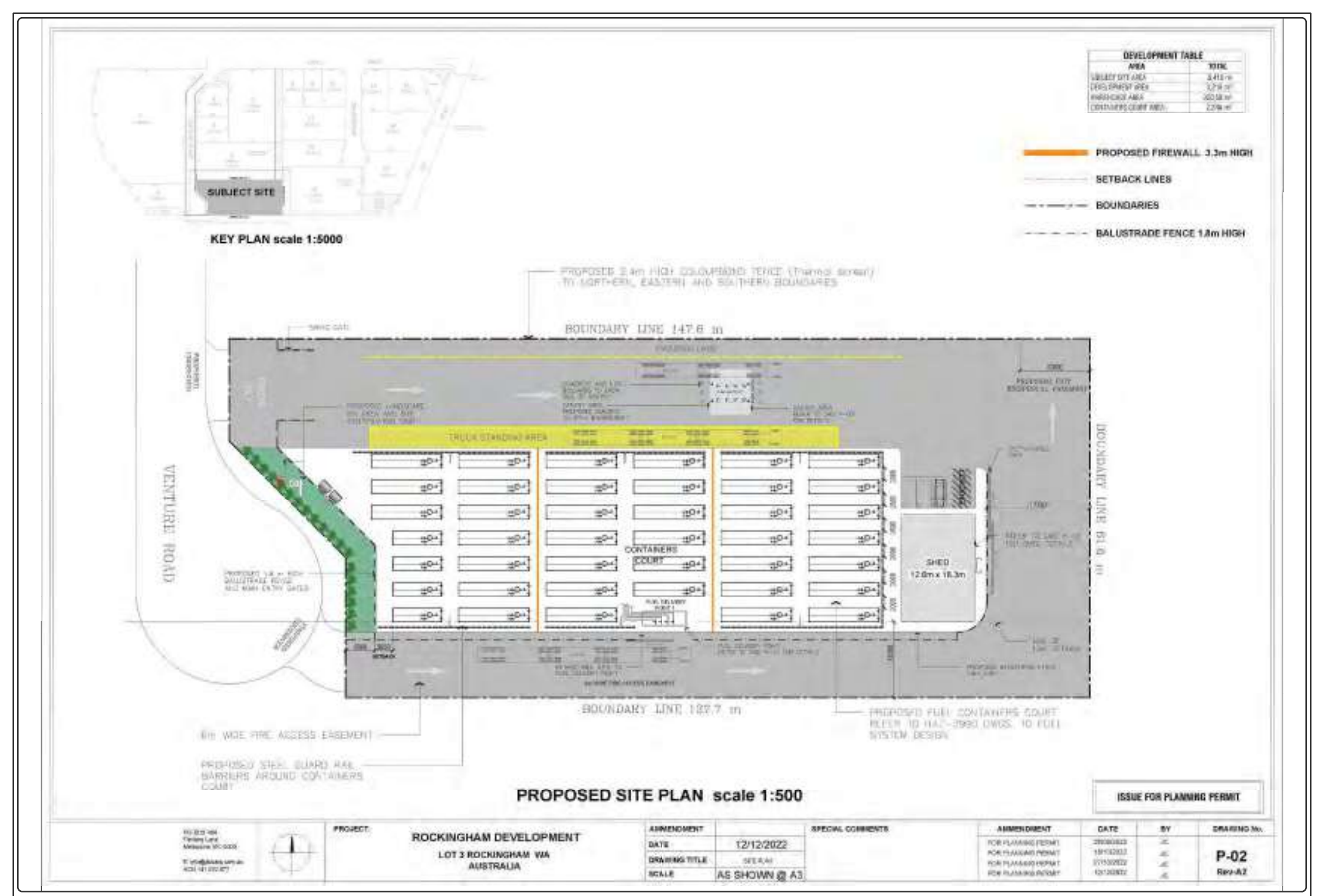

Figure 2: Site Plan

Figure 3: Bushfire Prone Areas

Subject site
100m site assessment
150m site assessment
Bushfire Prone Mapping (DFES 2021)

N

0 100 200 400
Metres

Datum/Projection:
GDA 1994 MGA Zone 50

22PER3908-ED Date: 15/12/2022

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2. Bushfire assessment results

2.1 Bushfire assessment inputs

The following section is a consideration of spatial bushfire risk and has been used to inform the bushfire assessment in this report.

2.1.1 Fire Danger Index

A blanket Fire Danger Index (FDI) 80 is adopted for Western Australia, as outlined in Australian Standard *AS 3959: 2018 Construction of Buildings in Bushfire Prone Areas* (SA 2018) and endorsed by Australasian Fire and Emergency Service Authorities Council (AFAC).

2.1.2 Vegetation classification and slope under vegetation

Vegetation and effective slope (i.e. slope under vegetation) within the subject site and surrounding 150 m (the assessment area) were assessed in accordance with the Guidelines and *AS 3959: 2018* with regard given to the *Visual guide for bushfire risk assessment in Western Australia* (DoP 2016). Site assessment was undertaken on 25 October 2022.

The classified vegetation and effective slope for the subject site from each of the identified vegetation plots are identified below in Table 1 and

Figure 4.

Table 1: Classified vegetation as per AS 3959: 2018

Plot	Vegetation Classification	Assessed Effective Slope (degrees)	Effective Slope
1	Class A Forest	0°	All upslopes and flat land (0 degrees)
2	Class D Scrub	0°	All upslopes and flat land (0 degrees)
3	Excluded AS 3959: 2018 2.2.3.2 (e) & (f)	-	-

Photographs relating to each area and vegetation type are included in Appendix B.

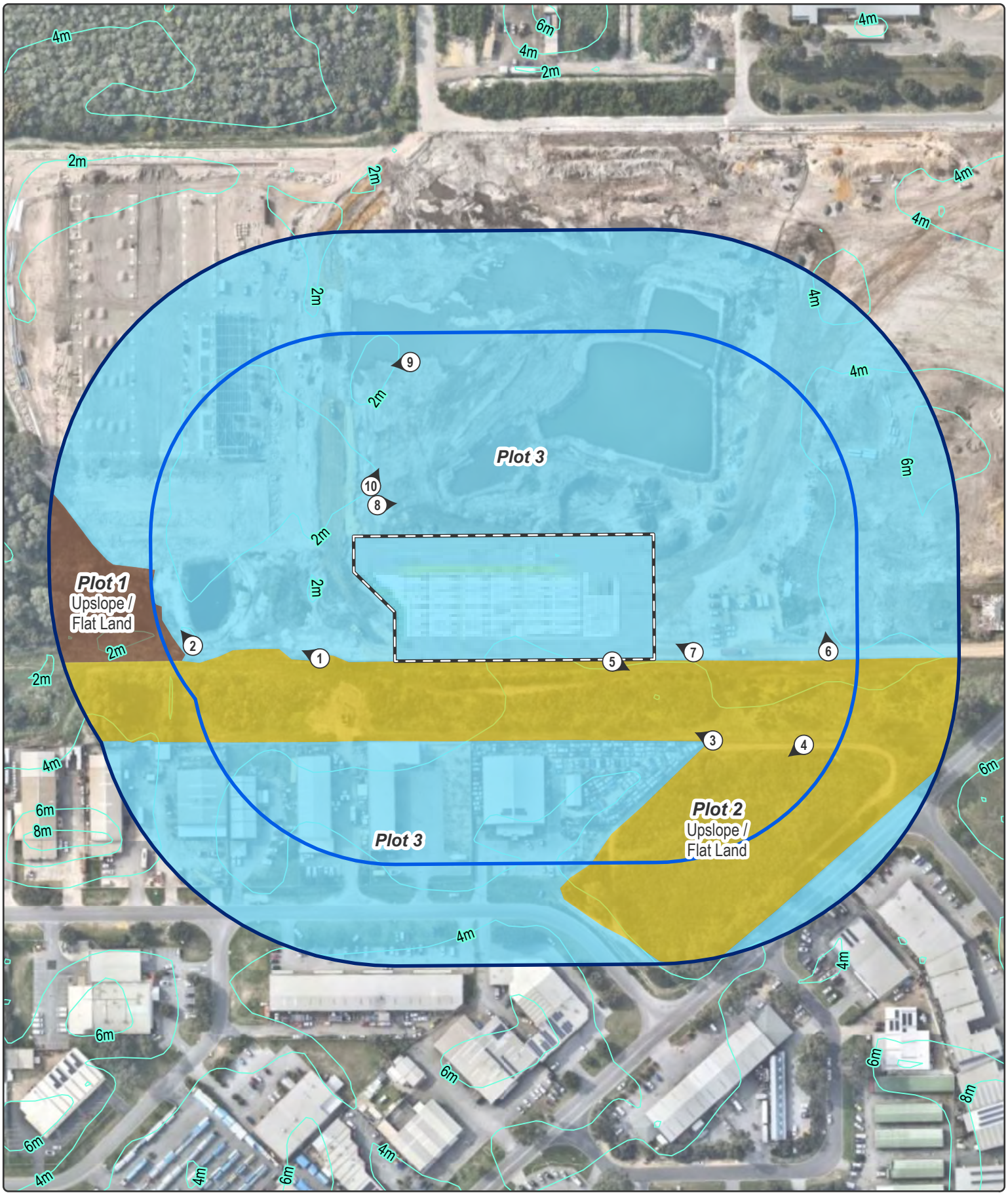

Figure 4: Vegetation Classification

Subject site
100m site assessment
150m site assessment
Contour (2m)
Photo location

Vegetation classification

Class A Forest
Class D Scrub
Excluded as per clause 2.2.3.2 (e) and (f)

0 20 40 80
Metres

Datum/Projection:
GDA 1994 MGA Zone 50

22PER3908-ED Date: 15/12/2022

N

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2.2 Bushfire assessment outputs

A Bushfire Attack Level (BAL) assessment has been undertaken in accordance with SPP 3.7, the Guidelines, AS 3959: 2018 and the bushfire assessment inputs in Section 2.1.

2.2.1 BAL assessment

All land located within 100 m of the classified vegetation depicted in

Figure 4 is considered bushfire prone and is subject to a BAL assessment in accordance with AS 3959: 2018.

A Method 1 BAL assessment (as outlined in AS 3959: 2018) has been completed for the proposed development and incorporates the following factors:

- Fire Danger Index (FDI) rating;
- Vegetation class;
- Slope under classified vegetation; and
- Distance between subject site and the classified vegetation.

Based on the identified BAL, construction requirements for proposed buildings can then be assigned. The BAL rating gives an indication of the expected level of bushfire attack (i.e. radiant heat flux, flame contact and ember penetration) that may be received by proposed buildings and subsequently informs the standard of construction required to increase building survivability.

2.2.2 Method 1 BAL assessment

Table 2 and Figure 5 display the Method 1 BAL assessment (in the form of BAL contours) that has been completed for the proposed development in accordance with AS 3959: 2018 methodology.

Table 2: Method 1 BAL calculation (BAL contours)

Plot	Vegetation Classification	Effective Slope	Separation distances required				
			BAL-FZ	BAL-40	BAL-29	BAL-19	BAL-12.5
1	Class A Forest	All upslopes and flat land (0 degrees)	<16	16-<21	21-<31	31-<42	42-<100
2	Class D Scrub	All upslopes and flat land (0 degrees)	<10	10-<13	13-<19	19-<27	27-<100
3	Excluded AS 3959: 2018 2.2.3.2 (e) & (f)	-	No separation distances required – BAL-LOW				

Based on the site assessment inputs and BAL assessment, the proposed structures associated with the fuel storage depot within the subject site are exposed to BAL ratings of BAL-29 and below.

The Guidelines state:

> *The bushfire construction requirements of the Building Code of Australia only apply to certain types of residential buildings (being Class 1, 2 or 3 buildings and/or Class 10a buildings or decks associated with a Class 1, 2 or 3 building) in designated bushfire prone areas. As such, AS 3959 does not apply to all buildings. Only vulnerable or high-risk land uses that fall within the relevant classes of buildings as set out in the Building Code of Australia will be required to comply with the bushfire construction requirements of the Building Code of Australia. As such, the planning process focuses on the location and siting of vulnerable and high-risk land uses rather than the application of bushfire construction requirements.*

As none of the proposed structures is a Class 1, 2 or 3 building and/or Class 10a building or deck associated with a Class 1, 2 or 3 building, construction to AS 3959: 2018 is not required for this proposal. However, given the high risk nature of the development, ELA recommends that the shed which contains an office/control room, kitchenette, water closet and break room is constructed to BAL-29 standards.

Table 3: BAL rating for proposed building/asset within the subject site

Proposed building/asset	Plot most affecting BAL rating	Separation Distance (m)	BAL Rating
Shed (includes office/control room, kitchenette, toilets and break room within shed)	Plot 1 – Scrub	13 m	BAL-29
Fuel storage containers	Plot 1 – Scrub	13 m –35 m	≤BAL-29 (i.e. multiple tanks with varying BAL ratings)

2.3 Identification of issues arising from the BAL assessment

Should there be any changes in development design or vegetation/hazard extent that requires a modified bushfire management response, then the above BAL ratings will need to be reassessed for the affected areas and documented in a brief addendum to this BMP.

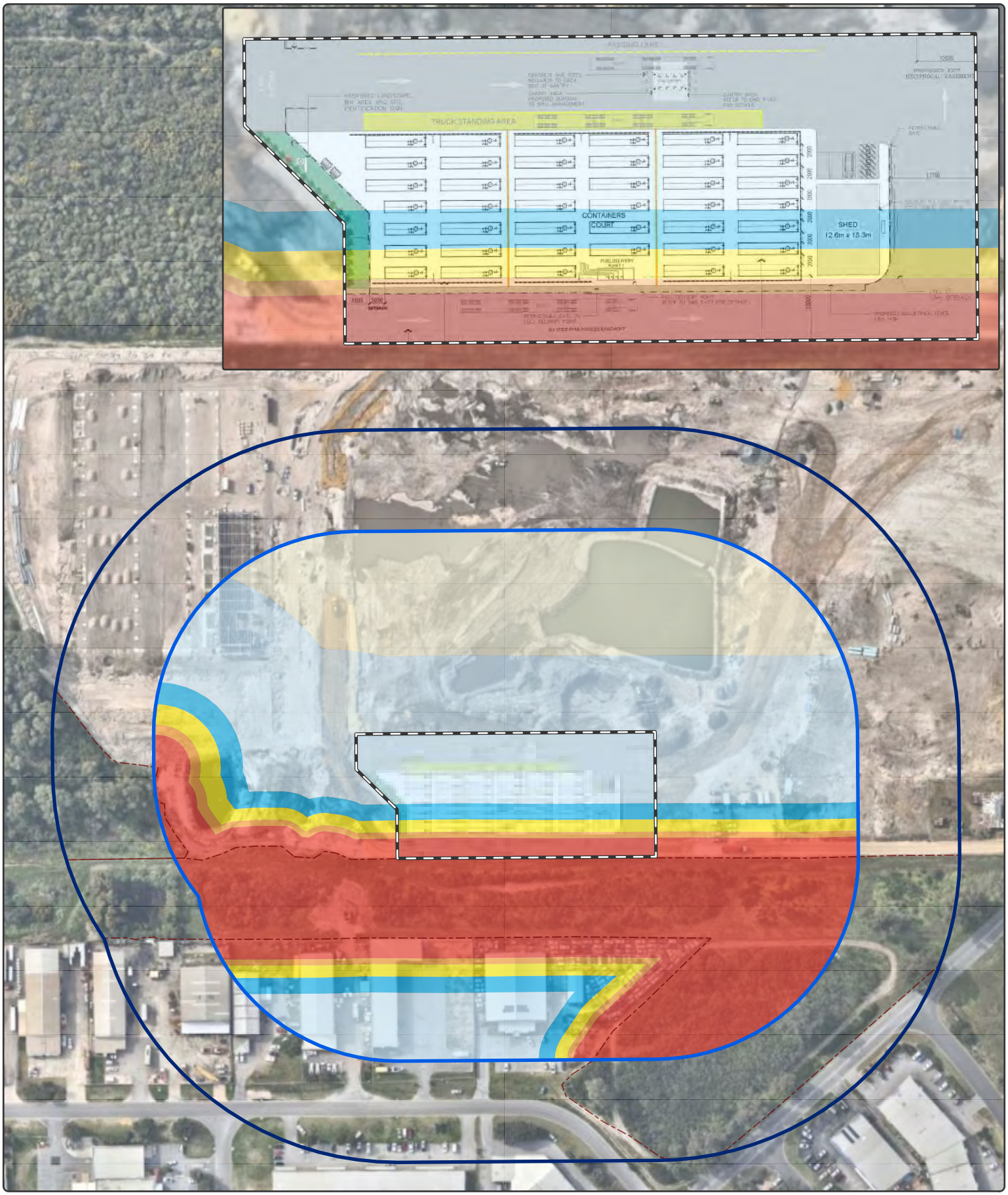

Figure 5: Bushfire Attack Level (BAL) Contours

Subject site
100m site assessment
150m site assessment
Bushfire hazard interface

Bushfire Attack Level (BAL)

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

0 20 40 80
Metres

Datum/Projection:
GDA 1994 MGA Zone 50

22PER3908-ED Date: 15/12/2022

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3. Assessment against the Bushfire Protection Criteria

3.1 Compliance

The proposed development is required to comply with policy measures 6.2, 6.5 and 6.6 of SPP 3.7 and the Guidelines. Implementation of this BMP is expected to meet objectives 5.1-5.4 of SPP 3.7.

In response to the above requirements of SPP 3.7 and the Guidelines, bushfire risk management measures, as outlined, have been devised for the proposed development in accordance with Guideline acceptable solutions to meet compliance with bushfire protection criteria.

Table 4 outlines the Acceptable Solutions (AS) that are relevant to the proposal and summarises how the intent of each Bushfire Protection Criteria has been achieved. No Performance Solutions (PS) have been proposed for this proposal. These management measures are depicted in Figure 6 where relevant.

Table 4: Summary of solutions used to achieve bushfire protection criteria

Bushfire Protection Criteria	AS	PS	N/A	Comment
Element 1: Location A1.1 Development location	☒	☐	☐	All proposed built assets within the subject site will be located in areas subject to BAL ratings of ≤BAL-29 (Figure 5; Figure 6). The proposed development is considered to be compliant with A1.1.
Element 2: Siting and design of development A2.1 Asset Protection Zone (APZ)	☒	☐	☐	The proposed development has an APZ sufficient for the potential radiant heat flux to not exceed 29kW/m^2 and will be managed in accordance with the requirements of '*Standards for Asset Protection Zones*' (WAPC 2021; Appendix A). The APZ can be contained within the boundaries of the lot and will ensure separation is maintained between the primary bushfire hazard and proposed assets. All other areas within the subject site outside the APZ zone will be managed to a low threat state as per clause 2.2.3.2(e & f) of AS 3959: 2018. The APZ will be established on the southern boundary extending 13 m to the north and will be contained within the boundaries of the lot and managed in perpetuity in a low fuel state. The proposed development is considered to be compliant with A2.1.
Element 3: Vehicular access A3.1 Public Roads	☒	☐	☐	The subject site will be accessed via Venture Road. The Guidelines do not prescribe values for the trafficable (carriageway/pavement) width of public roads as they should be in accordance with the class of road as specified in the IPWEA Subdivision Guidelines, Liveable Neighbourhoods, Austroad Standards and/or any applicable standard in the local government area. ELA are not traffic/civil engineers so cannot comment on whether these existing roads comply with Local Government Guidelines for Subdivisional Development (IPWEA Subdivision Guidelines), Liveable

Bushfire Protection Criteria	AS	PS	N/A	Comment
				Neighbourhoods, Austroad standards and/or any applicable standards for the local government area. ELAs assessment, however, has identified that the roads surrounding the development are bitumen with estimated width of the sealed surface achieving a minimum width of 6 m and therefore consider the existing road network would provide suitable access and egress for the community and emergency services personnel in the event of a bushfire. Vehicular access technical requirements in accordance with the Guidelines are detailed in Appendix C. The proposed development is considered to be compliant with A3.1.
A3.2a Multiple access routes	☒	☐	☐	Multiple access routes are available via existing roads and an Emergency Access way (EAW) to the east, as well as an easement through adjoining properties to the north (Figure 6). The EAW is addressed in A3.2b and the easement addressed in A3.6 of this table. Ventura Road which services the subject site from the west is a cul-de-sac, approximately274 m in length and is linked to an emergency access way along the southern boundary of the subject site which connects to Day Road (a public road) in an eastward direction. The subject site is considered to be compliant with A3.2a.
A3.2b Emergency Access way	☒	☐	☐	Ventura Road which services the subject site from the west, is a cul-de-sac, approximately274 m in length and is linked to an emergency access way which connects to Day Rd (a public road) along the southern boundary of the subject site in an eastward direction that is no longer than 500 m in length. This has been labelled as a "Fire access easement" in Figure 2 and reflects the requirements of the BMP prepared to support the subdivision application (ELA 2022a). The emergency access way was under construction at the time this BMP was commissioned and upon completion will comply with requirements outlined in the Guidelines (Appendix C). The proposed subdivision is considered to be compliant with A3.2b.
A3.3 Through-roads	☐	☐	☒	Acceptable Solution A3.3 applies to the strategic planning proposal, structure plan or subdivision application stage of the planning process. This proposal involves a development application for a proposed fuel storage depot at the subject site. A3.3 is not applicable to this proposed development.
A3.4a Perimeter roads	☐	☐	☒	Acceptable Solution A3.4a applies to the strategic planning proposal, structure plan or subdivision application stage of the planning process. This proposal

Bushfire Protection Criteria	AS	PS	N/A	Comment
				involves a development application for a proposed fuel storage depot at the subject site. A3.4a is not applicable to this proposed development.
A3.4b Fire service access route	☐	☐	☒	Acceptable Solution A3.4b applies to the strategic planning proposal, structure plan or subdivision application stage of the planning process. This proposal involves a development application for a proposed fuel storage depot at the subject site. A3.4b is not applicable to this proposed development.
A3.5 Battle-axe access legs	☐	☐	☒	Acceptable Solution A3.5 applies to the strategic planning proposal, structure plan or subdivision application stage of the planning process. This proposal involves a development application for a proposed fuel storage depot at the subject site. A3.5 is not applicable to this proposed development.
A3.6 Private driveways	☒	☐	☐	The proposed reciprocal exit easement road within the subject site has been treated as a private driveway. This road is 12 m wide and will comply with requirements outlined in the Guidelines (Appendix C). The proposed subdivision is considered to be compliant with A3.5.
A4.2 Provision of water for firefighting purposes	☒	☐	☐	Existing reticulated water is present within the area and the subject site is expected to be connected to this water supply. The nearest existing hydrant is located outside the south west corner of the subject site (Figure 6). ELA assumes the surrounding network of hydrants meet Water Corporation design Standard DS 63 and LGA requirements specifications given they are established and within the Perth metropolitan area. The proposed development is considered to be compliant with A4.2.
Element 5: Vulnerable tourism land uses	☐	☐	☒	This development application is not considered vulnerable tourism land use. Element 5 is not applicable to this proposed development.

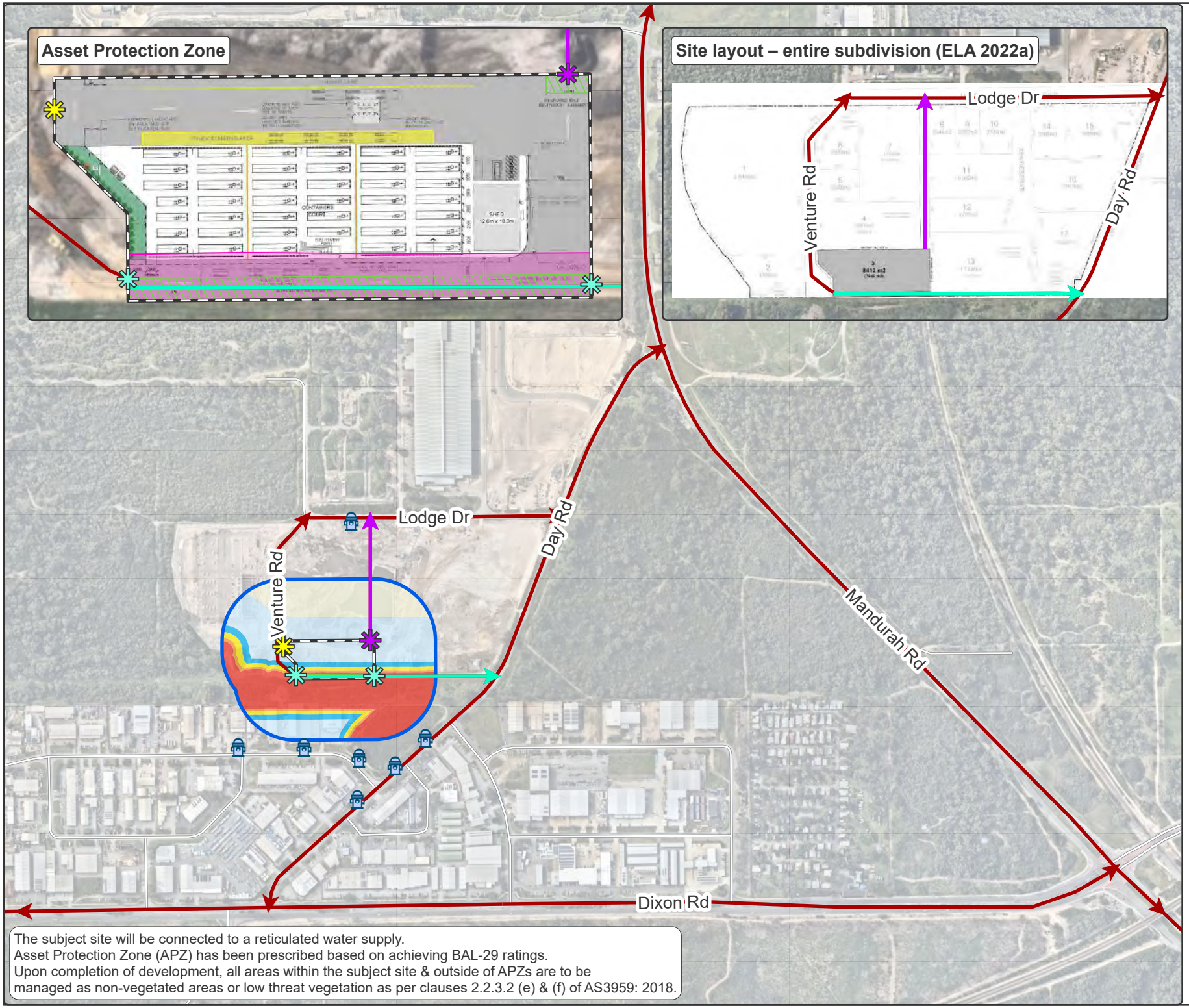
NOTE – AS- ACCEPTABLE SOLUTION, PS- PERFORMANCE SOLUTION, N/A- NOT APPLICABLE

3.2 Additional Bushfire Requirements

Due to the high risk nature of the land use and the increased bushfire risk of the area, ELA recommend the proposed shed be constructed to BAL-29 standard at a minimum.

Upon completion of development, areas within the subject site & outside of APZs are to be managed as non-vegetated areas or low threat vegetation as per clauses 2.2.3.2 (e) & (f) of AS3959: 2018.

As the proposed fuel storage depot will be situated within an area subject to BAL ratings of ≥BAL 12.5, a Bushfire Risk Management Plan (BRMP) has been prepared for this development in accordance with Policy Measure 6.6 of SPP 3.7 (ELA 2022b).



Legend

- Subject site
- 100m site assessment
- Asset Protection Zone (APZ)
- Hydrant

Access

- Entry (Trucks Only)
- Entry/Exit
- Exit (Proposed Reciprocal Easement)
- Access / egress route
- Proposed Reciprocal Easement
- Emergency Access Way
- Emergency Access Way

Bushfire Attack Level (BAL)

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

Figure 6: Spatial representation of the bushfire management strategies

0 50 100 200
Metres

Datum/Projection:
GDA 1994 MGA Zone 50

22PER3908-ED Date: 15/12/2022

N

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4. Implementation and enforcement

Implementation of the BMP applies to the developer, future owners within the subject site and the local government to ensure bushfire management measures are adopted and implemented on an ongoing basis. A summary of the bushfire management measures described in Section 3, as well as a works program, is provided in Table 5. These measures will be implemented to ensure the ongoing protection of life and property assets is achieved. Timing and responsibilities are also defined to assist with implementation of each measure.

Table 5: Proposed work program

No	Bushfire management measure	Responsibility
Prior to occupancy		
1	Ensure Section 165 Notification on Title advising the site is located within a Bushfire Prone Area and subject to the BMP and BRMP.	Developer
	Ensure proposed built assets are located outside of areas subject to BAL-FZ and BAL-40 as per the design in Figure 6.	Developer
2	Connect reticulated water to the subject site.	Developer
3	Ensure all APZs areas are maintained to the standard in the Guidelines (Appendix A).	Developer / Owner
4	Ensure all landscaped areas are maintained to a low threat standard as per Clause 2.2.3.2 (f) of AS 3959: 2018.	Developer / Owner
5	Install signage for Emergency Access Way.	Developer / Owner
6	Construct proposed shed to relevant construction standard in the NCC and if considered relevant, AS 3959: 2018.	Builder
7	Implement the Bushfire Risk Management Plan (BRMP) prior to occupancy of development.	Operator
Ongoing management		
8	Maintain APZs areas to the standard in the Guidelines (Appendix A).	Owner
9	Maintain all landscaped areas are maintained to a low threat standard as per Clause 2.2.3.2 (f) of AS 3959: 2018.	Owner
10	Review the BRMP prepared for this development on an annual basis and update details/procedures as required.	Operator

5. Conclusion

In the author's professional opinion, the bushfire protection requirements listed in this assessment provide an adequate standard of bushfire protection for the proposed fuel storage depot. As such, the proposed fuel storage depot is consistent with the aim and objectives of SPP 3.7 and associated guidelines and is recommended for approval.

6. References

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City of Rockingham, *[Online], Bushfire Risk Management (Firebreaks and Hazard Reductions),* available from: Firebreaks and Bushfire Hazards – City of Joondalup,

Department of Fire and Emergency Services (DFES), 2021, *Map of Bush Fire Prone Areas, [Online]*, Government of Western Australia, available from: http://www.dfes.wa.gov.au/regulationandcompliance/bushfireproneareas/Pages/default.aspx

Department of Planning (DoP), 2016, *Visual guide for bushfire risk assessment in Western Australia*. DoP, Perth.

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Eco Logical Australia (ELA), 2022b, *Bushfire Risk Management Plan: Development Application: Lot 3 Lodge Drive, East Rockingham.* Report prepared for Hesperia.

Standards Australia (SA), 2018, *Construction of buildings in bushfire-prone areas, AS 3959-2018*. SAI Global, Sydney.

Western Australian Planning Commission (WAPC), 2015, *State Planning Policy 3.7 Planning in Bushfire Prone Areas*. WAPC, Perth.

Western Australian Planning Commission (WAPC), 2021, *Guidelines for Planning in Bushfire Prone Areas Version 1.4 (including appendices),* WAPC, Perth.

Water Corporation (Watercorp) [Online], 2021, DESIGN STANDARD DS 63*),* available from: DS 63 (watercorporation.com.au)

Appendix A – Standards for Asset Protection Zones

The following standards have been extracted from the *Guidelines for Planning in Bushfire Prone Areas v 1.4* (WAPC 2021).

Every habitable building is to be surrounded by, and every proposed lot can achieve, an APZ depicted on submitted plans, which meets the following requirements:

a. Width: Measured from any external wall or supporting post or column of the proposed building, and of sufficient size to ensure the potential radiant heat impact of a fire does not exceed 29kW/m² (BAL-29) in all circumstances.

b. Location: the APZ should be contained solely within the boundaries of the lot on which a building is situated, except in instances where the neighbouring lot or lots will be managed in a low-fuel state on an ongoing basis, in perpetuity (see explanatory notes).

c. Management: the APZ is managed in accordance with the requirements of '*Standards for Asset Protection Zones*' (below):

- Fences within the APZ:
  - Should be constructed from non-combustible materials or bushfire-resisting timber referenced in Appendix F of AS 3959.
- Fine fuel load (Combustible, dead vegetation matter <6 millimetres in thickness):
  - Should be managed and removed on a regular basis to maintain a low threat state;
  - Should be maintained at <2 tonnes per hectare (on average); and
  - Mulches should be non-combustible (e.g. stone, gravel or crushed mineral earth) or wood mulch >6 millimetres in thickness.
- Trees (>6 metres in height):
  - Trunks at maturity should be a minimum distance of six metres from all elevations of the building;
  - Branches at maturity should not touch or overhand a building or powerline;
  - Lower branches and loose bark should be removed to a height of two metres above the ground and/or surface vegetation;
  - Canopy cover within the APZ should be <15 per cent of the total APZ area; and
  - Tree canopies at maturity should be at least five metres apart to avoid forming a continuous canopy. Stands of existing mature trees with interlocking canopies may be treated as an individual canopy provided that the total canopy cover within the APZ will not exceed 15 per cent and are not connected to the tree canopy outside the APZ.

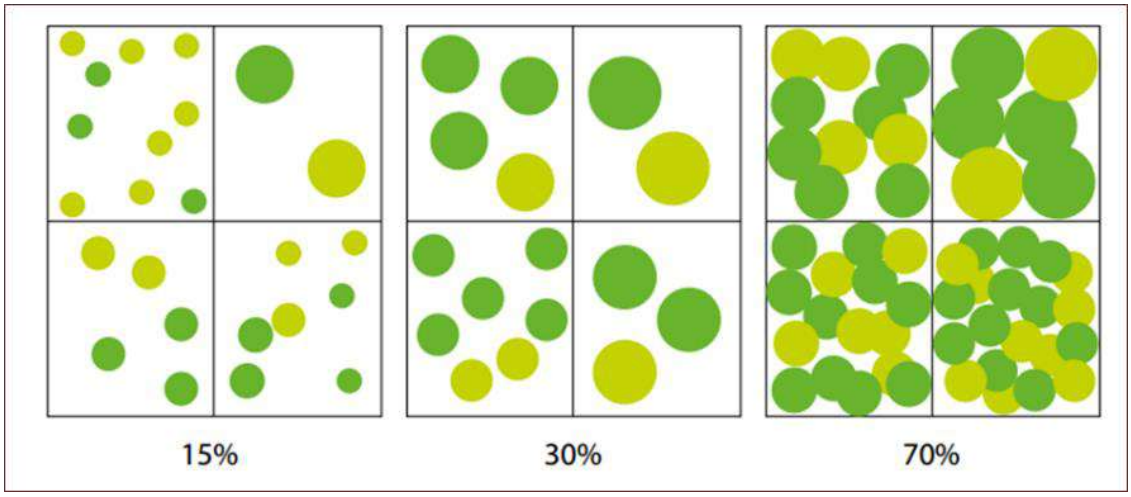

Figure 7: Illustrated tree canopy cover projection (WAPC 2021)

- Shrub and scrub 0.5 metres to six metres in height (shrub or scrub >6 metres in height are to be treated as trees):
  - Should not be located under trees or within three metres of buildings;
  - Should not be planted in clumps >5 square metres in area; and
  - Clumps should be separated from each other and any exposed window or door by at least 10 metres.
- Ground covers <0.5 metres in height (ground covers >0.5 metres in height are to be treated as shrubs):
  - Can be planted under trees but must be maintained to remove dead plant material, as prescribed in 'Fine fuel load' above; and
  - Can be located within two metres of a structure, but three metres from windows or doors if >100 millimetres in height.
- Grass:
  - Grass should be maintained at a height of 100 millimetres or less, at all times; and
  - Wherever possible, perennial grasses should be used and well-hydrated with regular application of wetting agents and efficient irrigation.
- Defendable space:
  - Within three metres of each wall or supporting post of a habitable building, the area is kept free from vegetation, but can include ground covers, grass and non-combustible mulches as prescribed above.
- LP Gas Cylinders:
  - Should be located on the side of a building furthest from the likely direction of a bushfire or on the side of a building where surrounding classified vegetation is upslope, at least one metre from vulnerable parts of a building;
  - The pressure relief valve should point away from the house;
  - No flammable material within six metres from the front of the valve; and
  - Must site on a firm, level and non-combustible base and be secured to a solid structure.

Additional notes

The Asset Protection Zone (APZ) is an area surrounding a building that is managed to reduce the bushfire hazard to an acceptable level. Hazard separation in the form of using subdivision design elements or excluded and low threat vegetation adjacent to the lot may be used to reduce the dimensions of the APZ within the lot.

The APZ should be contained solely within the boundaries of the lot on which the building is situated, except in instances where the neighbouring lot or lots will be managed in a low-fuel state on an ongoing basis, in perpetuity. The APZ may include public roads, waterways, footpaths, buildings, rocky outcrops, golf courses, maintained parkland as well as cultivated gardens in an urban context, but does not include grassland or vegetation on a neighbouring rural lot, farmland, wetland reserves and unmanaged public reserves.

Plant flammability, landscaping design and maintenance should also be considered for trees, shrub, scrub and ground covers with the APZ. Please refer to explanatory notes 'E2 Managing an Asset Protection Zone (APZ) to a low threat state,' 'E2 Landscaping and design of an asset protection zone,' and 'E2 Plant flammability' in the Guidelines for further information relating to APZ standards.

Appendix B - Classified Vegetation Photos

Plot 1	Classification or Exclusion Clause	Class A Forest

Photo Point 1 (background)

Classified vegetation in this plot is less than 30 m in height with a foliage cover less than 70%. The area is dominated by Eucalypts with understorey comprised of shrubs and exotic grasses

Slope under vegetation was assessed as upslope/ flat land.

Plot 1	Classification or Exclusion Clause	Class A Forest

Photo Point 2

Classified vegetation in this plot is less than 30 m in height with a foliage cover less than 70%. The area is dominated by Eucalypts with understorey comprised of shrubs and exotic grasses.

Slope under vegetation was assessed as upslope/ flat land.

Plot 2	Classification or Exclusion Clause	Class D Scrub

Photo Point 3

Classified vegetation identified within this plot are taller than two m and no taller than six m in height.

Slope under vegetation was assessed as upslope/ flat land.

Plot 2	Classification or Exclusion Clause	Class D Scrub

Photo Point 4

Classified vegetation identified within this plot is taller than two m and no taller than six m in height.

Slope under vegetation was assessed as upslope/ flat land.

Plot 2	Classification or Exclusion Clause	Class D Scrub

Photo Point 5

Classified vegetation identified within this plot is taller than two m and no taller than six m in height.

Slope under vegetation was assessed as upslope/ flat land.

Plot 3	Classification or Exclusion Clause	Excluded AS 3959: 2018 2.2.3.2 (e)

Photo Point 6

This plot has been excluded under Clause 2.2.3.2 (e) of AS 3959: 2018. This photo depicts an area cleared for development.

Plot	3	Classification or Exclusion Clause	Excluded AS 3959: 2018 2.2.3.2 (e)

Photo Point 7

This plot has been excluded under Clause 2.2.3.2 (e) of AS 3959: 2018. This photo depicts the subject site, an area cleared for development.

Plot	3	Classification or Exclusion Clause	Excluded AS 3959: 2018 2.2.3.2 (e)

Photo Point 8

This plot has been excluded under Clause 2.2.3.2 (e) of AS 3959: 2018. This photo depicts the subject site, an area cleared for development.

Plot	3	Classification or Exclusion Clause	Excluded AS 3959: 2018 2.2.3.2 (e)

Photo Point 9

This plot has been excluded under Clause 2.2.3.2 (e) of AS 3959: 2018. This photo depicts an area cleared for development.

Plot 3	Classification or Exclusion Clause	Excluded AS 3959: 2018 2.2.3.2 (e)

Photo Point 10

This plot has been excluded under Clause 2.2.3.2 (e) of AS 3959: 2018. This photo depicts an area cleared for development.

Appendix C - Vehicular access technical requirements (WAPC 2021)

Technical requirements	Public road	Emergency access way[1]	Fire service access route[1]	Battle-axe and private driveways[2]
Minimum trafficable surface (m)	In accordance with A3.1	6	6	4
Minimum horizontal clearance (m)	N/A	6	6	6
Minimum vertical clearance (m)	4.5			
Minimum weight capacity (t)	15			
Maximum grade unsealed road[3]	As outlined in the IPWEA Subdivision Guidelines	1:10 (10%)		
Maximum grade sealed road[3]	As outlined in the IPWEA Subdivision Guidelines	1:7 (14.3%)		
Maximum average grade sealed road	As outlined in the IPWEA Subdivision Guidelines	1:10 (10%)		
Minimum inner radius of road curves (m)	As outlined in the IPWEA Subdivision Guidelines	8.5		

[1] To have crossfalls between 3 and 6 %.

[2] Where driveways and battle-axe legs are not required to comply with the widths in A3.5 or A3.6, they are to comply with the Residential Design Codes and Development Control Policy 2.2 Residential Subdivision.

[3] Dips must have no more than a 1 in 8 (12.5% -7.1 degree) entry and exit angle

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Bushfire Risk Management Plan: Development Application: Lot 2 Lodge Drive, East Rockingham

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Accredited Practitioner Level 3

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DOCUMENT TRACKING

Project Name	Bushfire Risk Management Plan: Development Application: Lot 2 Lodge Drive, East Rockingham
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Reviewed by	Eva Cronin (BPAD Level 2 – 45482)
Approved by	Daniel Panickar (BPAD Level 3 – 37802)
Status	Final
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Last saved on	1 February 2023

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Template 2.8.1

Version control	
Version	**Purpose**
V1	Draft – Submission to client
V2	Final – For submission with Development Approval
V3	Final – Update to lot number made.

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1. Introduction

1.1 Project overview

Eco Logical Australia (ELA) was commissioned by Aksara to prepare a Bushfire Risk Management Plan (BRMP) to support a development application (DA) being prepared for the development of a fuel storage facility at Lot 2 Lodge Drive, East Rockingham (hereafter referred to as the subject site; Figure 1 and Figure 2).

The proposed development will include (Figure 2):

- Construction of:
  - Above ground fuel storage tanks;
  - A shed;
  - A fuel gantry; and
  - Parking areas, truck standing areas, associated infrastructure and landscaping.

The proposed fuel storage facility is located within a designated bushfire prone area as per the *Western Australia State Map of Bush Fire Prone Areas* (DFES 2021), which triggers bushfire planning requirements under *State Planning Policy 3.7 Planning in Bushfire Prone Areas* (SPP 3.7; WAPC 2015) and reporting to accompany submission of the development application in accordance with the associated *Guidelines for Planning in Bushfire Prone Areas v 1.4* (the Guidelines; WAPC 2021).

This assessment has been prepared by Principal Bushfire Consultant Daniel Panickar (FPAA BPAD Level 3 Certified Practitioner No. BPAD37802) with quality assurance undertaken by Senior Bushfire Consultant Eva Cronin (FPAA BPAD Level 2 Certified Practitioner No. BPAD45482).

1.2 Purpose and application of the plan

The primary purpose of this BRMP is to act as a technical supporting document to inform planning assessment in conjunction with the corresponding Bushfire Management Plan (BMP) also prepared by ELA (ELA 2022).

SPP 3.7 (Policy Measure 6.6) requires development applications for high-risk land uses (such as fuel storage facilities) in areas between BAL-12.5 and BAL-29 to be accompanied by a risk management plan for any flammable on-site hazards. The Bushfire Management Plan (BMP) prepared by ELA for the subject site (ELA 2022) identifies the proposed infrastructure within the subject site as being located within an area subject to BAL ratings ≤BAL-29.

The Building Code of Australia bushfire construction requirements only apply to residential buildings and associated structures. The Guidelines therefore require the planning process to focus on location and siting of high-risk land uses rather than application of bushfire construction requirements.

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Under the *Dangerous Goods Safety (Storage and Handling of Non-Explosives) Regulations 2007* (the Regulations), the operator will also be required to complete a separate risk assessment that addresses risks other than bushfire for the proposed development. The Regulations also require operators to prepare an emergency plan for fuel storage facilities. An emergency management plan will be developed for the subject site, which will set guidelines for the management of an emergency, disaster or major incident at the site. The emergency plan for the fuel station will reflect the site layout and bushfire risk post-construction.

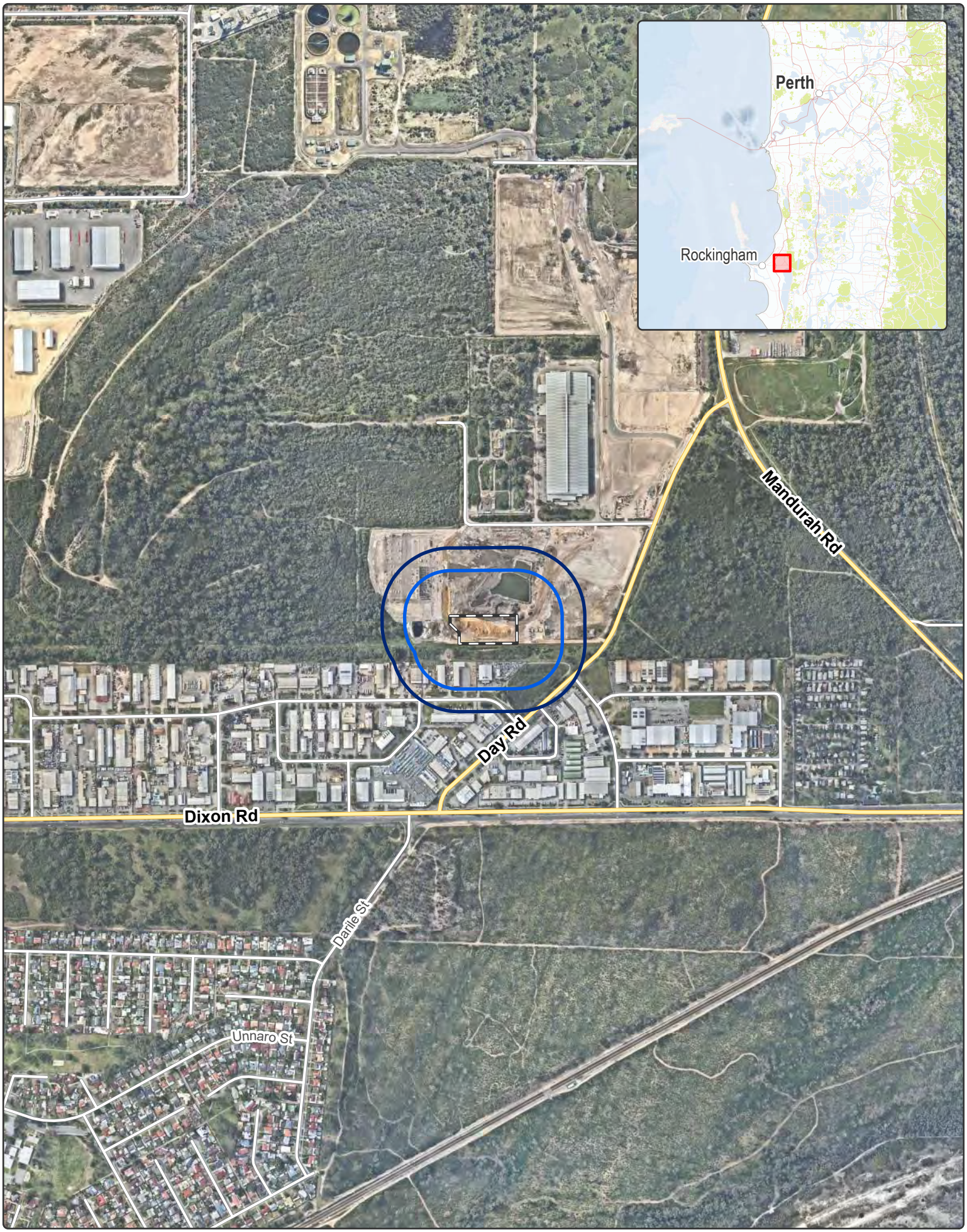

Figure 1: Site Overview

Subject site
100m site assessment
150m site assessment

N

0 100 200 400
Metres

Datum/Projection:
GDA 1994 MGA Zone 50

22PER3908-ED Date: 15/12/2022

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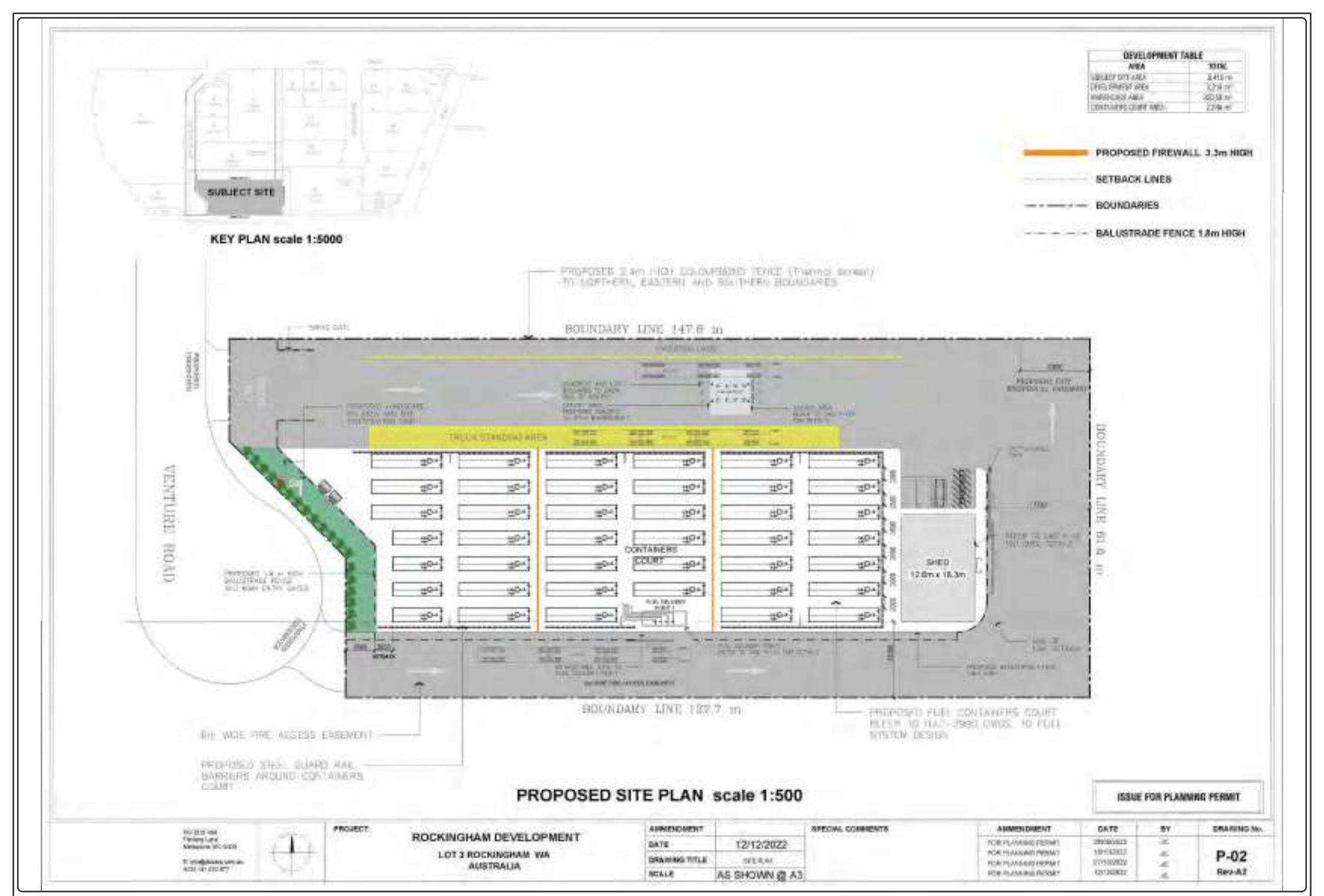

Figure 2: Site Plan

2. Bushfire risk assessment methodology

Australian and New Zealand Standard *AS ISO 31000:2018 Risk Management–Guidelines* (SA 2018) provides an internationally recognised approach to risk management. Methodology for this process is outlined in Figure 3.

AS/NZS ISO 31000:2018 is adopted by the Department of Fire and Emergency Services (DFES), as documented in the agency's Bushfire Risk Management Framework (DFES 2020).

From a bushfire management perspective, this methodology can be useful in determining:

1. The inherent bushfire risk (i.e. the initial level of risk prior to risk treatment and mitigation); and
2. The residual bushfire risk (i.e. the level of risk remaining following risk treatment and mitigation).

Inherent and residual bushfire risk can be determined on the basis of the following risk criteria:

- Likelihood of ignition and bushfire occurrence takes into consideration the bushfire history of the area, risk of ignition, vegetation type, fuel age and load, slope under vegetation and predominant fire weather conditions; and
- Consequence or impact from bushfire on life, property and the environment considers the degree and severity of potential bushfire scenarios, location of bushfire hazard areas, assets present in the area and the level of management and suppression response available.

The bushfire scenarios identified in Section 3 have been subject to bushfire risk assessment through determination of likelihood and consequence in accordance with the rating tables outlined in Table 1 and Table 2[1]. This process determines the inherent bushfire risk of the event and informs the level of mitigation or management response required to reduce the risk to an acceptable level. The risk assessment matrix used to determine inherent and residual bushfire risk is outlined in Table 3.

[1] The determined consequence rating is the most likely outcome, not the worst case.

Table 1: Likelihood rating system

Likelihood rating	Description
Almost certain	Consequence expected to occur in most circumstances, may occur once every year or more
Likely	Consequence will probably occur in most circumstances, may occur once every five years
Possible	Consequence might occur at some time, may occur every twenty years
Unlikely	Consequence is not expected to occur, may occur once every one-hundred years
Rare	Consequences may occur only in exceptional circumstances; may occur once every five-hundred or more years

Table 2: Consequence rating system

Consequence rating	Description
Catastrophic	A large number of severe injuries, widespread damage and displacement of the community, significant impact on the environment
Major	Extensive number of injuries requiring hospitalisation, significant damage and impact on the community, longer term impacts on the environment
Moderate	Some injuries requiring medical treatment but no fatalities, localised damage and short-term impact on the environment
Minor	Small number of injuries but no fatalities, some damage and disruption but no lasting effects
Insignificant	No injuries or fatalities, little damage or disruption

Table 3: Risk assessment matrix

	Consequences				
Likelihood	Insignificant	Minor	Moderate	Major	Catastrophic
Almost Certain	High	High	Extreme	Extreme	Extreme
Likely	Medium	High	High	Extreme	Extreme
Possible	Low	Medium	High	Extreme	Extreme
Unlikely	Low	Low	Medium	High	Extreme
Rare	Low	Low	Medium	High	High

Risk level	Risk response
Low	Acceptable risk. Application of standard management measures will ensure risk level remains low and risk should be eliminated or reduced as time permits.
Medium	Potentially unacceptable risk. Development of site-specific management measures may be required to lower the risk level and risk should be reduced as soon as reasonably practicable.
High	Potentially unacceptable risk. Development of additional site-specific management measures will be required to lower the risk level and requires urgent action as soon as possible.
Extreme	Unacceptable risk. Additional site-specific mitigation will be required to lower the risk level and an immediate mitigation response is required.

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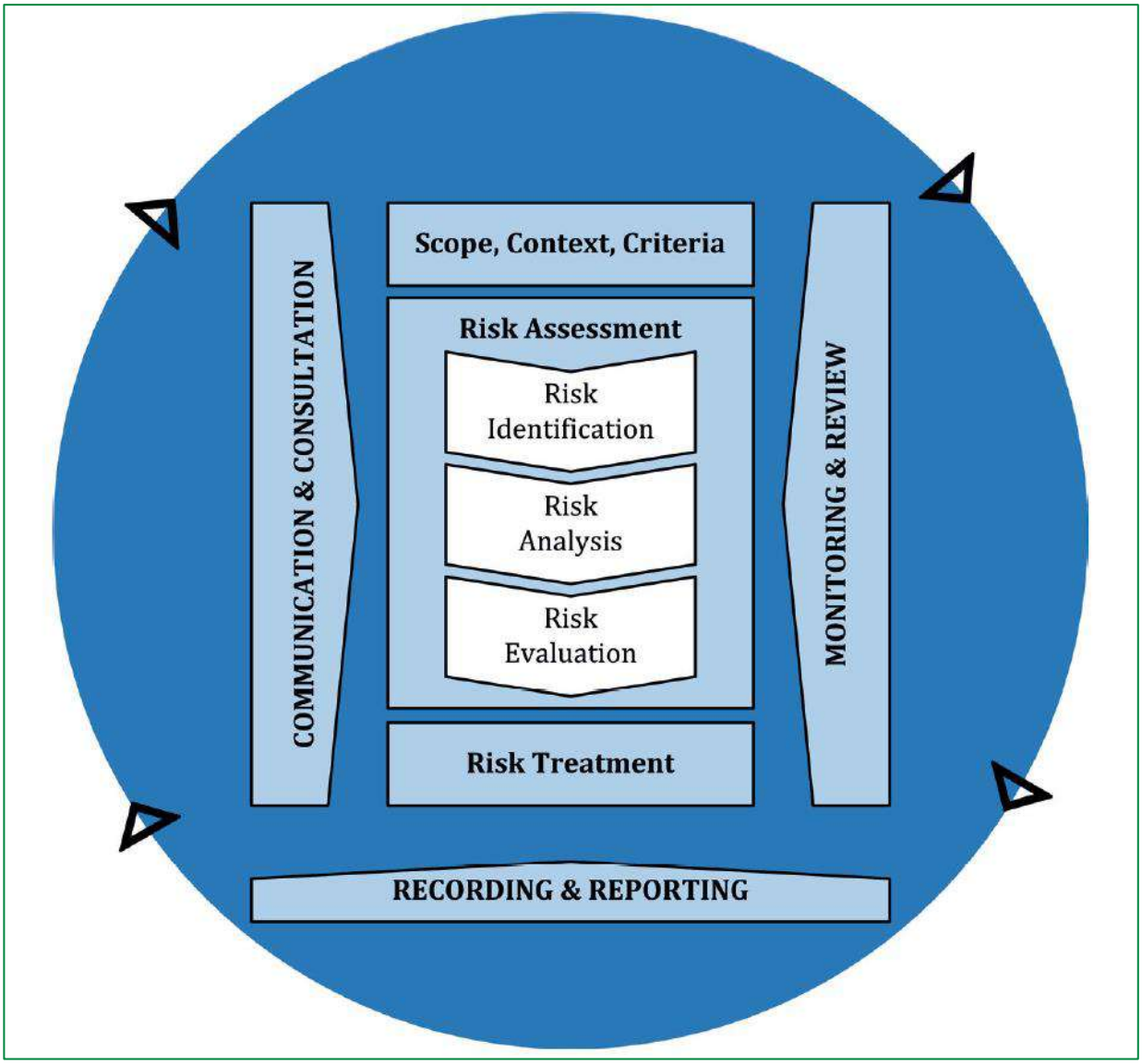

Figure 3: Risk assessment process as per AS ISO 31000:2018

3. Identified bushfire scenarios

The BMP (ELA 2022) identifies and classifies the existing bushfire hazards within 150 m of the subject site, based on existing vegetation and slope and separation distance to the vegetation.

Based on this information, ELA has assessed potential bushfire scenarios that could affect the subject site. The potential bushfire scenarios have been used to inform a bushfire risk assessment (refer to Section 4) and assist in development of appropriate bushfire mitigation responses (refer to Section 5). The following bushfire scenarios were assessed:

- Bushfire approaching the subject site from the south;
- Bushfire approaching the subject site from the west and north; and
- Bushfire approaching the subject site from the east.

The potential bushfire scenarios that may impact this site will vary depending on a number of factors including:

- Fire weather conditions on the day (i.e. wind direction and speed, temperature, relative humidity, drought factor);
- Fuels available to burn (fuel load, fine fuel moisture content, etc);
- Fire start time; and
- The location of point of ignition.

A description of the potential bushfire scenario is provided in the following subsections and November and February wind roses for Jandakot Airport Weather Station (Station No. 9172, approximately 24.2 km from the subject site) used to identify potential directions of bushfire attack are provided in Appendix A (BoM 2022). BoM stations at Garden Island and Mandurah are more relevant to the conditions likely to be experienced at the subject site than Jandakot (i.e. distance to the site and similar coastal locations), however neither of these stations record 9am and 3pm weather/climate observations, including: temperature; relative humidity; wind speed; and wind direction.

3.1 Scenario 1 - Bushfire approaching subject site from the south

A bushfire approaching the subject site, directly from the south through predominantly grassy and scrub fuels is unlikely given the narrow band of vegetation in this area (approx. 40 m wide) which separates the site from adjacent industrial development to the south. Fires in this vegetation during the fire season are likely to be flank fires which are spreading under the influence of an easterly wind in the morning, or a head fire with a significantly reduced flame width spreading under the influence of a westerly or southwesterly wind in the afternoon (BOM 2022).

This narrow band of vegetation occurs within a Public Transport Authority easement that may be cleared in the future. Vegetation is located on gentle to negligible slopes to influence fire behaviour. There is a moderate risk of ignition in this vegetation due to the proximity of industrial areas and roads/tracks adjacent to and crossing the vegetation.

The adjacent road network and operational light industrial facilities immediately abutting this vegetation, however, would potentially provide an opportunity for a fire suppression response, which could contain a fire in this area before significant impacts are experienced at the subject site.

There is significant vegetation further south of the subject site (approx. 400 m), south of Dixon Road, and whilst ember attack from this vegetation during a bushfire event may be experienced at the subject site, other impacts are unlikely.

3.2 Scenario 2 – Bushfire approaching the site from the west or north

A bushfire approaching the subject site from the west or north through forest and scrub fuels associated with vegetation within Alumina Reserve is possible given predominant afternoon winds are from the west and south-west throughout the fire season (BOM 2021). It is unlikely fire will approach directly from the north, however as this vegetation is contiguous with that to the west, these two aspects have been grouped together into one scenario.

The bushfire hazard in the context of the surrounding landscape (i.e. outside the 150 m Bushfire Attack Level assessment area) consists of a mixture of predominantly scrub and forest vegetation that is associated with conservation significant wetland and interzone areas within Alumina Reserve. Contiguity of these bushfire fuels is broken up with cleared tracks within the vegetation. This will likely limit the rate of spread, improving access for suppression response. In addition, vegetation to the west and north is mainly on flat land which will further reduce the potential fire behaviour and impacts.

There is a moderate to high risk of ignition in this vegetation due to the proximity of industrial areas and roads/tracks crossing the vegetation.

A bushfire impacting from these aspects is likely to be detected in a short time frame due to surrounding public roads and operational light industrial areas that will provide an opportunity for a rapid fire suppression response, dependent upon the Fire Danger Rating (FDR) during a fire event, which could contain a fire in this area before significant impacts are experienced at the site.

3.3 Scenario 3 – Bushfire approaching the site from the east

A bushfire approaching the subject site from the east through forest and scrub fuels associated with vegetation along the east side of Day Road is possible given predominant morning winds are from the east throughout the fire season (BOM 2021).

The bushfire hazard in the context of the surrounding landscape (i.e. outside the 150 m Bushfire Attack Level assessment area) consists of a mixture of predominantly forest and scrub vegetation that whilst segmented by road, rail, tracks etc. does extend for over 2 km, presenting a significant fire catchment. In addition, whilst tracks and roads provide access to certain areas of this catchment, there are significant areas where access is limited or non-existent. Significant separation does exist between the subject site and these hazards in the form of Day Road and over 150 m of cleared/developed land which forms part of the surrounding industrial estate.

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There is a moderate to high risk of ignition in this vegetation due to the proximity of industrial areas and roads/tracks and rail crossing the vegetation.

A bushfire impacting from the east may not be detected early, given the size of the fire catchment, limiting opportunity for a rapid fire suppression response, however the significant separation between the subject site and this vegetation is likely to mean that impacts are limited to ember shower and low levels of radiant heat.

4. Bushfire risk assessment results

4.1 Risk context

Risk is being assessed to inform bushfire mitigation for the subject site for the protection of life and property within and adjacent to the site. The risk assessment adopts a broad area and supports a tenure blind approach to ensure wider risk impacts and adjoining lands are captured to suitably address potential risk.

4.2 Risk identification

Bushfire risk is identified in the potential bushfire scenario outlined in Section 3, which indicates the potential bushfire events that could impact life and property within the subject site and adjacent land. This scenario is considered to cover the majority of bushfire events that could occur in order to develop suitable mitigation and manage as much of the bushfire risk as possible.

4.3 Risk analysis and evaluation

Risk analysis and evaluation for the bushfire scenarios described in Section 3 is provided in Table 4, which specifies the likelihood and consequence of each scenario with and without management measures to determine inherent and residual risks.

4.4 Summary of results

Due to the storage and handling of flammable materials within the subject site, the potential consequence of a bushfire entering the site would be greater than if flammable materials were not present.

ELA is of the view that following implementation of management measures provided in the Section 5, the risk of ignition will not be reduced due to the ongoing level of public access and presence of off-site classified vegetation and on-site flammable goods. Therefore, bushfire risk management measures are likely to reduce the level of consequence resulting from the bushfire event, rather than the likelihood of the event occurring. For example, an evacuation plan will reduce the potential impacts on life; thus reducing the level of consequence received from the bushfire event, but the likelihood of the event occurring will not be reduced.

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Table 4: Bushfire risk assessment

Bushfire risk	Comments	Likelihood	Consequence	Inherent risk	Mitigation	Likelihood	Consequence	Residual risk
Scenario 1: Bushfire impacting subject site from the south	**Safety risk** Scrub and grassland fuels are not contiguous in nature and are broken up by cleared tracks. This will limit the rate of spread that will improve access for suppression response. This bushfire scenario is unlikely due to the narrow strip of vegetation in this area. Consequence is not expected to occur; may occur once every one-hundred years based on fire history, suppression response capability, fuel types, anticipated rate of spread etc. Some injuries requiring medical treatment but no fatalities, localised damage and short-term impact on the environment based on analysis of assets.	Unlikely	Moderate	Medium	Implementation of management measures identified in Section 5	Unlikely	Minor	Low
Scenario 2: Bushfire impacting subject site from the west or north	**Safety risk** Forest and scrub and fuels are not contiguous in nature and are broken up by cleared tracks. This will limit the rate of spread that will improve access for suppression response. Greatest level of impact would occur under adverse fire weather conditions with a westerly or south-westerly wind. Consequence might occur at some time; may occur every twenty years based on fire history, suppression response capability, fuel types, anticipated rate of spread etc. Some injuries requiring medical treatment but no fatalities, localised damage and short-term impact on the environment based on analysis of assets.	Possible	Moderate	High	Implementation of management measures identified in Section 5	Possible	Minor	Medium
Scenario 3: Bushfire impacting subject site from the east	**Safety risk** Forest and scrub fuels occur in a large fire catchment which may allow for significant fire spread. Significant separation does exist between the subject site and these hazards in the form of Day Road and over 150 m of cleared/developed land which forms part of the surrounding industrial estate. Impacts are likely to be limited to ember shower and low levels of radiant heat. Consequence might occur at some time; may occur every twenty years based on fire history, suppression response capability, fuel types, anticipated rate of spread etc. Some injuries requiring medical treatment but no fatalities, localised damage and short-term impact on the environment based on analysis of assets.	Possible	Moderate	High	Implementation of management measures identified in Section 5	Possible	Minor	Medium

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5. Bushfire mitigation measures

Results of the bushfire risk assessment indicate that Scenario 2 is considered to have the higher inherent and residual bushfire risk given the predominant westerly and south westerly afternoon wind directions for Perth during the bushfire season.

Implementation of the management measures provided in the following subsections prioritise protection of life and property and will reduce bushfire risk (residual risk) within the subject site.

5.1 Fire protection and detection equipment

The proposed facility will be fitted with a monitored alarm system, which when activated triggers an automatic response to the nominated security company.

Fire extinguishers and hydrants will be located within the subject site at various locations. There will be an emergency stop button for diesel transfer systems located at strategic positions where transfer takes place. Only personnel trained in the use of fire fighting equipment should be utilising this equipment and only if safe to do so. The final design will be subject to fire authority approval as required under dangerous goods legislation.

A Spill Response Kit will be maintained on the subject site and located at various positions for minor spills next to/below any emergency stop button. A containment system to collect spills and an amount of fire water as required by the code will be installed. Fire services are to be called in the event of a spill that covers more than 2 m² and cannot be cleaned with a spill kit at the site or it is not considered safe to do so.

5.2 Evacuation plan and assembly points

The operator is required to develop an emergency management plan for the subject site in accordance with *Australian Standard 3745-2010 Planning for emergencies in facilities*, identifying evacuation triggers and depicting muster points on-site.

5.3 Personnel training

All occupants working at the subject site must be trained in responding to and managing all emergency incidents in accordance with the emergency management plan for the site. A record of training must be kept up to date and debrief sessions held after all training exercises or incidents.

An evacuation exercise must be carried out at least every six months. All occupants working on the site are required to participate.

5.4 Bushfire suppression

The Rockingham Career Fire and Rescue Services (CFRS) Brigade is the closest fire brigade (located approximately 700 m southwest of the subject site) that is likely to provide first response in the event of a bushfire emergency and is expected to provide a conservative emergency suppression response time of approximately 15 minutes.

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5.5 Landscaping

All landscaping areas within the subject site will be maintained in accordance with *Standards for Asset Protection Zones* (WAPC 2021) and/or clause 2.2.3.2 (f) of AS3959: 2018.

5.6 Additional measures

5.6.1 Manifest

Dangerous goods sites must maintain a current manifest and a dangerous goods site plan, to allow an appropriate response by Emergency responders in the event of an emergency, such as a fire.

The manifest and dangerous goods site plan for dangerous goods that will be stored and handled at the service station will need to be developed in accordance with the relevant Dangerous Goods Safety Guidance Note (DMP 2014).

The emergency management plan refers to critical information for emergency response being located in the HAZMAT/HAZCHEM emergency boxes which will be located at the main entrance to the property. This information includes the Emergency Plan, Dangerous Goods Manifest, Register of Dangerous Goods and Hazardous Materials, Safety Data Sheets for bulk products kept on site and dangerous goods site layout plan.

5.6.2 Ignition sources

Operators of dangerous goods sites are required to manage potential ignition sources, such as hot works and electrical equipment, away from the fuel storage areas and only under permit conditions.

5.6.3 Placard and marking

A placard, readily visual for Emergency responders and providing visual warnings of the hazards associated with storage of fuel, will be required at the subject site in accordance with DMP Storage and handling of dangerous materials Code of Practice (DMP 2010).

Signage and notices will also be required in accordance with *AS 1940-2004 The storage and handling of flammable and combustible liquids* (AS 1940-2004; SA 2004) and any relevant state guidance.

6. Conclusion

ELA expects that through implementation of the management measures outlined in this BRMP, inherent bushfire risk to life and property within and surrounding the subject site can be reduced.

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Appendix A November and February wind roses for Jandakot Airport (Station No. 9172; BoM 2022)

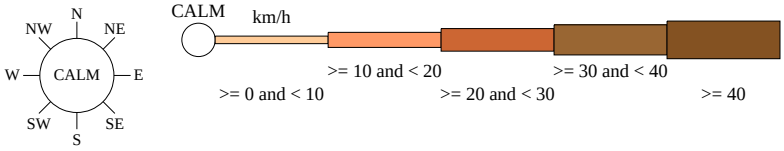
Rose of Wind direction versus Wind speed in km/h (01 Feb 1989 to 11 Aug 2022)

Custom times selected, refer to attached note for details

JANDAKOT AERO

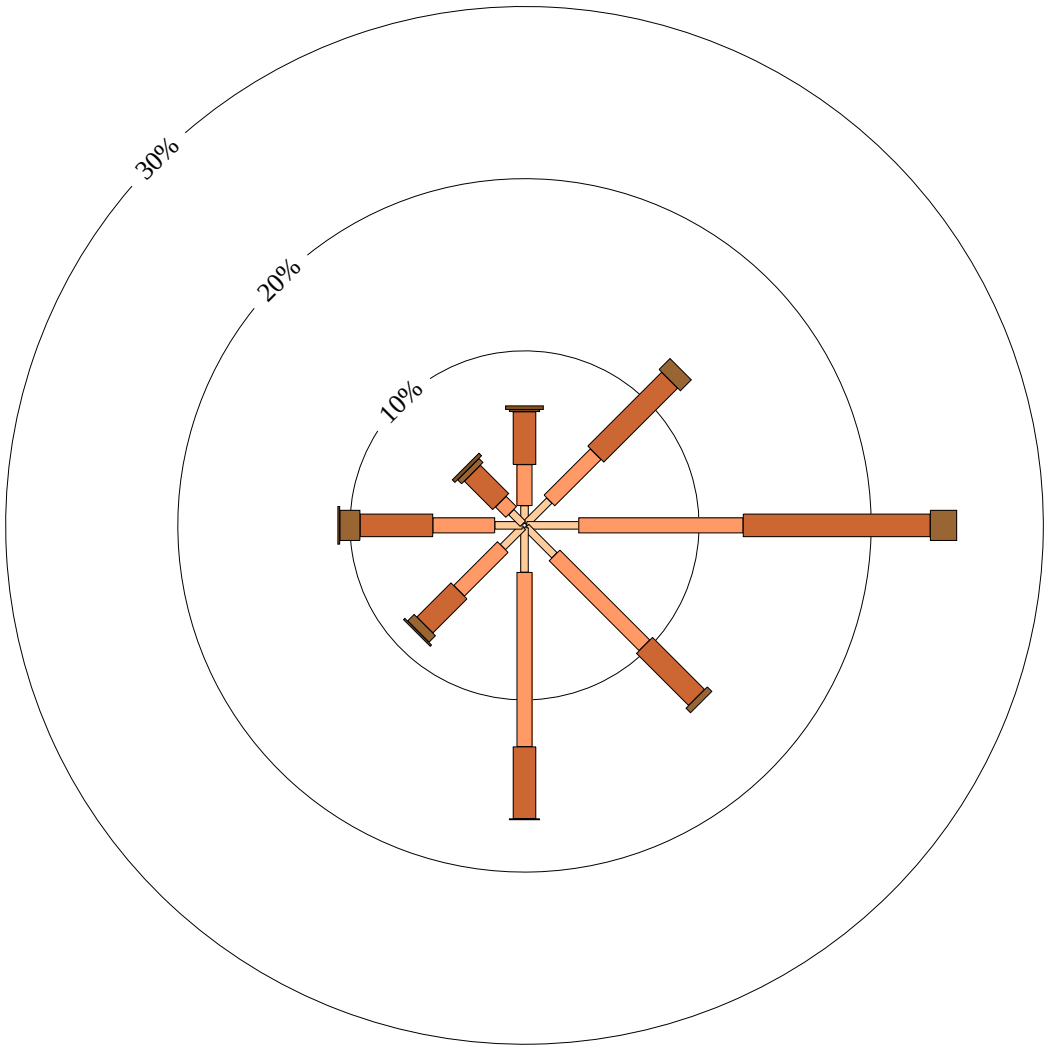
Site No: 009172 • Opened Aug 1972 • Still Open • Latitude: -32.1011° • Longitude: 115.8794° • Elevation 30m

An asterisk (*) indicates that calm is less than 0.5%.
Other important info about this analysis is available in the accompanying notes.



9 am Nov
949 Total Observations

Calm 1%



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Rose of Wind direction versus Wind speed in km/h (01 Feb 1989 to 11 Aug 2022)

Custom times selected, refer to attached note for details

JANDAKOT AERO

Site No: 009172 • Opened Aug 1972 • Still Open • Latitude: -32.1011° • Longitude: 115.8794° • Elevation 30m

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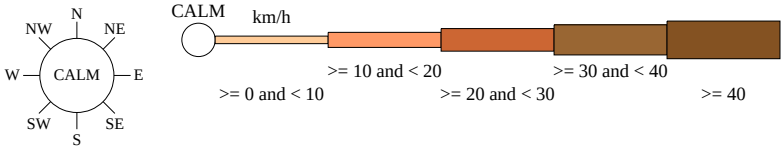
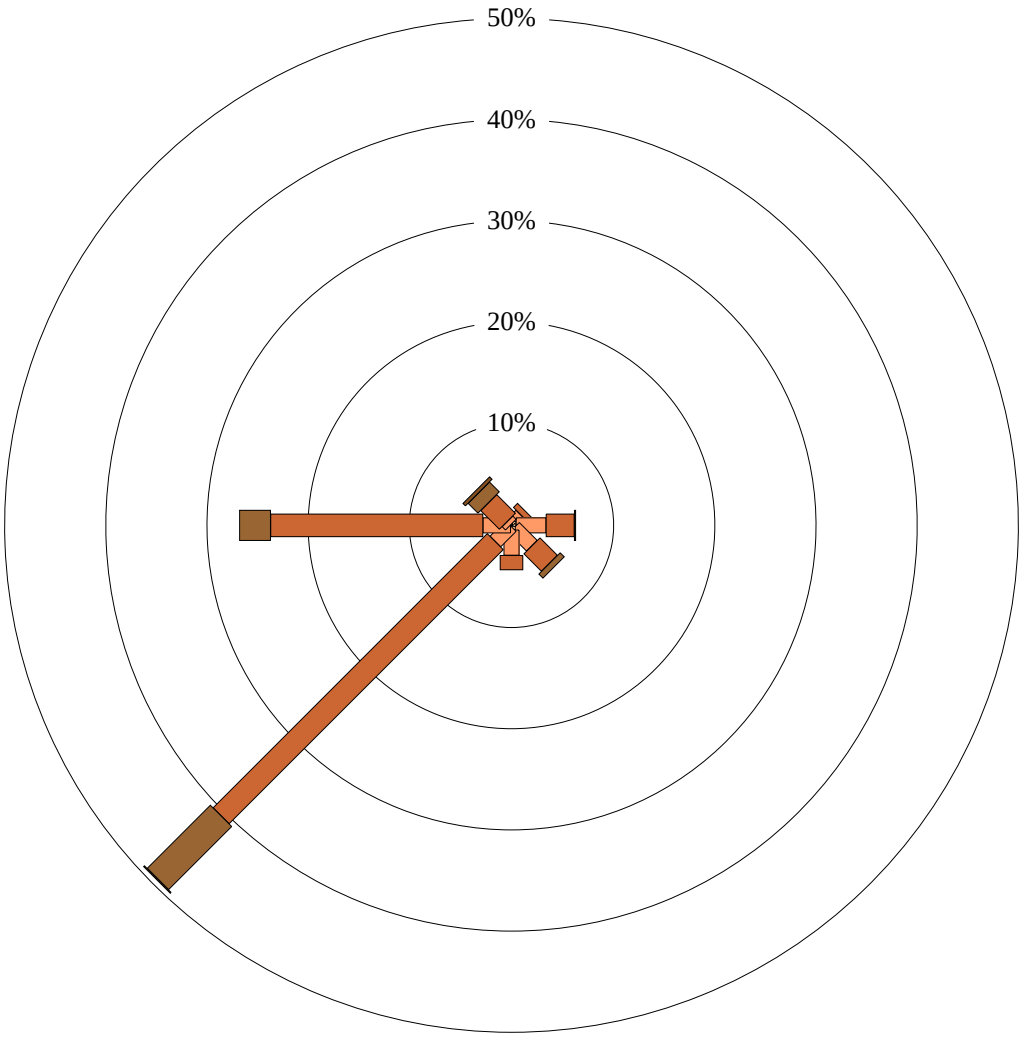


3 pm Nov
885 Total Observations

Calm *



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Rose of Wind direction versus Wind speed in km/h (01 Feb 1989 to 11 Aug 2022)

Custom times selected, refer to attached note for details

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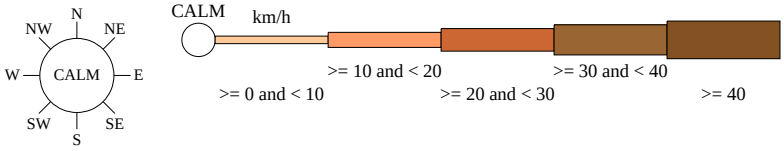
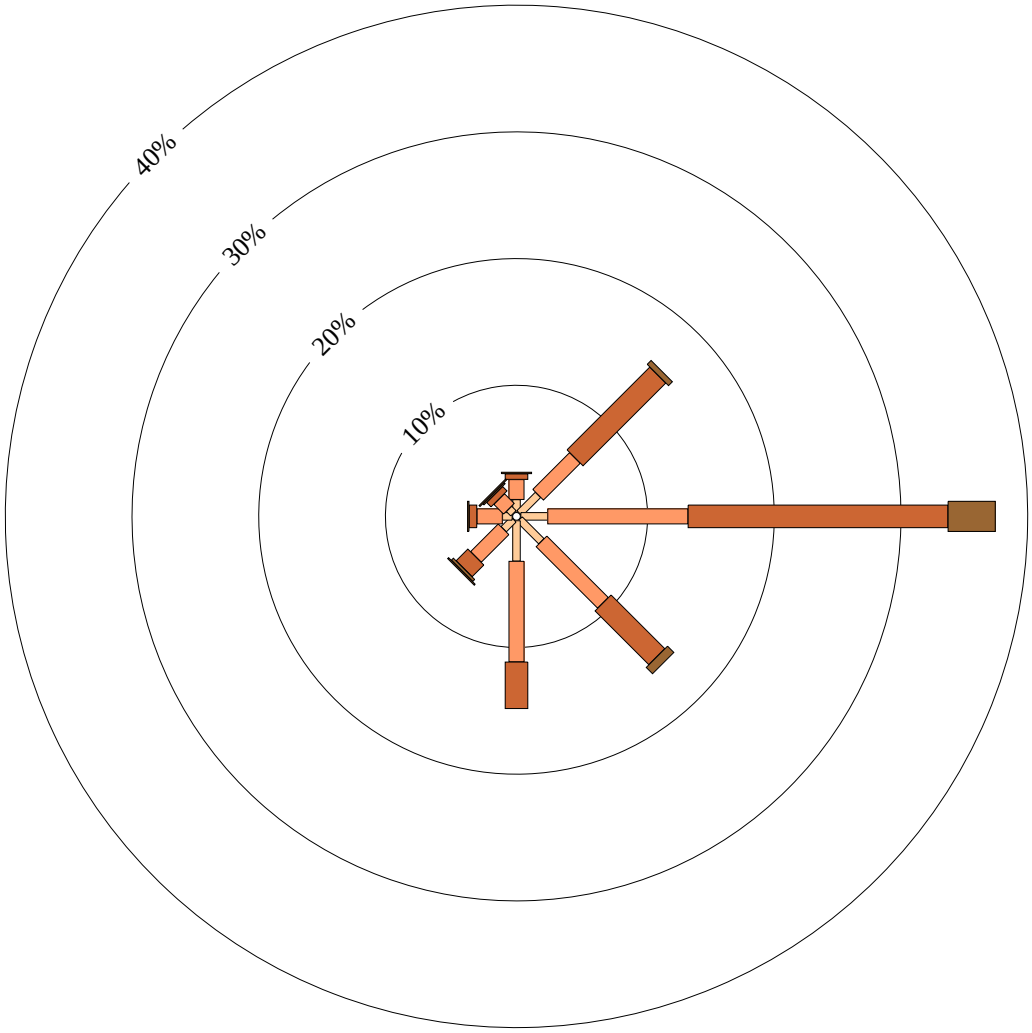
An asterisk (*) indicates that calm is less than 0.5%.
Other important info about this analysis is available in the accompanying notes.



9 am Feb
927 Total Observations

Calm 2%



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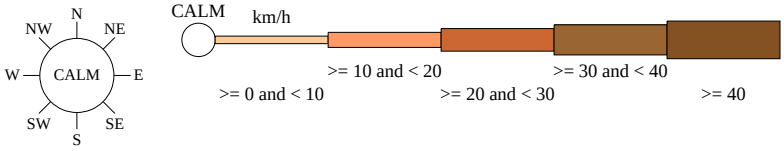
Rose of Wind direction versus Wind speed in km/h (01 Feb 1989 to 11 Aug 2022)

Custom times selected, refer to attached note for details

JANDAKOT AERO

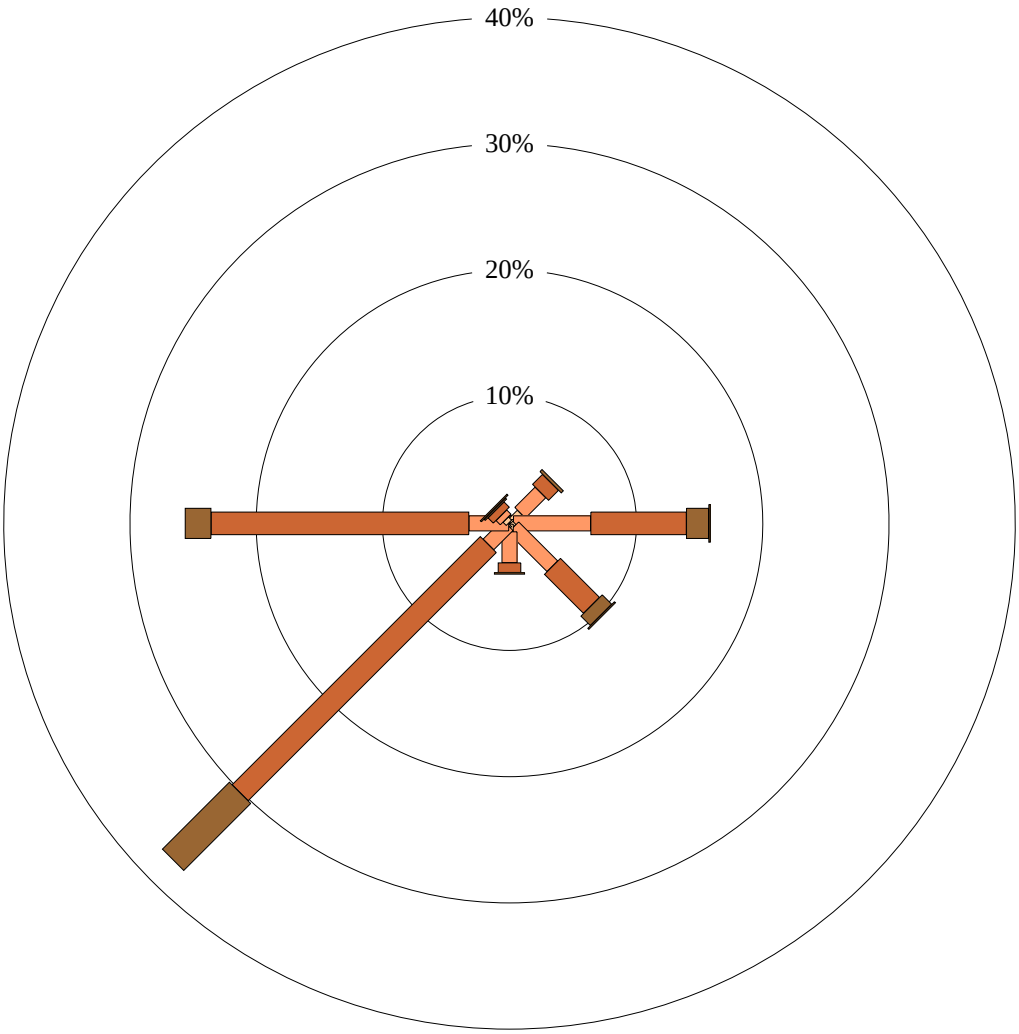
Site No: 009172 • Opened Aug 1972 • Still Open • Latitude: -32.1011° • Longitude: 115.8794° • Elevation 30m

An asterisk (*) indicates that calm is less than 0.5%.
Other important info about this analysis is available in the accompanying notes.



3 pm Feb
860 Total Observations

Calm *



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ecological AUSTRALIA
A TETRA TECH COMPANY

SYSTEM CERTIFICATION ISO 9001 SGS
SYSTEM CERTIFICATION ISO 14001 SGS
SYSTEM CERTIFICATION AS 4801 SGS

1300 646 131
www.ecoaus.com.au

Appendix F – Indicative Tank Specifications

1300 FUELCO

sales@fuelco.com.au | fuelco.com.au

Fuelco™
complete fuel storage solutions

Klassic - LTKL 68

Self bunded double wall design with

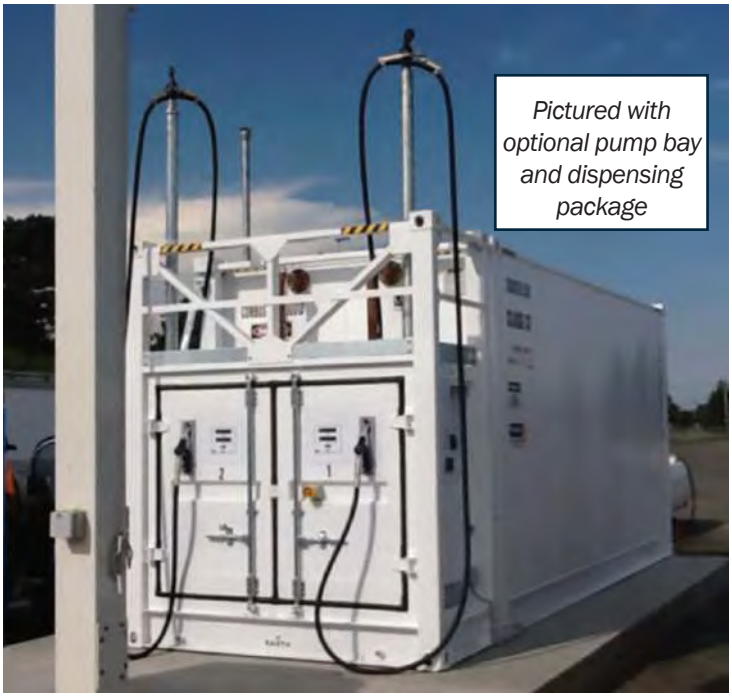
- Fluid level dipstick for tank and interstitial space
- Vent pipe for tank and interstitial space
- Suction foot valve, overfill protection and electronic overfill alarm
- Corner container lock castings for ease of transport
- Access manway
- Warranty - 5 years structural, 1 year on valves (conditions apply)

Pump bay model standard with:

- Bunded pump bay with lockable weatherproof doors
- Galvanised access ladder and platform; with ladder fitted to either side of the platform (ex-factory)
- Galvanised kick plate and middle rail provided for additional safety of users

Specifications

Description	
Safe Fill, litres	64,600
Length, mm	12,192
Width, mm	2,438
Height, mm	2,896
Weight (emplty) kg	14,600
Vent Pipe	Standard
Fluid Level Dipstick	Standard
Compliance	AS1940, AS1692, AS1657, UL142



Pictured with optional pump bay and dispensing package

Disclaimer: Information and photographs shown are for marketing purposes only. Actual product may vary to images shown due to continual improvement processes, design changes and optional extras

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Appendix G - Risk Assessment Report

HAZKEM
DANGEROUS GOODS CONSULTING

DANGEROUS GOODS STORAGE

RISK ASSESSMENT AND HAZARD ANALYSIS

aksara

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EAST ROCKINGHAM WA

Hazkem Pty Ltd
January 2023

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This report was written by Phil Kemm,
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WA DMIRS Accreditation number 61M003
Accredited in UEENEEM052A Classifying Hazardous Areas – Gas Atmospheres
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Last Saved	25 January 2023
Project Manager	Phil Kemm
Name of Organisation	Aksara Pty Ltd
Name of Project	Aksara Rockingham
Name of Document	Risk Assessment and Hazard Analysis
Document Version	Rev 1
Project No.	HAZ-2990

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RISK ASSESSMENT FOR THE STORAGE OF DANGEROUS GOODS
AKSARA ROCKINGHAM
Venture Place,
EAST ROCKINGHAM WA

January 2023

Preliminary

Under the Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulation 2007, the person in control of the premises is required to identify any hazards associated with the storage and handling of Dangerous Goods and perform a risk assessment with regards to these hazards. (Regulation 48)[1]. At a minimum the risk assessment is to be reviewed every 5 years, and must be made available, on request to the Chief Officer or Dangerous Goods Officer (Regulation 48)[1].

The regulations are supported by a number of gazetted codes of practice that provide practical guidance on how to comply with specific duties. These include certain Australian Standards which have been approved by the Minister[2]. By following an approved code of practice, whilst not mandatory, is one way of complying with specific duties under the regulations.

In order to comply with this requirement a self-assessment of the design against AS 1940-2017, "The Storage and Handling of Flammable and Combustible Liquids" has been performed. Compliance of design against this standard is deemed to be an adequate risk assessment for the purposes of these regulations.

As the quantity of combustible liquids stored on site exceeds 100 000 litres, a written plan for dealing with emergencies associated with the storage and handling of the dangerous goods on the premises is to be developed. (Regulation 75)[3]. The Emergency Plan is to be submitted to the relevant Authority if the storage of combustible liquids exceeds 1,000 000 litres (10 times the manifest quantity). This plan is to be reviewed at least every 3 years (Regulation 75)[3]. The plan is to be made available on site.

As the quantity of combustible liquids stored on site exceeds 100 000 litres a license must be obtained from the relevant Authority. (Regulation 25)[4]. This license must be renewed every 3 years. (Regulation 34)[4]

The risk assessment should be performed by a person with appropriately demonstrated competence. This document has been prepared on this basis by Phil Kemm, member of the AIDGC and DMP WA accreditation number 61M003, who has many years experience within the industry.

Signage is to be provided as outlined in Signage Appendix (attached). Figure 1 should be installed at each entrance to the property and figure 2 should be installed on or adjacent to each aboveground combustible liquids tank (Regulation 68)[5].

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AS 1940-2017 ASSESSMENT

This self-assessment shows compliance with AS 1940-2017 for the proposed aboveground diesel storages with bottom loading facility. This assessment incorporates the AS 1940-2017 Amendment 1 - 2019 and Amendment 2 - 2021.

Tanks proposed are;
41 x 72,000 litres Diesel tank = 2,952,000 litres

The relevant sections of AS1940-2017 are as follows: -
SECTION 1 - Scope and General
SECTION 3 - General Requirements
SECTION 5 - Storage in Tanks
SECTION 6 - Systems for Piping, Valves Pumps and Tank Heating
SECTION 7 - Fuel Dispensing
SECTION 8 - Tank Vehicle Loading Facilities
SECTION 11 - Fire Protection

SECTION 1 - SCOPE AND GENERAL

1.1	SCOPE
	This Standard sets out requirements and recommendations for the safe storage and handling of flammable liquids of dangerous goods Class 3, as classified in the UN Recommendations for the Transport of Dangerous Goods—Model Regulations and listed in the ADG Code. This Standard also provides requirements and recommendations for the storage and handling of combustible liquids, as defined in Clause 1.4.9. This Standard provides minimum acceptable safety requirements for storage facilities, operating procedures, emergency planning and fire protection. It provides technical guidance that may assist in the storage and handling of flammable and combustible liquids in accordance with the risk management requirements of Safe Work Australia, Model Code of Practice, Managing Risks of Hazardous Chemicals in the Workplace and legislation which underpins that document. This Standard provides requirements for commonly used flammable and combustible liquids such as hydrocarbons and industrial solvents. Some flammable and combustible liquids have other physical and chemical properties that require additional precautions and design considerations. Examples of these are— a) liquids that can polymerize; b) liquids that require blanketing with inert gas; c) liquids that are heated; and d) liquids that are assigned a subsidiary risk. Any special precautions and considerations necessary for the safe storage and handling of such liquids are additional to the requirements and recommendations provided in this Standard. For the storage and handling of dangerous goods of another class but having a Class 3 subsidiary risk, this Standard is relevant to their flammability aspects. NOTE: Fuel blends that contain biofuel (e.g. ethanol) have physical and chemical properties that require additional precautions and design considerations.

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This site is to store combustible liquids in accordance with this standard. This assessment is of the preliminary designs only with further more detailed designs to be completed once Planning approval is obtained from local Governing Authorities which will further support and detail compliance. INFORMATIVE ONLY

SECTION 3 - GENERAL REQUIREMENTS

3.1 SCOPE OF SECTION

This Section provides general requirements and recommendations that apply to stores of flammable or combustible liquids, in quantities greater than those classified as minor storage in Section 2.

Additional requirements that are specific to particular types of installation are given in other sections of this Standard.
NOTE: Recommendations for blending plants are given in Appendix B.

This section covers general requirements applicable to this site for the storage of combustible liquids in quantities exceeding minor storages. INFORMATIVE ONLY

3.2 GENERAL DESIGN AND CONSTRUCTION REQUIREMENTS

3.2.1 Design safety and suitability

Any installation intended for the storage and handling of flammable or combustible liquids shall be designed and constructed so that it is safe and suitable for the conditions of use.

Factors that need to be considered include the following:
a) Working pressures and structural stresses.
b) Heat, corrosion, or attack by the liquid being handled.
c) Site conditions such as topography, usage of adjoining areas, or the risk of natural disasters, e.g. flood, earthquake, lightning strikes.
d) Design of plant, equipment, and operating methods, so as to minimize fire and accident risks and the possibility of errors or misunderstanding by staff.
e) Specific design for emergencies (see Clause 3.2.2 and Section 10), particularly firefighting facilities.
f) The identification of the function of every valve, switch or control actuator, including any remote switches or actuators.
g) Safe access to and egress from all working locations.
h) Avoidance of ignition sources.
i) Ventilation for vapour dispersal, taking into account the possible effect of nearby structures, excavations, embankments, and the like.
j) Separation of potential hazards, including areas where activities cannot be controlled.
k) Points of vapour relief.
l) Spill control measures to avoid contamination of soil and water.

The tanks and their installations have been designed with all factors of this Clause (3.2.1) being taken into consideration to maintain safe and suitable conditions for use. COMPLIES

3.2.2 Emergency provisions

An installation shall be designed to facilitate the management of an emergency, taking into account—
a) the nature and quantity of the liquids stored;
b) the layout of the storage area;
c) access through or around walls or other barriers;
d) the type of construction of any buildings; and

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e) the type and means of operation of any fire protection system.
NOTE: See also Sections 9, 10 and 11.

This site has been designed to facilitate the management of an emergency. COMPLIES

3.2.3 Minimization of vapour hazards

Where a flammable liquid is being used or transferred in such a manner that vapour is released, the ventilation, extraction, or dispersal provisions shall be sufficient to maintain exposure levels below the exposure standards published by Safe Work Australia.

This storage does not use or transfer flammable liquids. NOT APPLICABLE

3.2.4 Ignition sources

A hazardous area shall not extend beyond a boundary if it could encompass a fixed source of ignition on the adjacent property.
NOTE: Hazardous areas are defined in AS/NZS 60079.10.1.

As only combustible liquids are stored no hazardous areas exist around this storage as defined by AS/NZS IEC 60079.10.1 and AS/NZS IEC 60079.10.1 Supp 1 (formally AS/NZS 60079.10.1). NOT APPLICABLE

3.2.5 Separation distances

3.2.5.1 General

Storages shall be separated from boundaries, ignition sources, protected places and accumulations of combustible materials by the minimum distances relevant to each type of storage as specified in Clauses 4.3 and 5.7, with the additional requirements and qualifications as set out in this Clause (3.2.5).

Where alterations to the installation or adjoining site result in a breach of the required separation distances, the installation shall be assessed and brought into compliance or decommissioned.

The storage is the required distance from boundaries, ignition sources, protected places and combustible materials. Refer elsewhere in this report. COMPLIES

3.2.5.2 Separation to property boundary

The separation distance to any property boundary shall be at least that distance required by Table 4.2 or Table 5.3.

This aboveground storage of combustible liquids are separated from the property boundary by at least 3 meters as required by table 5.3. COMPLIES

3.2.5.3 Separation to protected places on adjoining properties

The separation distance to a protected place on another property shall be at least as specified in Table 4.1 or Table 5.4, as appropriate. This distance may be measured across a boundary, provided that, if alterations on the adjacent property result in a breach of the separation distance, the installation will be modified or relocated to restore compliance or taken out of service.

Where the future installation of a protected place on the adjoining property is possible, the installation may be located in accordance with boundary separation distances, provided that the provisions stated in the above paragraph are satisfied.
NOTES:
1 The use of the protected place distance measured to the boundary of the adjacent property is recommended to eliminate future problems, although its use is a commercial decision.
2 A formal agreement or covenant may be used.

The aboveground 72,000L storages of combustible liquids are each separated from all protected places in excess of 6.1 meters as required by table 5.4 COMPLIES

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3.2.5.4	**Adjacent occupancies storing flammable and combustible liquids** Where two adjacent premises under separate occupancies are each used for the storage and handling of flammable and combustible liquids and share a common boundary, the separation distances between tanks, package stores and other buildings may be measured as though both premises were under a single occupancy, provided that an agreement similar to that described in Note 2 to Clause 3.2.5.3 is in place, but providing for the alteration, redevelopment or change of ownership of either site.
	There are no adjoining properties storing flammable or combustible liquids where an agreement is in place. NOT APPLICABLE

3.2.5.5	**On-site storage of other dangerous goods** The on-site storage of other classes of dangerous goods may require differing separation distances, as specified in the relevant Australian Standards or by legislation, or both. Where no such distances are specified, the storage containing the other dangerous goods should be considered as an on-site protected place and the relevant distance specified in this Standard applied.
	There are no other dangerous goods stored onsite. NOT APPLICABLE

3.3	**MECHANICAL EQUIPMENT AND INSTALLATIONS**
	Mechanical equipment that meets any recognized industry standard for handling flammable liquids is deemed to meet the intent of Clause 1.4.37 for control of ignition sources in hazardous areas. Examples of such standards include API standards for pumps and EN or AS/NZS standards for industrial trucks in hazardous areas. NOTE: While standards under the ISO/IEC 80079 series may be used to provide guidance on possible ignition sources for mechanical equipment in hazardous areas, it is not a requirement of this standard that equipment complies with or is certified to these standards.
	As only combustible liquid is stored there are no hazardous areas as defined by AS/NZS IEC 60079.10.1 and AS/NZS IEC 60079.10.1 Supp 1 (formally AS/NZS 60079.10.1). COMPLIES

3.4	**ELECTRICAL INSTALLATIONS AND EQUIPMENT**
	The following requirements shall apply to both electrical equipment and installations in areas designated as hazardous areas under the AS/NZS 60079.10.1: a) Electrical installations All electrical installations shall be installed in compliance with the provisions of AS/NZS 3000 and AS/NZS 60079.14 that relate to electrical equipment in hazardous areas. The equipment shall be of a type certified to comply with the relevant Australian Standard or that has been approved for use in such locations by the relevant authority. b) Portable and mobile electrical equipment All electrical equipment to which AS/NZS 3000 does not apply shall be selected and used in accordance with AS/NZS 60079.14, except where Item (c) below applies. c) Electric forklift trucks In hazardous areas classified as Zone 2, electric forklift trucks and similar vehicles (e.g. stackers) not suitable for use in the Zone shall not be used except where Appendix C is complied with in all respects. NOTE: Requirements for electric forklift trucks for use in hazardous areas are specified in AS 1915.
	As only combustible liquid is stored there are no hazardous areas as defined by AS/NZS IEC 60079.10.1 and AS/NZS IEC 60079.10.1 Supp 1 (formally AS/NZS 60079.10.1). NOT APPLICABLE

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3.5	INTERNAL COMBUSTION ENGINES
	Internal combustion engines may be used in hazardous areas as designated in the AS/NZS 60079.10.1 under the following conditions: a) An engine designed and certified to AS 2359.12 may be used in the areas for which it is certified. In such cases, a hot work permit is not required. b) A spark ignition engine not complying with Item (a) may be operated in a hazardous area if a hot work permit (see Clauses 9.8.3 and 9.8.6) has first been issued. c) A compression ignition engine may be operated in a Zone 2 hazardous area if— i) any incorporated or attached electrical equipment is suitable for use in a Zone 2 hazardous area; ii) the air intake is either extended to outside the hazardous area, or is provided with a strangler valve or equivalent in the manifold, in which case the engine is attended when in use; iii) mechanical sparks cannot be produced in the engine compartment of the appliance during its operation; and iv) the exhaust has a spark arrester complying with AS 1019 or is extended to outside the hazardous area. Any compression ignition engine not complying with AS 2359 [see Item (a) above] shall not be operated in a Zone 0 or Zone 1 area unless a hot work permit has been issued. Forklift trucks and similar vehicles that are not suitable for use in Zone 2, or which do not comply with Items (a) to (c) above, shall not be used unless both the store and the vehicle comply with Appendix C and a work permit has been issued.
	There are no hazardous areas as defined by AS/NZS IEC 60079.10.1 and AS/NZS IEC 60079.10.1 Supp 1 (formally AS/NZS 60079.10.1). NOT APPLICABLE

3.6	LIGHTING
	Lighting shall be provided in accordance with the following requirements: a) During the hours of operation, lighting shall be sufficient to provide safe working conditions that include, but are not limited to, clear visibility of all markings on packages, signs, instruments and other necessary items. NOTE: A minimum value of 50 lx is recommended. b) Sufficient lighting shall be available on any of the installation's internal roads when personnel at the premises might use them. c) Any lighting in a hazardous area shall be suitable to operate in that area.
	Sufficient lighting is to be provided during hours of operation. External lights will be fitted as required to enable use of the installation between dusk and dawn. COMPLIES

3.7	RESTRICTED USAGE
	A storage that has a capacity greater than that given for minor storage shall only contain flammable or combustible liquids or both, unless the other products being stored will not react dangerously or be incompatible with the liquids. If the store contains dangerous goods having a primary risk of other than Class 3, any other appropriate Australian Standards shall be consulted and the more stringent requirement shall apply. Aerosols of Divisions 2.1 and 2.2 may be stored in a store for Class 3 dangerous goods if projectile protection (e.g. cages) is provided. NOTE: Activities within package stores are described in Clause 4.10.
	Only diesel is stored within these tanks. NOT APPLICABLE

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3.8	FIREWALLS AND VAPOUR BARRIERS
3.8.1	**Conditions of use** Separation distances may be measured in a horizontal plane around the end of any intervening vapour barrier, provided that the barrier complies with the following: a) For separation from protected places and on-site protected places, such a vapour barrier is also a firewall. b) Building walls may be treated as being firewalls or vapour barriers provided that they qualify as such. A wall on an adjacent property shall not be used as a firewall unless an agreement similar to that described in Clause 3.2.5.4 is in place. Firewalls and vapour barriers may be used to achieve the separation distances in Tables 4.1, 4.2, 5.3 and 5.4 to protected places, public places and security fences.
	A firewall is incorporated in the design of the site to assist with achieving the separation between the tanks and the onsite protected place of the warehouse. There are no vapour barriers incorporated with this installation. All other required separation distances are achieved. COMPLIES

3.8.2	**Construction of firewalls** A firewall shall comply with the following requirements: a) The fire resistance level shall be at least 240/240/240. b) The firewall shall be impervious to vapour apart from around fire doors or other protected openings. c) Any freestanding firewall shall be self-supporting and shall have adequate foundations. d) The height of the firewall shall be sufficient to shield a protected place from heat radiation and flame impingement in the event that a potential storage fire becomes a reality, and vice versa. NOTE: Where an FRL is required, reference should be made to the National Construction Code (NCC) for building purposes.
	A firewall is required to be incorporated in the design of the site to assist with achieving the separation between the tanks and the onsite protected place of the warehouse. The fire wall will be designed in full accordance with this clause (clause 3.8.2). There are no vapour barriers incorporated with this installation. All other required separation distances are achieved. COMPLIES

3.8.3	**Construction of vapour barriers** A vapour barrier shall comply with the following requirements: a) The material shall be impervious to vapour and deemed to be non-combustible when tested in accordance with AS 1530.1. b) The top of the vapour barrier shall be above the height of the hazardous area pertaining at that point as determined in AS/NZS 60079.10.1.
	There are no vapour barriers required for the installation. NOT APPLICABLE

3.9	SECURITY, SIGNS AND NOTICES
3.9.1	**Control of access** All installations shall be appropriately secured against unauthorized access and tampering.
	This site is a private loading facility that is for use by authorised personnel only. The installation is located well within the property and can only be accessed by authorised personnel. COMPLIES

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3.9.2 Signs and notices

At the entrance to any storage area greater than minor storage, the following signs shall be displayed:
a) A DANGER—NO SMOKING, NO NAKED FLAMES sign;
b) For flammable liquids, a Class label and Subsidiary risk label (if any).
c) For combustible liquids, a COMBUSTIBLE LIQUID sign.

The following signs should be placed at the entrance(s) to the premises:
i) A WARNING—RESTRICTED AREA, AUTHORIZED PERSONNEL ONLY sign.
ii) A sign listing the emergency contact names, titles and phone numbers relevant to the installation.
iii) The name, address and phone number of the occupier.
iv) A layout diagram showing the location of fixed fire protection facilities (where installed), the drainage system and the 'Emergency Stop' switch.

Where two or more points of access are adjacent to each other so that a single set of signs and notices are clearly readable from each point of access, duplicate signs and notices are not required.

Signs shall comply with AS 1319. Class labels shall conform to AS 1216 and be a minimum of 250 mm square. Other signs shall have lettering at least 50 mm high.
NOTE: Composite signs or pictographs complying with the above requirements may be used.

The following signs are displayed on site:-
1 "DANGER-NO SMOKING, NO NAKED FLAME"
2 A HAZCHEM sign at each entrance to the property.
3 A sign listing emergency contact names, titles and phone numbers relevant to the storage is located inside the emergency manifest box.
4 For Combustible liquids a COMBUSTIBLE LIQUID sign in letters at least 150mm high is required.
5 At the entrance a layout diagram showing the location of fixed fire protection facilities, the drainage system and Emergency Stops. COMPLIES

3.10 TRANSIT STORAGE

3.10.1 General

This Clause (3.10) specifies requirements for the transit storage (as defined in Clause 1.4.72) of flammable and combustible liquids.

Sections 1, 9, 10 and 11 also apply to transit storage.

There is no transit storage at this site. NOT APPLICABLE

3.11 IGNITION SOURCES

A vehicle shall not be regarded as an ignition source while it is entering or leaving a hazardous area surrounding a fuel dispenser or a bulk cargo transfer connection for the purposes of refuelling or for loading or unloading bulk liquids. However, it shall be treated as a potential ignition source during the period of the bulk liquid transfer, and the procedures and precautions given in Section 7 shall apply.

A vehicle shall not be regarded as an ignition source while it is entering or leaving the hazardous area outside a package storage area for the purposes of loading or unloading packages, provided that the hazardous area is not enclosed and the vehicle is not within the package storage area. During the loading and unloading, the vehicle's engine shall be switched off and shall not be started. Any vehicle shall not enter the package storage area unless—
a) it is suitable for the applicable hazardous area as given in AS/NZS 60079.10.1; or

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b) the store and vehicle comply with Appendix C and a work permit has been issued (see also Clause 3.5).

There are no hazardous zones present on this site as defined by AS/NZS IEC 60079.10.1 and AS/NZS IEC 60079.10.1 Supp 1 (formally AS/NZS 60079.10.1) as the site stores combustible liquids only NOT APPLICABLE

SECTION 4 - PACKAGE STORAGE AND HANDLING AREAS

4.1 SCOPE OF SECTION

This Section provides requirements and recommendations for the location, design and construction of package stores for flammable and combustible liquids and for areas where such packages are filled, decanted or cleaned. It applies to quantities greater than those allowed as minor storage.

Sections 3, 9, 10 and 11 also contain requirements that apply to package stores.
NOTE: Appendix D provides further recommendations for the storage of flammable liquids in coolrooms.

There are no flammable or combustible liquid package stores on site. NOT APPLICABLE

SECTION 5 - STORAGE IN TANKS

5.1 SCOPE OF SECTION

This Section sets out requirements and recommendations for the storage of flammable or combustible liquids in tanks. The provisions of this Section are additional to those given in Section 3.

Where tanks contain differing classes of liquid, all the provisions of this Section shall apply to the liquid of the lowest flash point.

Requirements for tank vehicle loading areas are given in Section 8. Requirements for IBCs of less than 1.6 m3 capacity are given in Clause 4.7.

Where flammable potable spirits are stored in bulk, Appendix F provides requirements that are alternative to this Section. However, the general principles given in this Section may be applied to such storages.

Provisions for spillage containment at power stations and grid transformers are described in Appendix G.
NOTE: See Figure 5.1 for an illustration of the terms used in this Section.

This section sets out requirements and recommendations for the storage of combustible liquids in tanks. Provisions of this section are additional to those given in Section 3 of this standard. COMPLIES

5.2 GENERAL REQUIREMENTS

5.2.1 Design and construction of static storage tanks

A static storage tank shall be designed and constructed to comply with AS 1692 or an equivalent Standard for the category of tank appropriate to the application.
NOTE: Where the filling pressure, static head or vapour pressure in the ullage space exceeds 35 kPa, the tank plate thickness and end design should be stress-checked in accordance with API Std 620 or other recognized Standards.

A Category 1 tank shall not be used for flammable liquid.
NOTES:
1 AS 1692 requires that certain essential information be provided by the purchaser to

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enable the correct tank to be supplied.
2 In some circumstances it may be necessary to use a pressure vessel that complies with AS 1210.

The tanks are designed in accordance with AS 1692 "Steel tanks for flammable and combustible liquids. COMPLIES

5.2.2 Markings

Each tank in an installation shall be distinguished from any other tank by individual identification numbers or letters as part of a system for verifying the contents of each tank at any time and shall meet the following criteria:

a) For above-ground tanks:

i) Markings shall be displayed on the outside walls of the tanks and shall be not less than 500 mm in height for tanks having a diameter of 6 m or greater. For tanks of less than 6 m diameter the markings shall be not less than 150 mm in height.

ii) The bottom of the markings shall be above the crest of the main bund and any plant, equipment and piping on or above the bund.

iii) Where possible, the markings shall be clearly visible from main alternative access points likely to be used by the fire authority.

iv) Where there is a foam pumphouse or manifold for the control of firefighting foam, one such marking shall be clearly visible from that point or its close proximity.

v) Where there is a cluster of vertical tanks of 6 m diameter or greater or tanks are not separated as given in Table 5.3, the tanks shall have similar markings affixed to the roof with the numerals 6 and 9 underbarred.

vi) All markings shall be of a colour contrasting with that of the tank.

b) For underground tanks, the fill, dip and vapour recovery point for each tank shall be marked to identify it. Guidance is provided in AS 4977.

c) All tanks shall be marked with the appropriate warning placard as required by relevant regulation.

The aboveground tanks are marked in accordance with the following:
i) Markings are displayed on the outside walls of the tanks and as the tanks have a diameter of less than 6m diameter the markings are not less than 150mm in height.
iii) The markings are clearly visible from main alternative access points likely to be used by fire authority.
iv) Where there is a foam pumphouse or manifold for the control of firefighting foam, one such marking will be clearly visible from that point or its close proximity.
vi) All markings are of a colour contrasting with that of the tanks. COMPLIES

5.2.3 Change of tank contents

Where there is a change of contents of a tank, the requirements of this Standard applicable to the new contents shall apply.

There is no change to the product proposed. NOT APPLICABLE

5.2.4 Pipework

The following requirements apply to pipes and flexible hoses:

a) Pipes and pipe joints shall be constructed from a material that is resistant to attack by, and is compatible with, the liquid under all service conditions. Where pressure piping is used, it shall comply with AS 4041.

b) All pipes shall be adequately protected from physical damage. Where plastic piping is used, it may also require electrostatic protection (refer to AS/NZS 1020 and IEC 60079-32-2).

NOTES:

1 Plastics may be subject to environmental stress cracking, 'ageing' and UV degradation. They are more susceptible to physical damage than steel, aluminium or

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stainless steel. Their physical properties can be seriously affected by extremes of ambient temperature, particularly when used above ground.
2 Manufacturers' data and testing should be consulted for guidance when selecting piping for the installation conditions.
3 Such protection may require the installation of physical barriers.
c) All above-ground pipes shall be colour-coded or labelled.
d) Pipework shall be well-supported and protected from potential traffic damage.
e) Flexible hoses shall not be used, except at transfer points. Where such hose is used, it shall be constructed of material that is resistant to attack by, and is compatible with, the liquid being transferred. The length of the hose shall be kept to a minimum.
NOTE: The use of bellows joints should be avoided (see also Clause 6.2.2).

All pipes and flexible hoses are installed and used as follows:
a) All pipes and pipe joints are compatible with the product stored under all service conditions. The pressure lines comply with AS 4041.
b) All pipes are protected from physical damage.
c) All above ground pipes will be colour-coded or labelled
d) Flexible hoses will only be used at transfer points and be constructed of material that is resistant to attack by the liquid being transferred. COMPLIES

5.2.5 Roofs over tanks

This Clause applies to a tank or group of tanks that are located under a roof. It is not intended to apply to indoor tanks, which are addressed in Clause 5.6.

Where there is a roof over a tank or group of tanks, the following requirements apply:
a) All tanks shall be vented above roof level.
b) Tanks shall be located and separated in accordance with Clauses 5.7 and 5.8.
c) If, under normal operations, personnel are to work on the tank (e.g. when dipping the tank contents) a vertical clearance of at least 2.5 m shall be provided between the top of the tank or landing and the roof.
d) Separation distances shall be based on the aggregate volume of all of the tanks under the same roof, and shall be measured from the edge of the roof.
NOTE: This requirement does not apply if the roof is designed to burn or collapse quickly in a fire.
e) The effect of the roof upon hazardous atmosphere zoning shall be considered when designing such storage.
f) Provision shall be made for access, egress, and the application of cooling water. Consideration should be given to—

i) the impact that the roof might have on heat dissipation and on the dispersal of flammable vapours;
ii) any restrictions that might be placed on firefighting as a result of the tanks being roofed; and
iii) the mode of failure of the roof and its supporting members under fire conditions.

The tanks are not located under any form of roof. NOT APPLICABLE

5.2.6 Tanks on or above a roof

Any tank that is to be installed on or above a roof shall be of double-walled construction, with the outer shell overflow pipe directed to a remote tank, sump or compound having a capacity at least equal to the tank capacity. A tank overflow pipe shall be provided, having sufficient capacity to return the full capacity of the filling pump to the remote tank, sump or compound without spillage or over-pressuring the storage tank. An overflow alarm shall be fitted, audible at the filling point.

The tanks are not located on or above any form of roof. NOT APPLICABLE

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5.3	STORAGE TANK FILL POINTS
5.3.1	**Fill connection** The fill connection to a storage tank that is filled from a tank vehicle shall incorporate a liquid-tight connection unless the filling method employs a hand-held trigger nozzle with a non-latching feature. A cap or cover shall be provided for the fill point.
	The fill points incorporate liquid tight connections. (100NB camlocks or dry break couplings) Camlock caps are also provided. COMPLIES

5.3.2	**Location of fill point** The fill point for any tank intended to be filled from a tank vehicle shall comply with the following requirements: a) The fill point shall be readily accessible. b) The fill point shall be protected from accidental damage. c) The fill point for any tank containing a flammable liquid shall be in open air and no ignition sources shall be located within the hazardous area defined in accordance with AS/NZS 60079.10.1. d) Where practicable, the fill point for any tank containing a combustible liquid shall be outside. If it is inside, it shall be not more than 2 m from a building entrance useable by a tank vehicle, and shall not be in a boiler room, furnace room, or an elevated temperature area. NOTE: Fill points located inside a building should not be operated unless the building has sufficient alternative access and egress points to ensure the safe evacuation of personnel in an emergency. e) The fill point for a tank shall be located so that a tank vehicle is not required to enter the tank compound to make a delivery. f) For any tank containing a flammable liquid, the location shall be such that the tanker can stand wholly off any public road, except where allowed under the ADG Code. g) Each fill point shall be clearly identified. For petroleum products, fill points shall comply with AS 4977. h) The areas around the tank fill point and the vehicle hose connection point shall be impervious to the product. For restrictions on the loading of vehicles, see Section 8. NOTE: Where a service station is located near sensitive facilities (including where vulnerable people are concentrated such as schools, hospitals, aged care accommodations, child care and large entertainment venues), consideration should be given to preventing any potential large spill of fuel during a road tanker unloading operation impacting on these nearby sensitive facilities.
	All fill points are: a) Readily accessible. b) Protected from accidental damage c) The combustible liquids fill point is located outdoors d) Located outside e) Located out of any tank compound. f) The delivery vehicle can stand wholly off the public roadway whilst delivering and receiving product. g) All fill points are clearly identified and comply with AS 4977. h) All areas around the fill points and vehicle hose connection point are impervious to the product. COMPLIES

5.3.3	**Liquid level indication** It shall be possible to monitor or gauge the amount of liquid in any tank intended to receive a delivery. This gauge or monitor shall also show the normal fill level of the tank. The following shall apply:

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a) The normal fill level shall not exceed 95% of tank capacity (overfill level).
b) The provision of only a dipstick without an alarm is acceptable for liquid level monitoring of tanks—
i) up to 25 000 L tank capacity for combustible liquids;
ii) up to 5000 L tank capacity for flammable liquids; or
iii) underground tanks filled by gravity.
c) All other tanks shall have a suitable high level alarm (LAH) set at a maximum of 97% of tank capacity. This alarm is the first stage overfilling protection, and shall be set to warn when the normal fill level has been exceeded. It shall not be used to control filling.
d) Any tank filled by gravity shall be fitted with an automatic flow limiting device which reduces the flow rate into the tank by 98% when the normal fill level of the tank has been attained.
NOTE: Hydraulic shock can result from sudden valve closures and any static electricity that might accumulate due to a high flow rate should be dissipated.
e) A contents gauge or monitoring device together with a LAH, remote from the tank, shall be provided at the fill point, or where the tank filling operation is monitored and controlled (e.g. a control room), in the following circumstances:
i) Where the tank is located within a building or under a building and the dip point is more than 8 m from the entrance to the building or otherwise inaccessible.
ii) Where the tank is in a tank chamber and access to the dip point is prevented.
iii) Where the tank is out of direct sight of the attendant monitoring filling flow controls.
iv) Where Category 6 tanks are filled from ship to shore, from a refinery, or similar high volume transfers (e.g. 100 m3/h).
f) In addition to the LAH, Category 6 tanks filled from ship to shore, from a refinery, or similar high volume transfers, shall incorporate a physically and electrically independent high-high level alarm (LAHH). It will warn of a failure of some element of a primary (process) control system. It shall be set at or below the tank rated capacity to allow adequate response time to terminate the transfer before loss of containment/damage occurs.
NOTE: Response times should be based on maximum flow rates and generally should not be more than 10 minutes and be determined by a risk assessment.

NOTES:
1 Any alarm system should be appropriately maintained with a safety testing regime.
2 For Category 6 tanks, the level settings may be established on a risk assessment methodology to ensure that the maximum liquid level of the tank does not compromise the design parameters of the tank.
3 When a high level is reached, consideration should be given to shutting down the pump via a suitable interlock.

Liquid level indication will be provided for the tank installations in full accordance with this clause (clause 5.3.3). The tanks will have a suitable high level alarm (LAH) set at a maximum of 97% of tank capacity. This alarm is the first stage overfilling protection, and will be set to warn when the normal fill level has been exceeded. It shall not be used to control filling. Whilst the tanks will be fitted with dipsticks, which show the amount of liquid in the tank and also the maximum safe fill, a remote contents gauge or monitoring device together with a LAH, remote from the tank, will be provided at the fill point in full accordance with this clause. COMPLIES

5.3.4 Filling of elevated tanks

If the fill point is at or below the highest likely level of liquid in the tank or piping system, the fill connection shall be a dry-break type, incorporating a manual shut-off valve immediately upstream of the coupling. Where the fill point is beyond the security fence

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around the installation, a non-return valve shall be incorporated in the piping system at the security fence.
NOTE: An end-of-line assembly comprising a non-return valve, manual shut-off valve and cap with witness hole may be used in lieu of a dry-break coupling.

There are no elevated tanks associated with this site. The proposed tank is an aboveground tank at ground level. NOT APPLICABLE

5.4 VENTING

5.4.1 General requirements

A tank manufacturer will not normally be able to finalize the design and size of the vent provision without consultation concerning the conditions of installation, filling, and operation, and the type of product to be stored.

Tanks, other than Categories 1 and 2, shall not be installed unless the owner holds design documentation confirming compliance with the relevant Standard, or it can be demonstrated that the tank is fit for service.

Each tank shall be fitted with a vent or vents in accordance with the following provisions:
(a) A free vent or a pressure-vacuum (PV) vent designed for the type of liquid being stored.
b) An emergency vent when the conditions of Clause 5.5 apply.
c) Vapours shall be safely discharged outdoors unless their recovery and treatment is otherwise required.
d) The vents shall be separate from the filling pipe except for a Category 1 tank.
e) API Std 2000 is the basis for the requirements of this Clause (5.4.1). Appendix H provides a metric version of parts of API Std 2000, but in cases of dispute the original Standard in imperial units will be the basis for decision.
NOTES:
1 Tanks of Categories 1 and 2 are intended for specific applications; the former for oil supply to domestic heaters, the latter for minor storage in open-space locations. Neither is intended for industrial use, and their vent provision could be inadequate for the filling and draw-off rates likely to be required in such usage.
2 Classification of tanks is in accordance with AS 1692.

The tanks are fitted with a vent located on top of the tank. All vapours are discharged outdoors. The vents are separate from the fill line. COMPLIES

5.4.2 Vent capacity

The size of any free vent or pressure-vacuum vent shall be such that pressure or vacuum resulting from filling, emptying, or atmospheric temperature change will not cause the maximum allowable stress for the tank to be exceeded, nor the tank to collapse. These requirements shall be met by one of the following:
a) For a Category 1 or Category 2 tank, the vent provided with the tank in accordance with AS 1692 shall be deemed to be suitable for the types of installations for which the tanks are intended (see Note 1 to Clause 5.4.1).
b) The vent size for a Category 3, 4, 5 or 6 tank installed above-ground shall comply with the relevant requirements of API Std 2000.
NOTE: The vent size of a Category 4 above-ground tank may be in accordance with Table 5.1 (see also Clause 5.4.1 regarding vent size).
c) The vent size of a Category 4 tank installed underground shall be at least that specified in Table 5.2.

The vents are in excess of the required 40NB

API 2000 requires:
Liquid In: flow maximum 500L/min

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Liquid Out: flow maximum 500L/min
From table 5.1 the minimum venting requirement is 40NB. COMPLIES

5.4.3 Vent piping

Any vent piping between the tank vent connection and the discharge point shall comply with the following requirements:

a) The vent pipe shall fall consistently back to the tank at a slope of at least 1 in 100.

b) A vent pipe shall not pass through building foundations but may be embedded in concrete that is part of other building construction. Joints in vents shall be—

(i) of such quality as to prevent vapour leaking; and

ii) located so that any leaking that might occur, is prevented from accumulating inside or transferring into cavity walls, ceilings or enclosed spaces.

c) An underground vent pipe shall be either embedded in a concrete slab or laid in the earth.

If the vent pipe is laid in the earth, it shall be—

i) located at least 300 mm below ground level;

ii) surrounded by clean washed sand;

iii) suitably protected if the area is subject to vehicular traffic;

iv) designed and installed to provide flexibility to accommodate settlement; and

v) protected from corrosion.

d) Where vent piping penetrates a fire-rated wall, it shall be installed so as to ensure that the fire resistance of the wall is maintained.

e) The vent pipe and terminal shall be located or protected so that they are not liable to damage resulting from normal activities.

f) Joints in vent piping shall be sealed to prevent liquid or vapour release and tested to a minimum hydrostatic pressure of 35 kPa or the operating pressure of the vent unit, whichever is the greater.

NOTE: Vent pipes may be connected together to form a common vent line, provided that the area of any common vent line is not less than the sum of the cross-sectional areas required for the individual vents connected to it, and that cross-contamination will not affect adversely the use of the contents of either tank.

g) Where several tanks are interconnected by a common venting system and the vapours in the vapour are within the explosive range, measures shall be taken to prevent the possibility of flashback or flame propagation through the system from one tank to another, e.g. by the use of flashback arresters, barometric dampers, nitrogen inerting or ensuring that the vapour concentration is always above the explosive range.

NOTE: Additional requirements may be necessary where vapour recovery is adopted.

The vent piping is installed and located in accordance with the following

a) The vent pipes are mounted directly on the tanks.

b) The vent pipes do not pass through any foundation.

c) The joins prevent vapour leaking. The joins are fully welded.

d) The vent pipe is not in a vulnerable position.

e) The vent line is one length of pipe approx. 1.0m long which does not require pressure testing.

f) Each tank is fitted with its own vent. COMPLIES

5.4.4 Vent outlet location

The discharge point of a vent shall comply with the following requirements:

a) The vent discharge point shall be located laterally at least 4 m for flammable liquids and 2 m for combustible liquids from any opening into a building, e.g. window, door, ventilator, airconditioner or a mechanical vent intake to reduce the possibility of the entry of nuisance vapour. The vent shall be located such that the opening into a building shall be outside the hazardous area to AS/NZS 60079.10.1.

b) The vent discharge point shall be located at least 4 m above ground level except

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for direct-vented tanks of Categories 1 or 2.
NOTE:The vent for any above-ground tank may discharge at a point at least 150 mm above the top of the tank, provided that other requirements for tank and vent locations are met.
c) Where the tank is to be filled by gravity flow from a tank vehicle, the vent discharge point for the tank shall be at least 4 m above ground level at the fill point and in all circumstances shall be higher than the tank vehicle.
d) Where a Category 1 to 5 tank is to be filled by pumping from a tank vehicle—
i) the vent pipe or overfill point shall terminate in view of the filling operator; or
ii) the tank shall be fitted with a high level alarm audible to the filling operator.

Notwithstanding other requirements in this Clause (5.4.4), a vent provision may be connected to a vapour recovery or collection system.
NOTE: When filling rates are high, the velocity of the discharging vapour may be high enough to carry it a considerable distance. In such cases, particular attention should be paid to direction of discharge, to vapour diffusion and to potential ignition sources, especially for flammable liquids..

The vent outlet is located in accordance with the following
a) The discharge point is located laterally from any opening into a building by at least 2m for the combustible liquids tank. There are no hazardous areas associated with combustible liquids.
b) The vent discharge point is at least 4 meters above ground level.
c) The vent discharge point is higher than the tank vehicle.
d) i) The vent is in full view of the filling operator.
ii) The tank will be fitted with a high level alarm audible to the filling operator.
COMPLIES

5.4.5 Vent terminals

The discharge end of a vent shall be protected from the ingress of foreign material by means of a protective cage or fitting. Where a tank contains flammable liquid and the vapour within the ullage space of the tank is within explosive limits, a flame arrester or similar device shall be fitted. Any such protective cage, flame arrester or other means shall not reduce the required effective vent area or create undue back-pressure within the tank.
NOTE: A flame arrester incorporating a bronze or stainless steel wire mesh having openings not greater than 600 µm is acceptable.

The vent pipe is fitted with a cover to prevent the ingress of rainwater and has a gauze screen.
COMPLIES

5.4.6 Application of pressure-vacuum vents

A pressure-vacuum vent shall not be used on any tank of Categories 1, 2 or 3, unless the tank has been specifically designed and tested as prescribed in AS 1692 for use with such a vent.

A pressure-vacuum vent shall not be fitted to any Category 4 underground tank, except as part of a vapour recovery system.

The aboveground category 3 tanks are not fitted with pressure-vacuum vents.
NOT APPLICABLE

5.4.7 Setting of pressure-vacuum vents

The settings of any pressure-vacuum vent shall be such that the pressure and vacuum limits, as given in the Standard to which the tank has been designed and tested, are not exceeded.

For tanks in Categories 4 or 5 designed and tested in accordance with AS 1692, the

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pressure setting shall be such that the test pressure of the tank is not exceeded under maximum normal venting conditions. The vacuum setting shall be such that the internal pressure does not fall below a pressure of 0.5 kPa gauge. On such tanks, the setting of the pressurevacuum vent shall be more than 7 kPa below that of the emergency vent.

The tanks are not fitted with pressure-vacuum vents. NOT APPLICABLE

5.5	EMERGENCY VENTING

5.5.1 Application of emergency venting

Emergency venting shall be provided for any Category 3 (above 2500 L), 4, 5 or 6 aboveground tank having a fixed roof and containing a flammable liquid or which, though it contains a combustible liquid, is in the same compound as a tank containing a flammable liquid.

Clauses 5.5.2 and 5.5.3 do not apply to:
a) Any open-top tank with pontoon, floating or lifter roof.
b) Any fixed-roof tank that has an internal floating roof and free air vents of equal or greater area than that required for emergency venting.
c) Any fixed-roof tank having a diameter of 12 m or greater (see Clause 5.5.2).

As a Category 3 tank storing combustible liquids, an emergency vent is not required to be fitted NOT APPLICABLE

5.6	LOCATION AND CAPACITY OF INDOOR TANKS

5.6.1 General

Tanks containing flammable or combustible liquids that are an integral part of blending, mixing or processing equipment are exempt from this Clause (5.6). However, the fire protection requirements given in Clause 11.11.1 shall apply to such tanks.
NOTE: See Figure 5.1 for illustrations of terms relating to tank locations.

There are no indoor tanks installed on this site. NOT APPLICABLE

5.7	SEPARATION OF ABOVE-GROUND TANKS

5.7.1 Application

The tank spacing requirements of this Clause (5.7) shall apply to both outdoor and indoor locations, provided that the latter are permitted by other limiting requirements.

The tanks are separated in accordance with this clause as aboveground tanks stored outdoors. COMPLIES

5.7.2 Separation distance from tank to protected places, security fences or to on-site protected places

A tank or tanks shall be located so that the following minimum separation distances are maintained:
a) To security fences and on-site protected places, Table 5.3.
b) To a protected place beyond the site boundary, Table 5.4.
c) Except where provided with cooling water in accordance with Appendix I, the layout of tanks storing flammable liquids (or combustible liquids within the same compound as flammable liquids) shall be such that any tank is accessible on at least two sides from an access road outside the bund.

The separation distance to a protected place on an adjacent property may be measured across the property boundary as if the boundary did not exist. Where there is no protected place on the adjoining property the installation may be located in accordance with Item (a). In all cases, if alterations on the adjacent property result in a breach of the requirements for separation distance, the installation shall be modified or relocated to restore compliance, or taken out of service.

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	The aboveground 72kl combustible liquids tanks are each separated from: i) Security fences by a minimum of 3m ii) Any on-site protected place by a minimum of 6.1m iii) Protected place beyond the site boundary in excess of 6.1m. COMPLIES

5.7.3	**Distance between vertical tanks for flammable liquids** The distance between any two adjacent vertical tanks that contain flammable liquids shall be as follows (except as otherwise provided in Clause 5.7.5): a) If neither tank exceeds 6 m in diameter, the distance between them shall be at least either one-third of the diameter of the larger tank or 1 m, whichever is the greater. b) If one of the tanks is more than 6 m but neither is more than 20 m in diameter, the distance between them shall be at least one-half of the diameter of the larger tank. c) If one tank is more than 20 m in diameter, the distance between it and any other tank shall be at least 15 m.
	There are only horizontal aboveground tank installations on site. NOT APPLICABLE

5.7.4	**Distance between vertical tanks for combustible liquids.** The distance between any two adjacent vertical tanks that contain combustible liquids shall be as follows: a) For Class C1 liquids, at least either one-sixth of the sum of their diameters or 1 m, whichever is the greater, except as otherwise provided in Clause 5.7.5. b) For Class C2 liquids, at least 1 m.
	There are only horizontal tank installations on site. NOT APPLICABLE

5.7.5	**Clusters of tanks** Vertical tanks having a diameter greater than 3 m but not exceeding 10 m may be grouped in a cluster with reduced tank-to-tank spacing, provided that— a) the distance between any two tanks is at least 1 m; b) the total cross-sectional area of all tanks in the cluster does not exceed 320 m^2; c) the distance separating any such cluster from any other above-ground tank or cluster of tanks is at least 15 m for flammable liquids or at least 7.5 m for combustible liquids; d) where the total cross-sectional area of the tanks in any such cluster exceeds 30 m^2, and one or more tanks contain flammable liquid, all tanks in the cluster are provided with foam fire protection in accordance with Clauses 11.13.1 and 11.13.2; and e) when the required compound capacity and clearances from other structures is being calculated, such a cluster is regarded as being one tank of aggregated volume containing liquid of the lowest flash point present.
	There are only horizontal tank installations on site. NOT APPLICABLE

5.7.6	**Horizontal tanks** The following requirements apply to the storage of liquids in horizontal tanks: a) Horizontal tanks shall comply with AS 1692 and the requirements of this Standard. b) The distance between horizontal tanks shall be at least 600 mm. Where horizontal tanks are adjacent to vertical tanks, the distance requirements for vertical tanks shall apply. c) Tanks shall not be arranged end-to-end unless the potential for end failure and the resulting exposure hazard has been taken into account when determining the tank's location. NOTE: Tanks may be arranged in parallel (side-by-side) in a row.
	The horizontal tanks comply with AS 1692. The separation distances between the horizontal tanks are in excess of the minimum 600mm. The tank's design has taken into account the resulting exposure hazard and potential for end failure. The design of the

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	category 3 tanks mean they have in effect four sides and no "ends". There is no risk of "end failure" as all sides are constructed in a similar manner. COMPLIES

5.7.7	**Mixed products** Where liquids of differing flash point are stored, the following requirements shall apply: a) Where stored within the same compound, the separation distance between tanks applicable to the liquid of the lowest flash point present shall apply to each tank within that compound. b) Where two compounds are separated by a bund, each tank in each compound shall be considered separately in its relationship to each tank in the adjacent compound. In each case, the separation distance shall be that applicable to the liquid of the lower flash point actually present in either of the tanks under consideration.
	This storage is located in self bunded tanks and does not incorporate a storage compound NOT APPLICABLE

5.8	**BUNDS AND COMPOUNDS**
5.8.1	**Requirements** Provision shall be made to contain any leakage or spillage from the tank storage facility and to prevent it from contaminating the surrounding soil or from entering any watercourse or water drainage system. Any above-ground tank shall be installed within a compound, except where the quantity of liquid stored is within that allowable as minor storage in Table 2.1, or where the tank has integral secondary containment complying with Clause 5.9.
	The aboveground tanks onsite have integral secondary containment therefore additional bunding for the tank storage is not required. NOT APPLICABLE

5.9	**REQUIREMENTS FOR ABOVE-GROUND TANKS WITH INTEGRAL SECONDARY CONTAINMENT**
5.9.1	**General** A tank complying with this Clause (5.9) shall be one of the following: a) A double-walled tank. b) A tank having secondary containment and an external, fire-rated covering. c) A tank with an attached or integrated spillage compound.
	These tanks are aboveground tanks with integral secondary containment and are defined as double walled tanks. COMPLIES

5.9.2	**Requirements for all tanks having integral secondary containment** The following requirements apply to tanks with integral secondary containment: a) The tank shall not be used for the storage of PG I flammable liquids. b) The capacity of the tank shall not exceed— i) 55 000 L for PG II liquids; ii) 110 000 L for PG III liquids; or iii) 110 000 L for combustible liquids. NOTE: For mine sites regulated by state, territory, or commonwealth legislation, a maximum of 200 000 L may be used. c) The primary (inner) tank shall be constructed to AS 1692 or equivalent Standard. d) The secondary containment shall be adequately designed and constructed, to contain the entire contents of the primary tank. e) Means shall be provided to establish and monitor the integrity of the primary tank. f) The tank shall be installed in accordance with Clause 5.11 or 5.12.6 as appropriate. g) Where flammable liquid or vapour could escape from the interstitial space of a tank, the tank shall be separated by at least 3 m from any ignition source, including vehicles being refuelled. h) Spacing between adjacent tanks shall be at least 600 mm.

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	i) The tank shall be protected from damage caused by an impact. j) Means shall be provided to prevent release of liquid by siphon flow from the tank. k) The tank shall be fitted with a means of determining the level of its contents. Such means shall be available to the delivery operator. l) All piping connections to the tank shall be above the normal maximum fill level. m) Tanks shall not be manifolded unless provisions are made to prevent their being overfilled. n) Overfill protection shall be provided by a suitable alarm with the flow of liquid being stopped, before the tank overflows. If the tank is designed to contain overflow, such an alarm is the minimum provision necessary to achieve this objective. If the overflow is to be discharged outside the secondary containment, an automatic shut-off shall be provided. These provisions shall not restrict or interfere with the proper functioning of the normal vent or the emergency vent. o) Each fill point shall be provided with spill containment having a minimum capacity of 15 L per fill point. Such a device shall be fitted to a tank in order to catch and contain any minor spill during product delivery to the tank. p) Where a tank having multiple compartments is installed, the separation distance to protected places shall be based on the aggregate volume of the compartments and the lowest flash point of the liquid in any tank compartment. q) Venting shall comply with Clause 5.4. Venting of compartments of a multiplecompartment tank shall be based on the lowest flash point product in any of the compartments. r) Where the interstitial space is enclosed, it shall be provided with venting in accordance with this Standard or with a UL approved method. s) Means shall be provided to physically test the correct functioning of any internal valve without the need to remove the valve.
	The aboveground tanks with integral secondary containment comply with the following: a) The tanks do not store PG I flammable liquids b) The capacity of the individual tank does not exceed 110 000L for combustible liquids c) The primary tank is constructed to AS 1692. d) The secondary tank is adequately designed and constructed to contain the entire contents of the primary tank. It is also constructed in accordance with AS1692 e) The primary tank's integrity is monitored f) The installation of the aboveground tank is in accordance with Clause 5.11 g) The tank stores combustible liquids only h) The tanks are separated in excess of 600mm i) The tanks are protected from vehicular impact by Armco guardrail or bollards j) Procedures are in place to prevent release of liquid by siphon flow from the tank. Anti siphon valves and back checks are used on all outlets k) The tank has a dip point installed to determine the level of its contents and is available for use by the delivery operators l) All piping connections to the tank is above the normal maximum fill level (SFL) m) The tanks are not manifolded n) An alarm is installed to protect against overfilling. An overfill valve is also fitted which stops the flow of liquid o) Each fill point has at least the minimum capacity of spill containment of 15L p) The tanks are single compartment tanks q) Venting complies with Clause 5.4. r) As the interstitial space is enclosed it has been provided with venting in accordance with this standard. s) Valves are capable of being physically tested without the need to be removed COMPLIES

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5.9.3 Additional requirements for double-walled tanks

The following requirements apply in addition to those in Clause 5.9.2 above:
a) Primary and secondary containment shall be wholly constructed of steel and shall be designed in accordance with AS 1692 or equivalent Standard.
b) Separation distances as given in Clause 5.7 shall apply.

The tanks are classed as double walled tank, in addition to Clause 5.9.1 the following applies:
a) Both the primary and secondary containment is wholly constructed of steel and designed in accordance with AS 1692
b) Separation distances as given in 5.7 apply. COMPLIES

5.9.4 Additional requirements for tanks with external fire-rated covering

NOTE: Fire-rated tanks include 'vaulted' tanks which comply with UL 2085 or are approved by Underwriters Laboratories (UL) or Factory Mutual (FM) to the equivalent US fire rating.

The following requirements apply to tanks having an external, fire-rated covering on both the tank and any supports:
a) The secondary containment shall have an FRL of 240/240/240.
b) Emergency venting for the interstitial space in this tank system may be provided by a weak seam incorporated into the tank's external cover. In such a system, this seam shall fail preferentially if the pressure within the interstitial space builds up excessively, without compromising the integrity of the secondary containment.
c) Tanks having an FRL of 240/240/240 shall be regarded as complying with the requirements for tanks in chambers (see Clauses 5.13.1 and 5.13.2).
d) Where the tank's secondary containment has an FRL of at least 240/240/240 or complies with UL 2085, the following separation distances shall apply:

i) To on-site and off-site protected places, the distances given in Clause 5.7 may be halved.
ii) To boundaries and public places ..... 2 m.
iii) To any security fence ..... 1 m.
iv) To a dispenser ..... nil.
NOTE: A dispenser may be mounted on a tank, provided it is suitable for use in the hazardous area around the tank.

The tanks are not fitted with external fire-rated covering. NOT APPLICABLE

5.9.5 Additional requirements for tanks with integrated spillage compounds

The following requirements apply in addition to those in Clause 5.9.2:
a) The design of the external secondary containment shall comply with Clause 5.8.3 except that the 1 m separation distance given in Figure 5.2 does not apply. However, provision shall be made for inspection of the tank's outer surface.
b) The separation distances given in Clause 5.7 shall apply.

The tanks do not have integrated spillage controls. NOT APPLICABLE

5.10 REQUIREMENTS FOR TANK CONTAINERS (ISO TANKS, PORTABLE TANKS) INCLUDING IBCs WHEN USED AS STATIC STORAGE TANKS

Tank containers and IBCs complying with the ADG Code may be used as static storage tanks. As such they are exempt from the provisions of Clause 5.2.1.
NOTE: The UN Recommendations on the Transport of Dangerous Goods—Model Regulations refers to these tanks as 'portable tanks' or IBCs.

Where flammable or combustible liquids are to be stored in tank containers or IBCs, other than when such containers are used as delivery tanks or in transit storage, the following requirements apply:
a) All of the requirements of this Section (Section 5) shall apply with the exception of

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Clause 5.2.1.
b) Tank containers or IBCs shall not be stacked.
c) Storage configurations shall be maintained to ensure venting from relief vents is to free space.
NOTE: This safety control is to guard against the potential for flame impingement and jet fire on the ISO tank or any other ISO tank through the ignition of vapours.
d) Tank containers or IBCs shall be separated from each other so as not to impede or obstruct any necessary firefighting operations.
e) IBCs used for flammable liquids shall comply with the ADG Code. This includes compatibility of the specific liquid with the IBC material and the designated life span for plastics and composite IBCs.

There are no ISO or portable tanks located on site. NOT APPLICABLE

5.11 INSTALLATION METHODS FOR ABOVE-GROUND TANKS

5.11.1 Foundations

An above-ground storage tank shall rest on a foundation which is adequate to support, without unacceptable or uneven settling, the following loads and forces:
a) The direct load imposed by the tank when full of either water or product, whichever is the more dense.
b) Any possible overturning forces, and in particular those due to wind when the tank is empty.
c) Any uplift or other distorting forces such as may occur in a tank under pressure.

Any attachment between the tank and its supporting structure or foundation shall be adequate to withstand any such forces.
NOTE: Because of the wide variety of surface, subsurface, and climatic conditions, it is obviously not possible to establish design data to cover all such situations. The allowable soil loading requires a decision for each individual case, having regard to the permissible settlement (refer to AS 1726).

The aboveground tanks will be located on foundations that are capable of supporting all the relevant loads and forces. COMPLIES

5.11.2 Supporting structures

Any supporting structure between the foundation and the tank shall comply with the following requirements:
a) Any supporting structure, or ancillary structure used to provide rigidity, shall be made wholly of non-combustible material.
b) Any metallic support that is more than 1 m high and supports a tank having a capacity greater than 2500 L of PG I and PG II liquids, or 5000 L of PG III liquid, or 10 000L of combustible liquid, shall be protected by material having an FRL of at least 120/120/120.
c) The structure shall be designed according to the requirements of the Australian Standard applicable to the particular construction (refer to AS 4100 for steel and AS 3600 for concrete).
d) The design shall take account of the total mass of the tank when full of either water or product, whichever is the greater, any wind loading, any possible uplift loading on restraining connections, and any likely seismic loading (refer to AS 1170.4).
Any such anchorage shall be designed to overcome the maximum anticipated buoyancy force.

All tank supports have been designed and installed in full accordance with this clause (clause 5.11.2). Tank supports are constructed of non combustible materials and designed to take into account the total mass, any wind loading, any uplift loading possible of the tank when full as well and any seismic loading. The anchorage will be designed to overcome the maximum anticipated buoyancy force. COMPLIES

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5.11.3 Tank bearing area

The method of support of a tank shall avoid excessive concentration of loads on the supporting portion of the tank shell. Legs, cradles or similar methods of support shall be attached in a manner that will prevent possible trapping of moisture and corrosion of the tank shell.

The tank supports have been designed to avoid excessive load concentration and potential for any possible trapping of moisture and or corrosion of the tank shell.

COMPLIES

5.11.4 Tanks in areas subject to flooding

A tank located in a flood-prone area shall be anchored to prevent floating.

Should the area be flood prone the tank will be anchored to prevent floating.

COMPLIES

5.12 INSTALLATION METHODS FOR UNDERGROUND TANKS

5.12.1 Method of installation

Any tank with more than 50% of its height buried below the surrounding ground gradient and mounded without any surrounding pit or chamber shall be considered an underground tank and shall be installed in accordance with AS 4897 and the following requirements:

a) The tank shall be set on and be surrounded with at least 150 mm of non-corrosive inert material such as clean sand well-tamped into place.

b) The tank shall be covered with sand or earth to a depth of at least 600 mm or, alternatively, the cover shall consist of 300 mm of sand superimposed with reinforced concrete at least 150 mm thick. Any covering shall provide adequate support.

c) The tank shall be securely anchored where necessary to prevent floating. Any such anchorage shall be designed to overcome the maximum anticipated buoyancy force.

d) A tank within a building shall be wholly below the lowest floor level of the building, and shall have a concrete covering.

e) Glass reinforced plastic tanks shall be installed in accordance with the manufacturer's instructions.

NOTE: Tanks that are installed with part of the shell above ground gradient and with the shell exposed to atmosphere are not recommended because of corrosion control problems.

The tanks are not installed underground. NOT APPLICABLE

5.13 INSTALLATION METHODS FOR TANKS IN TANK CHAMBERS

5.13.1 Above-ground tank chambers

Any tank chamber that is on or partly below the lowest floor level shall be constructed in accordance with the following requirements:

a) The walls shall have an FRL of 240/240/240.

b) The roof shall be of reinforced concrete at least 150 mm thick.

NOTE: The roof may have a removable section or sections for access or maintenance.

c) Where a tank chamber is subject to superimposed loads, the thickness of the roof or walls, or both, shall be increased appropriately.

d) The floor shall be of masonry or reinforced concrete, or of material of equivalent strength, excluding earth and asphalt.

e) There shall be a clear space of at least 450 mm between any tank and any wall or roof of the chamber, or any other tank in the chamber.

f) Any doorway or other access opening in any wall shall be protected by a fire door or cover having an FRL of at least –/120/30. Such a door or cover shall be designed to normally be closed.

g) The sill of any doorway shall be raised to provide a liquid-tight compound capable of sustaining the hydrostatic load and having a net capacity at least that of the largest tank.

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h) The tank chamber shall not have an automatic pump-out system.
NOTE: If spills could accumulate in the tank chamber, a manually operated low-point sump or pump-away facility should be installed.

There are no tanks on site installed within a chamber. NOT APPLICABLE

5.14	SERVICE TANKS
5.14.1	**Use of service tanks** A service tank shall be interposed between a storage tank and a burner, engine, or other fuel-consuming equipment in the following circumstances: a) When the storage tank is higher than the consuming equipment. b) When the supply pressure that the consuming equipment can tolerate might otherwise be exceeded. c) When for any other reason it is necessary to provide a limited storage or pressure controlling facility close to the consuming equipment. The service tank shall be located close to the consuming device.
	There are no service tanks incorporated with this installation. NOT APPLICABLE

SECTION 6 - SYSTEMS FOR PIPING, VALVES PUMPS AND TANK HEATING

6.1	GENERAL DESIGN AND CONSTRUCTION
6.1.1	**Design suitability** The design, fabrication, assembly, testing and inspection of piping that is to contain flammable or combustible liquids shall be suitable for the expected working pressures, temperatures, and structural stresses. AS 4041 shall also be consulted. AS 4897 shall be consulted when designing, installing and operating underground petroleum storage systems.
	All piping is suitable for the expected working pressures, temperatures and structural stresses. COMPLIES

6.1.2 Material suitability

Any material used in the construction or installation of piping shall be suitable for the conditions of use (see also Clause 5.2.4). The following requirements apply:
a) The material shall be compatible with the particular liquid or any other component with which it may be in contact.
b) The material shall be resistant to any heat to which it may normally be exposed.
c) Where exposed to corrosion, from within or without, the material shall be sufficiently resistant to ensure a life span at least equal to other parts of the installation or to achieve its design life.

NOTE: Copper is not a preferred material for product lines and its use is to be discouraged for the following reasons:

a) It is mechanically weaker, and has a lower melting point than other materials (e.g. steel).
b) The jointing methods used for copper pipe are less robust than other systems (e.g. flanges, welds).
c) Given the wide range of flammable and combustible liquids, chemical reaction between the liquid and the copper pipe may be more likely.
d) Vibration could cause copper to harden over time.
e) Copper could catalyse the decomposition of some fuels.

All piping materials used in this installation are suitable for the conditions of use, including:-
a) The material is compatible with combustible liquids.

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b) The material is resistant to likely encountered heat.
c) Where the material is not exposed to corrosion COMPLIES

6.2	PIPING
6.2.1	**Design and construction** The following general design considerations shall be taken into account when designing or installing any piping: a) Access for operating, testing, maintenance, replacement or drainage. b) Support and fixing. c) Exposure to mechanical damage. d) Protection against corrosion wherever necessary, particularly for piping that is outdoors, or underground, or underwater, or which passes through or is embedded in any material likely to induce corrosion. e) Suitability for the liquids to be piped, and possible change of such liquids. f) Integration with any cathodic protection system. g) Any need to relieve excess pressure between valved-off sections of pipe in liquid service. h) Expansion or contraction of the piping. i) Drainage for any trench in which pipes are laid. j) Protection for any buried piping from superimposed loads or ground settlement. k) Electrical bonding and earthing (refer to AS/NZS 1020 and IEC 60079-32-2). l) Where piping is encased in concrete, the need to guard against corrosion and to provide for expansion. m) Painting or marking of piping, to permit ready identification of its contents (refer to AS 1345). n) Access to, and operation of, valves and other control devices, including ergonomic considerations. o) Fire resistance, where piping could be exposed to fire.
	All of the design considerations of Clause 6.2.1 were taken into account when the pipe lines relevant to these tanks were designed and installed. COMPLIES

6.2.2	**Joints** Joints in piping shall be suitable for the operating pressures, temperatures, materials, and other conditions of use. Particular attention shall be paid to the joint's vulnerability to failure in the event of fire and susceptibility to corrosion, particularly if it is buried or submerged. Joint types that are suitable are— a) threaded joints conforming with AS 1722; and b) flanged joints conforming with AS 2129 or ASME/ANSI B16.5, Class 150. NOTES: 1 Mechanical grooved couplings tested to API Std 607 should only be used to accommodate misalignment or movement. 2 AS 4041 provides requirements for joints in pressure piping. 3 For small diameter piping, joints should be of a metal-to-metal compression type. Any joint in copper pipework shall be made only with a flare compression fitting, or with a capillary fitting using a brazing metal with a melting point of at least 540C, or by a spigotted joint formed from the pipe itself, and brazed as above. Flare fittings having mismatching cone angles shall not be used.
	Joints in piping are suitable for the operating temperatures, pressures materials and conditions of use. Joints are either welded or screwed. COMPLIES

6.2.3	**Flexible tubing** This Clause (6.2.3) applies to the connection of the fuel dispenser to the supply piping,

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but does not apply to the internal piping of the fuel dispenser.

Flexible tubing, piping or hose may be used, provided that the principles of Clauses 6.1 and 6.2.1 are met. Such tubing shall meet any necessary requirements with regard to compression, elongation, and angles of horizontal and vertical displacement.

A hose assembly shall be designed or shall have been tested to withstand at least 1.5 times the maximum allowable operating pressure, regardless of whether it is under pump pressure or at zero flow, and including dead-heading and system back-pressure.

There are no flexible connections to the pumping system. NOT APPLICABLE

6.2.4 Transfer hose

A hose and hose assembly for distribution of petroleum products (except LP Gas) shall comply with AS 2683.
NOTE: Products other than petroleum may require specific hose materials or couplings, because of compatibility of materials, additional hazards or the like.

All transfer hoses associated with this installation comply with AS2683. The couplings comply with AS3664. COMPLIES

6.2.5 Vapour recovery piping

Any vapour recovery piping system for tank vehicle filling installations shall be designed so that when all pump-supplied tank vehicle filling provisions served by that vapour recovery system are in use simultaneously, the back-pressure on each tank vehicle does not exceed its normal operating pressure.

There is no vapour recovery system installed. NOT APPLICABLE

6.3 VALVES

6.3.1 System requirements

Sufficient valves shall be provided to permit proper operation of the system and to protect the installation. The following requirements apply:
a) A manually-operated tank or liquid outlet valve shall be located as close as possible to the shell of an above-ground tank.
b) A non-return valve shall be located in each tank-filling pipe close to the filling connection unless the levels of the filling connection, the downstream filling pipe, and the tank are such that backflow cannot occur when the filling hose has been disconnected. Where an anti-siphon opening is made in the filling pipe above the maximum liquid level in the tank, a non-return valve is not required.

Sufficient valves are provided to permit proper operation of the system and to protect the installation. The following requirements apply:
a) A manually-operated tank or liquid outlet valve is located as close as possible to the shell of the aboveground tank
b) A non-return valve is located in each tank-filling pipe close to the filling connection.
COMPLIES

6.3.2 Emergency shut-off provisions

Provision shall be made to shut off the flow of liquid quickly in an emergency—
a) from the storage tank and service tank to a consuming device; and
b) to a tank vehicle fill point.

Any manually operated valve or the actuating device for a remotely operated valve shall be located in a convenient and safe location and conspicuously marked with the words EMERGENCY LIQUID SHUT-OFF or EMERGENCY STOP.

An emergency shut off point is located at each load out point. It is labelled "Emergency Stop". COMPLIES

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6.3.3 Valve selection

Any valve used for a flammable or combustible liquid shall comply with the following requirements:

a) For any valve that can be operated or closed by manual action, the distinction between the open and shut positions shall be obvious.

b) Any hand-operated valve having a handwheel, cross, tee or similar symmetrical handle, shall close by clockwise rotation, when viewed from the end of the spindle of the actuating device. A hand-lever operated valve shall be installed so that the lever is at right angles to the pipe when closed, and so that gravitational forces on the handle will not act in the direction of opening except where the valve is designed to fail-safe. The direction of closing shall be clearly marked.

c) The use of detachable handles for valves shall be avoided unless essential for security, for procedures, or for sequences. Any such handle shall not be removable unless the valve is at a safe setting and so indicated.

d) It is preferable that the valve type permits gland repacking to be achieved without having to remove the valve from its installed position.

e) Any valve whose failure in the event of fire could create a hazard shall be of either steel or a suitable grade of spheroidal graphite iron. The valve handle shall be of metal not inferior to the valve body in fire resistance.

f) Cast steel fire-safe valves shall be provided—

i) where any tank valve is below the liquid level of a tank of Categories 4, 5 or 6 containing flammable or combustible liquid; or

(ii) where located in the transfer piping between marine tanker berths and storage tanks.

NOTE: If a cast steel valve incorporates no soft seals or other parts that could be affected by a fire, it may be considered to be 'fire-safe' and does not usually require a fire type test (e.g. gate valves to API Std 600).

All valves used in this installation have the following features:-

a) The distinction between open and closed positions is obvious.

b) All hand operated valves are closed by clockwise rotation when viewed from the end of the spindle.

c) Valves with detachable handles are not used in this installation.

d) All valves used are of firesafe construction. COMPLIES

6.4 PUMPS

6.4.1 Pressure and temperature control

Where the discharge pipe of a pump can be shut off, provision shall be made to prevent the build-up of pressure or temperature in excess of the design capability of the pump and piping. The design of the system shall take into account the following:

a) A hydraulic relief valve shall not normally be provided with an isolating valve. Any such isolation valves, if installed, shall be arranged to be secured in the open position.

NOTES:

1 Pump bypasses may be installed to prevent local overheating. Isolation valves to serve hydraulic relief valves or pump bypasses are not recommended.

2 Discharge from a hydraulic relief valve should be returned to the supplying storage tank or returned to the pump inlet provided that the heat generated by such recirculation is within design limits.

b) The range of adjustment of any hydraulic relief valve shall be restricted to prevent excess pressure, or an excess-pressure relief valve shall be fitted.

There are no discharge pumps where pressures can build up in excess of the design pressure. NOT APPLICABLE

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6.4.2	**Emergency shut-off** An emergency shut-off device shall be provided on each pump. The shut-off device shall be readily accessible and its purpose clearly identified.
	An emergency shut off is provided at the load out point (ref. Clause 6.3.2). COMPLIES

6.4.3	**Pump drive** Clauses 3.4 and 3.5 shall apply to motors and engines for driving pumps.
	Clause 3.4 and 3.5 are consulted for all pump motors. COMPLIES

6.5	**HEATING OF LIQUIDS**
6.5.1	**Access for service** Critical components of the control system shall be removable without the need to drain any tank. The design, fixing and sealing of any insulation or lagging on pipes and tanks shall be such as to avoid the retention of moisture and to allow the removal of the insulation for inspection and maintenance purposes.
	There is no heating of product on site. NOT APPLICABLE

SECTION 7 - FUEL DISPENSING

7.1	**SCOPE OF SECTION**
	This Section applies to sites at which flammable or combustible liquids are dispensed into the fuel tanks of vehicles, boats or other containers. It covers both private and retail installations, but does not apply to the bunkering of large vessels or the refuelling of aircraft. NOTE: The principles given in this Section may be applied to the refuelling of light aircraft.
	There is no fuel dispensing associated with this installation. NOT APPLICABLE

SECTION 8 - TANK VEHICLE LOADING FACILITIES

8.1	**SCOPE OF SECTION**
	This Section provides general requirements for installations where tank vehicles are filled, as well as, specific filling instructions. The requirements of this Section are additional to those of the ADG Code.
	This Section is applicable to the combustible liquids tanks as they are incorporated with an onsite tanker loading installation. COMPLIES

8.2	**GENERAL REQUIREMENTS**
8.2.1	**Transfers** Transfers to a tank vehicle shall not be achieved by pressurization unless the entire system has been designed for the pressure and a suitable gas is used.
	Transfer to the tank vehicle is not achieved by the pressurization of the system. NOT APPLICABLE

8.2.2	**Location of fill point**
8.2.2.1	**Separation from above-ground tanks** The point of connection to the tank vehicle shall be separated from any on-site aboveground tank by the minimum distances given in Table 5.3.
	The connection points are separated from the tanks as follows: a) all combustible liquids connection points will be separated from the on-site aboveground tanks in excess of 3m. COMPLIES

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8.2.2.2 Separation from protected places

The following distances shall apply:

a) Where flammable liquids are loaded, a minimum separation distance of 15 m from the connection point.

b) Where flammable and combustible liquids are loaded, a minimum separation distance of 15 m from the connection point.

c) Where only combustible liquids are loaded, a minimum separation distance of 3 m from the connection point.

As only combustible liquids are loaded, a minimum separation of 3m will be required between the connection points and all protected places. COMPLIES

8.2.2.3 Separation from package stores

The following distances shall apply:

a) Where flammable liquids are loaded, a minimum separation distance of 8 m from the connection point.

b) Where flammable and combustible liquids are loaded, a minimum separation distance of 8 m from the connection point.

c) Where only combustible liquids are loaded, a minimum separation distance of 3 m from the connection point.

There are no package stores onsite. NOT APPLICABLE

8.2.2.4 Separation from on-site protected places, ignition sources and security fences

The separation distance shall be that given in AS/NZS 60079.10.1 for hazardous areas. At multi-tanker loading bays, vehicles other than those to be loaded shall not drive through a Zone 1 area.

As only combustible liquids are stored, there are no associated hazardous areas present. NOT APPLICABLE

8.2.3 Building requirements

Where the fill point is within a building, the building shall be open on at least three sides where flammable liquids are stored, or on two sides where C1 liquids are stored. The building shall be used solely for tanker loading.

NOTE: Any side of a building where the wall sheeting does not extend to within 2 m of the ground may be considered open for the purpose of this Clause (8.2.3).

All connection points are located outdoors in the open air. NOT APPLICABLE

8.2.4 Collision protection

A tank vehicle filling facility shall be protected against damage from vehicles and forklift trucks by a guard rail, traffic bollards or other physical barriers.

The tanker filling facility will be provided with impact protection. COMPLIES

8.2.5 Vehicle access

The direction of entry of vehicles into a tank vehicle filling area shall be clearly marked. The design of a tank vehicle loading facility shall be such that vehicles are positioned so that in an emergency, they can be driven or towed out without recourse to reversing (see also Clause 9.18.4).

Vehicles can only enter the filing area in one direction due to the traffic flow of the site. The location allows for the vehicles to exit in a forward motion without the need for any reversing/maneuvering to exit the site in an emergency scenario. COMPLIES

8.2.6 Spillage control

8.2.6.1 General requirements

The tank vehicle filling area shall have a system for collecting any spilt liquid and draining it to a containment tank or compound. The following requirements apply:

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a) The vehicle standing area shall be graded so that any spillage will drain away to dedicated tank or compound and not spread to other loading areas.
b) The surfaces of the system shall be impervious to any liquid that might be spilt.
NOTE: Concrete is a suitable material.
c) The tank or compound in which spillage is retained shall be constructed and located in a similar manner as that described in Clause 5.8.
d) A spill response kit shall be positioned within 15 m of the tank fill point.

Alternatively, a system based on a documented risk assessment and providing an equivalent level of protection may be used.

The loading facility will be designed to be adequately bunded and drained in full accordance with this clause (clause 8.2.6). COMPLIES

8.2.6.2 Capacity of spillage control system

The capacity of the spillage control system shall be the greater of—
a) the capacity of the largest compartment of any tank vehicle using the facility or 9000 L, whichever is less; or
b) the maximum volume of liquid that can be discharged from the two filling points having the greatest flow over 2 minutes.

The capacity shall be increased where necessary to provide for rain, clean-up or output from fire protection systems.A tank vehicle filling facility shall be protected against damage from vehicles and forklift trucks by a guard rail, traffic bollards or other physical barriers.

The loading facility will be designed to be adequately bunded and drained in full accordance with this clause (clause 8.2.6). COMPLIES

8.2.6.3 Drainage

Drainage of spilt liquid from the tank vehicle filling area shall be provided. One of the following methods shall be used:
a) Use of an isolating valve.
The isolating valve shall be kept closed at all times except when liquid is being drained.
NOTE: Drainage should be through a separator pit under controlled conditions, unless the system is designed to operate with the valve continuously open.
b) Drainage directly to a separator pit.
The pit shall be designed for the expected flow.
c) Drainage directly to a remote compound, tank or pump-out pit.
NOTE: Subsequent treatment should be through a separator pit.
d) A combination of the above.
Where an isolating valve is used, it shall be clearly marked with the words:
TANK VEHICLE FILLING AREA DRAIN VALVE—NORMALLY CLOSED
and shall be marked to indicate the open and closed positions.

Separator pits shall be capable of dealing with the flow rate from the drainage system, in accordance with regulatory requirements.

The loading facility will be designed to be adequately bunded and drained in full accordance with this clause (clause 8.2.6). COMPLIES

8.2.7 Flow rates

The flow velocity into the compartment of a tank vehicle shall be controlled to less than 1 m per second until a minimum level of 150 mm has been reached. Maximum flow velocity thereafter shall not exceed 7 m per second until filling is nearly completed, when the flow velocity shall again be reduced to minimize hydraulic shock when filling stops.

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	The flow velocity into the compartment of a tank vehicle will be controlled to less than 1m per second until a minimum level of 150mm has been reached. Maximum flow velocity thereafter will not exceed 7m per second until filling is nearly completed, when the flow velocity will again be reduced to minimise hydraulic shock when filling stops. COMPLIANCE ASSUMED

8.2.8	**Emergency shut-down** Any transfer pump shall be provided with an emergency shut-down device located in a prominent position at least 10 m but not more than 30 m from any tank vehicle filling point. It shall be clearly marked EMERGENCY PUMP STOP.
	The transfer pumps will be provided with an emergency shut-down device located in a prominent position at least 10 m but not more than 30m from any tank vehicle filling point. It will be clearly marked EMERGENCY PUMP STOP. COMPLIES

8.2.9	**Earthing and bonding** Static electricity shall be dissipated during tank vehicle filling, in accordance with AS/NZS 1020 or IEC 60079-32-2.
	Static electricity will be dissipated during tank vehicle filing via earth and bonding cables, in accordance with AS/NZS 1020. COMPLIES

8.2.10	**Bond wire connection** The bond between the vehicle tank being filled and the filling facility shall be made with a flexible sheathed cable meeting the requirements of AS/NZS 60079.14 for bond cables. It shall be securely attached to the filling facility at one end and provided with a robust spring clip, G clamp, plug and socket or equivalent at the other end. NOTES: 1 The size of the flexible sheathed cable above is unrelated to its resistance but is necessary to provide a robust flexible connection suitable for field use. 2 A flexible cable used in a system to prevent overfilling of the tank vehicle and containing a dedicated bond wire connected by a special plug and socket is an acceptable alternative. 3 The sheathing on a bond cable should be resistant to the product. A tank vehicle filling facility shall be protected against damage from vehicles and forklift trucks by a guard rail, traffic bollards or other physical barriers.
	The bond between the vehicle tank being filled and the filling facility will be made with a flexible sheathed cable being at least 10mm² (322/0.2) in cross section or equivalent. It will be securely attached to the filling facility at one end and provided with a robust spring clip, G clamp, plug and socket or equivalent at the other end. COMPLIES

8.2.11	**Monitored cable connection** A monitored cable connection using a plug and socket may be either— a) part of an integrated tanker overfill controls system; or b) provided with visual indication of bond integrity.
	A monitored cable connection using a plug and socket may be either— a) part of an integrated tanker overfill controls system; or b) provided with visual indication of bond integrity. COMPLIES

8.3	**TOP-FILLING INSTALLATIONS**
8.3.1	**Access to vehicle tank** A platform with an anti-slip surface and an elevated grating or walkway shall be provided for each tank vehicle position and shall be provided with fall protection. Any

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platform over 6 m long shall have a means of egress at each end.

If handrails are suspended from the roof structure, they shall be provided on the opposite side of the vehicle tank to the access platform.
NOTE: AS 1657 provides requirements and guidance on the design, construction and installation of platforms, walkways, stairways and ladders.

There is no top filling associated with this installation NOT APPLICABLE

8.4	BOTTOM-LOADING FACILITIES

8.4.1 System design

A bottom-loading facility shall incorporate the following:
a) A preset meter incorporating automatic slow-start and slow-finish controls.
NOTE: Aviation refuellers are excluded from this requirement.
b) A dry-break coupling between the loading arm or hose and the vehicle tank.
c) Automatic overfill protection for each vehicle tank compartment.
d) An integrated bond cable between the pipework in the filling facility and the vehicle tank.
e) Provision for vapour relief, accessible from ground level, which includes a means of safely discharging the vapours to atmosphere or to a vapour recovery system.
f) Interlocks to—
i) prevent the tank vehicle from moving whilst hoses are connected;
ii) prevent liquid transfer if the bond wire and vapour collecting hose are not properly connected; and
iii) prevent the liquid transfer if any one of the overfill protection devices has been tripped.
NOTE: The above Clause is not intended to apply to bottom loading of bitumen, as the nature of the product makes such loading impractical. API RP 2023 provides guidance on the loading of bitumen.

The bottom-loading facilities each incorporate the following:
a) A preset meter incorporating automatic slow-start and slow-finish controls
b) A dry break coupling between the loading arm or hose and the vehicle tank
c) Automatic overfill protection for each vehicle tank compartment via a "scully" system
d) An integrated bond cable between the pipework in the filling facility and the vehicle tank
e) There is no vapour recovery system proposed to be installed for this combustible liquids system with vapour relief proposed to disperse naturally.
f) Interlocks to –
i) prevent the tank vehicle from moving whilst hoses are connected;
ii) prevent liquid transfer if the bond wire is not properly connected; and
iii) prevent the liquid transfer if any one of the overfill protection devices has been tripped. COMPLIES

8.4.2 Compliance with API Code

Where appropriate, a bottom-loading facility should comply with API RP 1004 where not otherwise dealt with in this Standard.

Where appropriate, the bottom-loading facility will comply with AIP RP 1004 where not otherwise dealt with in this Standard. COMPLIES

8.4.3 Design pressure

All components which are subject to pump shut-off pressure shall be designed to withstand a pressure not less than 1.5 times the maximum shut-off pressure of the transfer pump.

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	All components which are subject to pump shut-off pressure wil be designed to withstand a pressure not less than 1.5 times the maximum shut-off pressure of the transfer pump. COMPLIES

8.4.4	**Flow rates** The liquid transfer into the vehicle tank shall be controlled within the limits specified in Clause 8.2.7, and shall reduce the flow rate towards the end of filling to minimize hydraulic shock.
	Liquid transfer into the vehicle tank wil be capable of being controlled within the limits specified in Clause 8.2.7 and reduces the flow rate towards the end of filling to minimize hydraulic shock. COMPLIES

8.4.5	**Overfill protection** Means shall be provided to ensure the overfill protection devices are active and to prevent liquid transfer into any compartment under fault conditions. Any faults shall be indicated by a clear visible signal.
	Overfill protection devices will be in place to prevent liquid transfer into any compartment under fault conditions. COMPLIES

8.4.6	**Internal valve and vent control** A pneumatic system for opening and closing the internal valves and vents of each compartment shall be interconnected with the tank vehicle braking system. This is to prevent the tank vehicle being driven or moved while the internal valves and vents are open, or while any liquid transfer hose is connected to the tank vehicle.
	All vehicles which use the bottom-loading facility will have a pneumatic system for opening and closing the internal valves and vents of each compartment interconnected with the tank vehicle braking system to prevent the tank vehicle being driven or moved while the internal valves and vents are open. COMPLIES

8.4.7	**Data collection** A data collection device, which incorporates some or all of the control devices required by this Section, may be provided within the bottom-loading facility provided it complies with all relevant Standards.
	Should a data collection device be installed it will be fully compliant with all relevant Standards. COMPLIES

8.4.8	**Atmospheric venting** Where vapours are discharged to atmosphere during transfer, the discharge shall be in a vertical direction from a point at least 2 m above the highest point of the roof of the filling facility or, if not roofed, 8 m above the floor of the filling facility. The separation distances given in Clause 8.2.2.2(b) and 8.2.2.2(c) shall apply to the vent outlet. The vent shall be provided with flashback protection at its outer extremity.
	There is no Vapour Recovery associated with this design. Vapours are discharged in a vertical direction at least 8m above ground level. The vent outlet for the combustible liquids will be separated from protected places by at least 3m and fitted with flashback protection. COMPLIES

SECTION 11 - FIRE PROTECTION

11.1	**SCOPE OF SECTION**
	This Section sets out requirements and recommendations relating to the protection of storages of flammable and combustible liquids from fire, and for the fighting of any fire in such storages. NOTES:

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1 This Section does not provide for fire protection facilities at marine tanker loading and unloading berths, which are dealt with in AS 3846.
2 It is essential that the requirements of all regulatory authorities, including the fire authority, be observed.

The protection of an installation from fire is achieved primarily by good facility design and operational practices which ensure that the possibility of the outbreak of fire is minimized, together with the minimum installed fire protection equipment specified in this Section so that consequences are also minimized.

Fire Protection will be provided in accordance with this section for the combustible liquids storage at this site.

The fire protection system associated with this area will be designed by certified Fire engineers to be fully compliant with AS 1940 - 2017. The Fire Protection designs will be reviewed and approved by the local Fire Authority prior to installation and commissioning. COMPLIANCE ASSUMED

11.2 APPLICATION OF SECTION

Any building or site where flammable or combustible liquids are stored or handled, in quantities exceeding minor storage (see Section 2), shall be provided with fire protection in accordance with this Section. Each installation shall comply with the general requirements of Clause 11.3 and the specific requirements of such other Clauses as are appropriate to the particular situation.

For facilities located outside of the built environment – typically farms, rural agricultural operations, mining operations both in rural and remote areas, etc., where a destructive fire will not endanger persons on or off the site, will not endanger any property under other ownership, or will not have the potential to cause serious environmental damage, the fixed fire protection requirements specified in this section may be varied and/or reduced, subject to a risk assessment conducted with or agreed to by, the authority having jurisdiction.

When the flash point or quantity of liquid stored is changed, the fire protection shall be upgraded to satisfy the requirements of this Section as appropriate.

All storages of combustible liquids have been provided with fire protection. COMPLIES

11.3 GENERAL REQUIREMENTS FOR FIRE PROTECTION EQUIPMENT

11.3.1 General

Fire protection systems shall be appropriate to the hazard and include consideration of adjoining activities and materials, so as not only to deal with incidents within the storage but also to reduce the potential for the liquids to become involved through the escalation of another incident.

Individual package stores and tanks within the boundaries of a single property may be treated as separate storages for the purpose of determining total fire protection requirements, provided that all parts of the total storage are physically separated from each other by at least the distances given in Table 4.1 or Table 5.4, as applicable.

The fire protection that has been chosen for this site is appropriate for the risk and hazards associated with the installations. COMPLIES

11.3.2 Equipment compatibility

Materials used in a fire protection system shall be suitable for the conditions of use and compatible with the liquids being stored. All firefighting media, appliances, equipment, components, hoses, connectors, booster connections, and the like shall be compatible with that of the local fire authority at all essential interfaces.

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NOTE: Particular attention should be paid to provisions and procedures to cater for possible variations in the type of foam concentrate, mixing ratios, application methods and application rates.

All fire protection chosen is suitable for the conditions of use and the products stored. COMPLIES

11.3.3 Location of firefighting equipment

Any firefighting equipment shall be located so as to be reasonably adjacent to the risk being protected and accessible without undue danger in an emergency.

Fire fighting equipment is located so as to be reasonably adjacent to the risk being protected and accessible without undue danger in an emergency. COMPLIES

11.3.4 System integration

The fire protection facilities specified in this Section shall be either an independent system or integrated with other fire protection systems.

NOTE: Mutual aid in the form of a valved cross connection between neighbouring facilities to allow access to additional water supplies is acceptable, if approved by the relevant authority.

The fire protection facilities have been selected specifically for use with the fuel installation. COMPLIES

11.3.5 Weather protection

Any firefighting equipment that is susceptible to corrosion or degradation by weather, the environment, ultraviolet light, fumes and the like, shall be protected by a sheltered location or a protective enclosure, with the contents suitably labelled.

All fire fighting equipment installed for this facility is protected from the weather. COMPLIES

11.3.6 Labelling of firefighting equipment

All firefighting equipment shall be marked or labelled in accordance with the relevant Australian Standard. Other firefighting resources, such as water storage tanks, should be clearly identified.

NOTE: Advice may be sought from the fire authority.

All extinguishers are labelled in accordance with the relevant code. COMPLIES

11.3.7 System drawing illustrations

A layout plan showing the locations of all tanks, shut-off valves, pipelines, hydrants, and firefighting systems shall be provided and kept available for ready reference. Adequate wall-charts should be displayed in strategic control locations.

A layout plan showing the locations of all tank shut off valves, emergency stops and fire extinguishers is displayed near the installation in a strategic location. COMPLIES

11.3.8 Equipment and piping identification

Firefighting equipment and piping shall be provided with the following means of visual identification:

a) Water piping and valves within the foam pumphouse—R13—Signal Red.

b) Pumps, above-ground piping, and valves containing foam concentrate—B15—Mid Blue.

c) Above-ground foam solution lines and valves within the pumphouse—B25—Aqua.

d) Outside hydrants and firefighting equipment—colours as in Item (a) or (c) and the word WATER or FOAM, as appropriate.

e) Cabinets containing firefighting equipment—painted in accordance with Items (a), (b) or (c), as appropriate.

f) Control points for water or foam—the word WATER or FOAM, as appropriate.

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g) Sprinkler or Foam/Sprinkler system riser assemblies— colours as in Item (a) or (c) and the word WATER or FOAM, as appropriate.
NOTE: The colours specified are defined in AS 2700.

In addition to identifying piping colours, suitable labelling shall be provided as given in AS 1345.

All fire fighting equipment is provided with appropriate visual identification. COMPLIES

11.3.9 Impact protection

All equipment, piping and valves shall be adequately supported and protected, taking into consideration the potential for traffic damage and projectile impact during a fire.

All equipment, piping and valves are adequately supported and protected, taking into account the potential for traffic damage during a fire. COMPLIES

11.3.10 Maintenance of fire protection equipment

Fire protection systems and equipment shall be maintained in accordance with the relevant Section of AS 1851.

In addition the following requirements shall apply to the maintenance of foam systems:
a) At least annually, all foam systems shall be thoroughly inspected and checked for proper operation. The inspection shall include the quality of the foam concentrate or premix solution quality or both. Where results deviate by more than 10% from the manufacturers specification or that documented in acceptance testing, remedial action shall be instigated.
b) The inspection report, with recommendations, shall be filed with the owner. The requirements for performance evaluation of foam concentrate or premix solution shall be in accordance with the maintenance requirements of NFPA 11.
c) Any foam discharged during system commissioning or testing shall be contained so as to prevent release to the environment
NOTES:
1 The purpose of this inspection and testing is to ensure that the system is in full operating condition and that it remains in that condition until the next inspection.
2 Fixed discharge outlets equipped with frangible seals should be provided with suitable inspection means to permit proper maintenance and for inspection and replacement of vapor seals.
3 Appropriate non-fluorinated surrogate liquids should be used for testing as alternatives where possible.

The fire extinguishers are to be maintained in accordance with AS 1851. COMPLIES

11.4 PORTABLE FIRE EXTINGUISHERS

11.4.1 General

Fire extinguishers shall be provided in accordance with this Section as appropriate to the particular type of installation.

Any fire extinguisher shall comply with the appropriate Standard listed in Table 11.1, and shall be located and mounted in accordance with AS 2444.

Any portable fire extinguishers installed for this installation will be located and mounted in compliance with AS 2444. COMPLIES

11.4.2 Type and rating

The type and rating of any extinguisher required by this Standard shall be as follows:
a) Where the term 'powder-type extinguisher' is used it shall mean a portable powdertype fire extinguisher having a rating of at least 2A 60B(E).
NOTE: A capacity of 9 kg is recommended.
b) Where the term 'foam extinguisher' is used it shall mean a portable foam fire

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extinguisher having a rating of at least 2A 20B.
NOTES:
1 Fewer extinguishers may be provided in a specific area in order to reduce the total number of extinguishers nominated, provided that the overall rating is equivalent.
2 Although it is recognized that foam extinguishers cannot achieve a performance rating as high as is possible with other agents, foam is specified in certain applications where its characteristics are advantageous, e.g. ability to blanket spills, and to flow into corners otherwise difficult to reach. Nevertheless, substitution is permissible for rationalization, in which case the opportunity should be taken to raise the level of protection. Thus, a 20B foam type could be replaced by a unit having a considerably more effective rating, e.g. 2A 60B.

Any powder type extinguishers will have a rating of at least 2A 60B (E) and any foam type extinguishers will have a rating of at least 2A 20B. COMPLIES

11.4.3 Limitations

Extinguishers shall be selected with the following criteria in mind:
a) Their suitability for use with the type of liquid on which it is intended to be used.
b) Alcohol-compatible foam shall be used for alcohol or other polar liquids.
c) Where powder-type and foam extinguishers are liable to be used together in an emergency, they shall be compatible.
NOTES:
1 Powder-type extinguishers have little cooling or quenching ability, so personnel should be aware of the potential for flashback or re-ignition.
2 Carbon dioxide can be adversely affected by wind, and so is more suitable for indoor and similar protected positions. Care needs to be taken in confined spaces.

Any fire extinguishers proposed are suitable for use with C1 combustible liquids.
COMPLIES

11.5 FIXED FIRE PROTECTION AND DETECTION SYSTEMS

11.5.1 General

Any fixed fire protection or detection system shall be designed and installed in accordance with the appropriate Standard as listed in Table 11.2. Where any requirement in this Standard is more onerous than the requirements of the appropriate Standard, then the requirement of this Standard shall take precedence.

NOTE: Some Standards are not written for the prime purpose of protecting storages of flammable and combustible liquids, and the need to vary the requirements of such Standards is recognized. When consulting other Standards, care should be taken when selecting the appropriate portions of those Standards to be applied to the storage.

Detailed requirements and recommendations for foam systems and cooling water are provided in Clauses 11.14, 11.15, and 11.16.

A hydrant system is the only fixed fire protection facility required for this installation. The hydrant system is required by clause 11.13.7. and is to be provided in full accordance with this clause COMPLIANCE ASSUMED

11.5.2 Fire detection, warning and alarm systems

Any fire alarm system shall comply with AS 1670 and AS 1603.5, together with the following requirements:
a) Any automatic system shall be capable of being manually activated at clearly identified positions.
b) The warning signal of the alarm system shall be sufficiently distinguishable from other signals to permit ready recognition, and shall be clearly audible throughout the whole installation, unless it can be demonstrated that audibility over a limited area is justified.
NOTE: In addition, a visual alarm system should be considered in areas of excessive

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noise.
c) The power supply for any alarm system shall be independent of the main electricity isolating switch for the area.
d) Any mandatory fire alarm systems shall be connected to a fire station nominated by the relevant fire authority or 24 h monitoring service. The latter shall immediately notify the nominated fire station in the event of the fire alarm being activated.
e) Manual alarm call points shall be located at convenient and safe locations near work stations.

There are no fire detection, warning or alarm systems associated with this installation
NOT APPLICABLE

11.5.3 Fire hose reels

Table 11.4. Fire hose reels shall comply with AS/NZS 1221 and AS 2441. Foam hose reels shall be fitted with suitable foam-making equipment capable of producing at least 27 L/min of foam solution at a minimum of 220 kPa for 30 minutes.
NOTE: To ensure appropriate application of foam, suitable training should be regularly undertaken.

There is no requirement for a fire hose reel to be fitted for this installation.
NOT APPLICABLE

11.5.4 Fire hydrants

Where fire hydrants are required to be installed by this Standard, the design and installation of the fire hydrant system shall be in accordance with AS 2419.1 for both buildings and open yards, as well as the additional requirements in this Section.
NOTES:
1 AS 2149.1 permits the use of street hydrants in lieu of onsite fire hydrant systems where the performance and location requirements of AS 2419.1 are satisfied.
2 The National Construction Code (NCC) in Clause E1.3 requires all buildings greater 500 m2 in aggregate floor area to be served by a fire hydrant system.
NCC Clause E1.10 requires that special hazards need additional firefighting provisions for both buildings and/or allotments.

Hydrants with foam concentrate are required for the storage installations by clause 11.13.7. All hydrants are to be in accordance with AS 2419.1.

The fire protection system associated with this area will be designed by certified Fire engineers to be fully compliant with AS 1940 - 2017. The Fire Protection designs will be reviewed and approved by the local Fire Authority prior to installation and commissioning. COMPLIANCE ASSUMED

11.5.5 Automatic sprinkler systems and automatic foam/water sprinkler systems

Foam water sprinkler system design requirements shall comply with AS 2118.1 and their installation shall comply with NFPA 16. Refer also to AS 2118.3 for foam water deluge systems.

NOTE: Foam water sprinkler systems may be required for the protection of storage of flammable and combustible liquids in AS 2118.1 which specifies the design criteria, however specific installation requirements are not currently included in AS 2118.1 and NFPA 16 should be used.

There is no requirement for a sprinkler system for this installation. NOT APPLICABLE

11.5.6 Foam water sprinkler systems

Foam water sprinkler system design requirements shall comply with AS 2118.1 and their installation shall comply with NFPA 16. Refer also to AS 2118.3 for foam water deluge systems.
NOTE: Foam water sprinkler systems may be required for the protection of storage of

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flammable and combustible liquids in AS 2118.1 which specifies the design criteria, however specific installation requirements are not currently included in AS 2118.1 and NFPA 16 should be used.

There is no requirement for a foam water sprinkler system for this installation.
NOT APPLICABLE

11.5.7 Monitors

Monitors shall be installed as specified in various Clauses of this Section and shall comply with the manufacturer's specifications. The following requirements also apply:
a) Monitors shall be capable of applying the required water density and quantity to the storage under adverse wind conditions.
b) Fixed monitors shall be provided with adjustable, constant flow, fog to straight stream nozzles so that the facility is suitably protected, but not damaged by solid stream at shorter ranges.
c) Monitors shall be located so that the facility is adequately protected.
d) If monitor location could endanger the operator, radiant heat protection or remote operation shall be considered. In any case, the design shall ensure that personnel operating monitors shall not be exposed to radiant heat flux of greater than 3 kW/m2 or a radiant heat flux agreed to by the relevant regulatory authority.
NOTE: Determination of operator endangerment should take into consideration relevant technical and work, health and safety guidance for first responders. The radiant heat flux of 3 kW/m2 aligns with the fire services requirements for up to 10 min operation.

There is no requirement for a monitors for this installation. NOT APPLICABLE

11.6 FIRE PROTECTION REQUIREMENTS FOR PRODUCT PUMPS, MANIFOLDS AND HOSE CONNECTION POINTS

11.6.1 Product pumps

A pump installation for handling flammable or combustible liquids shall be provided with at least one powder-type extinguisher not less than 3 m nor more than 10 m from each risk being protected.

Any pumps associated with handling of combustible liquids will be provided with at least one powder-type extinguisher not less than 3 m nor more than 10 m from each risk being protected COMPLIANCE ASSUMED

11.6.2 Manifolds and hose connection points

Except as otherwise required by this Section, a powder-type extinguisher shall be provided within 10 m of a hose connection point or a manifold.

There are no manifolds or hose connection points associated with this installation apart from the unloading point. An extinguisher is located on the tanker vehicle within 10 meters of the hose connection point. COMPLIANCE ASSUMED

11.7 FIRE EXTINGUISHER REQUIREMENTS FOR TANK VEHICLE TRANSFER AREAS

11.7.1 Location of extinguishers

The positions of extinguishers shall be chosen to optimize access in an emergency. The following considerations should be taken into account:
a) At least one powder-type extinguisher should be at ground level at each loading position. For a top-loading installation at least one additional powder-type extinguisher should be at the loading platform.
b) All foam type extinguishers should be at ground level within 10 m of the loading point.
c) Locations should be on approach or exit paths.
d) Access to any extinguisher should not be vulnerable to blockage by a fire.

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The position of extinguishers was chosen to optimize access in an emergency.
Extinguishers are at ground level and within 10m of the loading point. COMPLIES

11.7.2 Road tank vehicle loading areas

An installation for filling road tank vehicles with flammable liquid shall be provided with the following minimum fire protection:

a) For top loading, one powder-type extinguisher per vehicle loading position located on the platform plus one powder-type extinguisher for each set of access stairs.

b) For bottom loading, one powder-type extinguisher for each vehicle loading position.

c) In addition to Items (a) and (b), one foam extinguisher for every two vehicle loading positions or part thereof.

d) Where a road tank vehicle consists of more than one tank unit (e.g. a B-Double or road train), Clause 11.7.3 shall apply.

There are no facilities for road tank vehicle loading on this site. NOT APPLICABLE

11.7.3 Rail tank vehicle loading areas

An installation for filling rail tank vehicles with flammable liquid shall be provided with the following protection:

a) When filling a single tank vehicle, or two tank vehicles on parallel sidings from a common elevated platform, Clauses 11.7.2(a) and 11.7.2(c) shall apply.

b) When filling two or more tank vehicles in line from a common platform, the following shall be provided:

i) At least one powder-type extinguisher for every 15 m or part thereof of platform length.

ii) One powder-type extinguisher and one foam extinguisher at the foot of each set of access steps to the platform.

c) Where bottom loading takes place, at least one powder-type extinguisher shall be provided for each loading point or group of loading points, plus one foam extinguisher for each two loading points or for each two groups of loading points.

There are no facilities for rail tank vehicle loading on this site. NOT APPLICABLE

11.7.4 Tank vehicle delivery locations

Any location at which a tank vehicle will unload flammable liquid shall be provided with at least one powder-type extinguisher per unloading point or grouped set of unloading points with a minimum of two powder-type extinguishers for the installation. NOTE: Where the location of the unloading area in relation to the storage renders it inadvisable to locate the extinguishers permanently at the tank vehicle standing area, they may be taken to that area for the unloading period.

For rail tank vehicle unloading, a minimum of one powder-type and one foam type extinguisher shall be provided for every two rail tank vehicle unloading positions.

The tank vehicles that deliver to this site will carry fire extinguishers on board which are located in an appropriate location should it be required during tank refilling. COMPLIES

11.8 FIRE PROTECTION REQUIREMENTS FOR PACKAGE STORAGE AND HANDLING AREAS

11.8.1 Application

This Clause (11.8) provides fire protection requirements for package storage and handling areas, as described in Section 4.

There are no flammable or combustible package stores on site. NOT APPLICABLE

11.9 FIRE PROTECTION REQUIREMENTS FOR FUEL DISPENSING INSTALLATIONS

11.9.1 Vehicle refuelling stations

Fuel-dispensing installations for vehicles shall be provided with at least two powder-type extinguishers. For a private installation containing a single dispenser, one such

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powder-type extinguisher shall suffice where flammable liquid is dispensed. Extinguishers may be omitted where only combustible liquid is dispensed.

There are no dispensing facilities associated with this installation. NOT APPLICABLE

11.10 FIRE PROTECTION REQUIREMENTS FOR ABOVE-GROUND FIRERATED TANKS, TANKS UNDERGROUND OR IN CHAMBERS

Any tank that is fire-rated (see Clause 5.9.4), or installed underground or in a tank chamber may be operated without fire protection additional to that otherwise required for the site.

This installation is for aboveground non fire rated tanks. NOT APPLICABLE

11.11 FIRE PROTECTION REQUIREMENTS FOR ABOVE-GROUND TANK STORAGE OF AGGREGATE CAPACITY LESS THAN 60 m3

11.11.1 Tanks within buildings

Where a tank containing flammable or C1 liquid is located within a building, but is not in a tank chamber, it shall be provided with at least one powder type extinguisher located within 10 m of the tank and hydrant protection as specified in Clause 11.5.4 and Table 11.4.

This assessment is of outdoor combustible liquid storage in excess of an aggregate capacity of 60,000L NOT APPLICABLE

11.12 FIRE PROTECTION REQUIREMENTS FOR ABOVE-GROUND TANK STORAGE OF AGGREGATE CAPACITY 60 m3 TO 2000 m3

11.12.1 Flammable liquids

Where flammable liquid is stored with or without combustible liquid, the following requirements shall be provided, in addition to the provisions for any other storage or building on the site, unless exempted or varied by Clause 11.2:

a) For clusters of tanks, Clauses 11.13.2 and 11.16 shall apply.

b) At least one powder-type extinguisher and hose reel with foam.

c) Fire hydrants complying with Clause 11.5.4 and the following:

(i) Suitable foam-making equipment shall be provided, capable of producing 240 L/min (4 L/s) of foam solution at a minimum pressure of 400 kPa.

ii) Sufficient foam concentrate in containers to provide 20 minutes operation of the foam branchpipe in addition to any concentrate required for other purposes.

iii) Sufficient length of hose of at least 38 mm size, to reach the compound and any road or rail tanker loading point, from a hydrant from either of two directions at least 90° apart shall be available. Where hoses have to be joined, not more than one length shall be 38 mm size. Additional lengths shall be at least 65 mm size, but there shall be no more than two lengths of hose per hydrant outlet. Hydrants shall be not more than 60 m from the tank.

iv) The essential requirement is that satisfactory foam be generated, with an expansion ratio of at least 8:1.

d) Sufficient hydrants shall be provided in accordance with Clause 11.13.4.1(a).

e) The location of hydrants on the site shall be chosen on the basis of providing effective cover for each compound and any road or rail tank loading point in accordance with Clause 11.5.4, under any foreseeable conditions of fire and wind.

This assessment is of outdoor combustible liquid storage in excess of an aggregate capacity of 2,000,000L NOT APPLICABLE

11.13 FIRE PROTECTION REQUIREMENTS FOR ABOVE-GROUND TANK STORAGE OF AGGREGATE CAPACITY 2000 m3 AND GREATER

11.13.1 Foam systems for tanks

Every vertical fixed-roof tank over 6 m diameter that contains flammable liquid shall be

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provided with an automatic or manual fixed foam system in accordance with Clause 11.16, irrespective of whether an internal or external roof is provided for the tank, unless the use of foam is inappropriate (see Note 3). Foam shall be applied as directly as possible to the liquid surface.

NOTES:
1 Some authorities require that open-top floating roof tanks be provided with fixed foam systems, others do not, so it is necessary to determine the requirements for the locality.
2 For top application, Type II discharge outlets are preferred over those of Type I, due to their simplicity of operation and lesser maintenance requirements.
3 It is recognized that there may be special cases in which the use of foam is not advisable or is unnecessary, e.g. where the stored liquid is incompatible with foam or water, or where air is excluded by inert gas, or where a volatile liquid is stored in a pressure tank. Special consultation with the fire authority is necessary in any such cases.
4 On large or segregated sites, it may not be practical to have multiple proportioning and storage facilities. In such cases, it is acceptable to provide fixed foam piping to storage tanks from connection points outside the compound, to which mobile facilities can be attached.

Consideration should be given to availability and access for such mobile facilities.

This storage is of combustible liquids only. NOT APPLICABLE

11.13.2 Foam protection for tank clusters

Where a tank cluster (see Clause 5.7.5) requires foam protection, but one or more tanks, because of the contents or the diameter, would not otherwise be required to be provided with a fixed foam system on the tank, provision shall be made to apply foam over the area of the compound, by means of monitors or hydrant systems. Where the cluster is located in a sub-compound within a larger compound, the foam requirements may be calculated on the basis of the area of the sub-compound, provided that the bund is at least 500 mm high and complies with Clause 5.8.3(h).

There are no defined tank clusters (refer Clause 5.7.5) associated with this site.
NOT APPLICABLE

11.13.3 Cooling water

Cooling water shall be provided as required in Clause 11.15 (see also Appendix I).

Should it be determined that cooling water is required it will be provided as required in clause 11.15. INFORMATIVE ONLY

11.13.4 Monitor and hydrant systems

11.13.4.1 General

A monitor and hydrant system shall be provided, which shall comply with Clause 11.14 and Clause 11.5.4, and the following requirements unless only combustible liquids are stored (in which case Clause 11.13.7 shall apply):
a) Fixed cooling rings or manually/remotely operated monitors shall be located such that water can reach every part of any tank requiring cooling water.

Fire hydrants shall be provided in accordance with Clause 11.5.4 to provide coverage for other storages, building, pumps, valves and other components of the installation.
b) Where any part of a pipe for water supply to a hydrant system lies within 150 m of any part of the storage as listed in Item (a), fire hydrants shall be placed not more than 60 m apart along that part of the pipe.
c) No fire hydrant shall be located within a compound unless the pipe to that hydrant can be isolated from the rest of the hydrant system by a valve outside the compound.
d) There shall be at least three hydrants per storage.

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e) When planning the location of hydrants, the following points shall be taken into account:

i) The possible need to apply further hydrants for auxiliary tank cooling, using either uncommitted reserve water or spare water (see Clause 11.15 and Appendix I).

ii) The use of ring mains valve to retain 75% of the operational availability of the fire main at all times.

f) Non-fire-rated groove couplings shall not be used within a compound unless it can be safely accessed under fire conditions.

NOTE: The use of threaded sockets and fittings is not recommended, but where it is impractical to do otherwise, pipework should be back-welded for strength.

As only combustible liquids are stored clause 11.13.7 is to be applied NOT APPLICABLE

11.13.4.2 Simultaneous operation of water-based systems

When the cooling and foam systems with the largest demands are operating, the three adjacent fire hydrants that are not being used for cooling or foam and are the most hydraulically disadvantaged in the system, shall each be capable of providing pressure and flow in accordance with AS 2419.1.

As only combustible liquids are stored clause 11.13.7 is to be applied NOT APPLICABLE

11.13.4.3 Hydrant accessories, hoses and fittings

Where trained on-site personnel are available to operate a hydrant system, the following accessories, hoses and fittings shall be provided:

a) For each fire hydrant within the installation, at least one 30 m hose length of 38 mm minimum size, complete with couplings, together with one adjustable spray pattern hose nozzle having a capacity of at least 4 L/s, complete with hose coupling and hydrant valve spanners.

b) For each portable monitor, two 30 m hose lengths of 65 mm minimum size, complete with hose connectors and spanners.

c) One additional 30 m hose length of 65 mm minimum size for every three fire hydrants or part thereof, subject to a maximum of six additional hoses. Such additional hoses may be stored in a central location that is readily accessible at all times.

d) For every six fire hydrants, one foam-making branchpipe with pick-up tube, to a maximum of three units, with each branchpipe capable of producing 240 L/min (4 L/s) of foam solution at a minimum of 400 kPa.

e) Sufficient foam concentrate in containers to provide 20 minutes operation of each foam branchpipe as required in Item (d), in addition to any concentrate required for other purposes.

The accessories shall be housed at locations appropriate to the arrangements and the staffing levels of the particular installation, and shall be provided with identifying signs.

As called up by Clause 11.13.7, accessories and foam concentrate are required to be provided for the hydrant systems. On-site staff are to be trained and capable of operating the hydrant system whilst being provided with the following equipment and accessories:

a) For each fire hydrant within the installation, at least one 30 m hose length of 38 mm minimum size, complete with couplings, together with one adjustable spray pattern hose nozzle having a capacity of at least 4 L/s, complete with hose coupling and hydrant valve spanners.

b) there are no proposed monitors.

c) One additional 30 m hose length of 65 mm minimum size for every three fire hydrants or part thereof, subject to a maximum of six additional hoses. Such additional hoses may be stored in a central location that is readily accessible at all times.

d) For every six fire hydrants, one foam-making branchpipe with pick-up tube, to a maximum of three units, with each branchpipe capable of producing 240 L/min (4 L/s)

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of foam solution at a minimum of 400 kPa.
e) Sufficient foam concentrate in containers to provide 20 minutes operation of each foam branchpipe as required in Item (d), in addition to any concentrate required for other purposes.

The accessories shall be housed at locations appropriate to the arrangements and the staffing levels of the particular installation, and shall be provided with identifying signs.

The fire protection system associated with this area will be designed by certified Fire engineers to be fully compliant with AS 1940 - 2017. The Fire Protection designs will be reviewed and approved by the local Fire Authority prior to installation and commissioning. COMPLIANCE ASSUMED

11.13.5 Water supply duration

Sufficient water shall be available from mains or static storage or a combination of both, to supply the sum of the requirements for cooling water for at least 1.5 h, plus the water requirements of the tank having the largest foam demand for at least 20 minutes or as designed. The water supply for the hydrant system shall be in accordance with AS 2419.1.

NOTE: If it is intended to take advantage of any convenient existing dam, river, lake or sea as static storage, the possible effects of short-term or long-term water level variations should be analysed as specified in AS 2419.1.NOTE: See Clause 11.11.2.

As only combustible liquids are stored clause 11.13.7 is to be applied NOT APPLICABLE

11.13.6 Fire alarm system

A fire alarm system shall be provided.

As only combustible liquids are stored clause 11.13.7 is to be applied NOT APPLICABLE

11.13.7 Combustible liquids

Where only combustible liquids are stored, the installation shall be provided with at least the following:
a) Sufficient hydrants to reach all parts of the compound.
b) Accessories and foam concentrate, as applicable.
c) One powder-type extinguisher per tank, with a minimum of three powder-type extinguishers for the storage area, strategically located around the storage.

As an aggregate of 2,952,000L of combustible liquids is proposed to be stored on site, fire protection in compliance with this clause (clause 11.13.7) will be required as follows:
a) Sufficient hydrants to reach all parts of the compound.
b) Accessories and foam concentrate, as applicable (refer to 11.13.4.3).
c) One powder-type extinguisher per tank, with a minimum of three powder-type extinguishers for the storage area, strategically located around the storage.

The fire protection system associated with this area will be designed by certified Fire engineers to be fully compliant with AS 1940 - 2017. The Fire Protection designs will be reviewed and approved by the local Fire Authority prior to installation and commissioning. COMPLIANCE ASSUMED

11.14 PIPING AND PUMPING SYSTEMS

11.14.1 General

The requirements of this Clause (11.14) shall apply to hydrant systems, fixed foam systems and their water supplies.

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As hydrant systems are required by clause (11.13.7), the requirements of this clause (clause 11.14) are relevant for this system. The system is to be designed in compliance with this clause (clause 11.14). COMPLIANCE ASSUMED

11.14.2 Fire pumps

Where pumping is necessary to meet the performance requirements of the water supply or foam system, the requirements of AS 2941 and the following shall apply where appropriate:

a) Pumping arrangements shall be either of the following:

i) Two automatic pumps, at least one of which shall be compression ignition engine-driven. The other may be electric motor-driven. Each pump shall be capable of providing independently the necessary flow and pressure.

ii) Three automatic pumps, at least two of which shall be compression ignition engine-driven, and any two of which shall be capable of providing in aggregate the necessary flow and pressure.

b) Pump inlets may be interconnected by a common manifold where feasible, in which case isolation valves under the control of the site owner shall be provided in the common manifold.

c) For a pump-set boosting from a town main, there shall be a bypass around the pumps with a non-return valve on the bypass. The bypass shall be not less than the diameter of the pump discharge manifold.

d) The diameter of the water supply connection to the pumps shall be such that a velocity of 4.0 m/s is not exceeded when a pump is operating at its maximum flow rate.

e) Sufficient fuel shall be kept on-site to operate all pump engines continuously for six hours at maximum fuel consumption rates.

f) Where total water supply is from tank, with or without pumps, the tanks shall be either separate units or a single unit partitioned to hold 50% of the required water storage capacity in each tank or compartment (for the purpose of maintenance).

g) The location of fire pumps and associated equipment shall be determined in consultation with the authority having jurisdiction and in conjunction with the evaluation of heat flux contours generated from storage areas.

COMPLIANCE ASSUMED

11.14.3 Strainers

Water and foam systems shall be provided with such strainers as may be necessary to prevent blockage of the equipment. Any such strainers shall be readily accessible and cleanable.

COMPLIANCE ASSUMED

11.15 COOLING WATER

11.15.1 Where required

Cooling water for the protection of tanks against fire exposure shall be provided in the circumstances described in, and in the quantities required by, Appendix I.

There is no cooling water associated with the fire protection for this storage.

NOT APPLICABLE

11.16 FIXED FOAM SYSTEMS FOR TANKS

11.16.1 General

The term 'fixed' in the context of this Clause (11.16) shall mean both 'fixed' and 'semi-fixed' as defined in NFPA 11.

Where a fixed foam system is required, it shall be designed in accordance with NFPA 11 or EN 13565-2 and the requirements of this Clause (11.16). Where there is conflict

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	between NFPA 11 or EN 13565-2 and this Clause, the requirements of this Standard shall apply.	
	There are no fixed foam systems required for the tank storages.	NOT APPLICABLE

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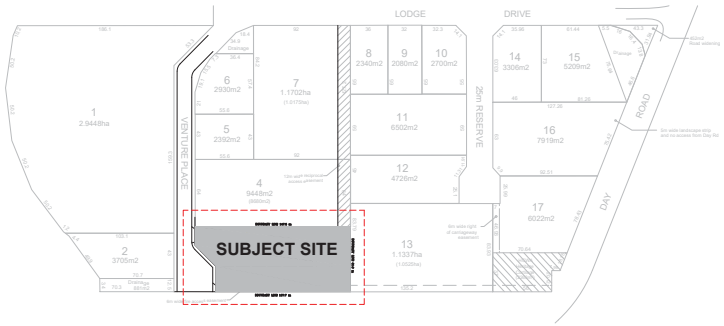
DRAWINGS

DEVELOPMENT TABLE	
AREA	TOTAL
SUBJECT SITE AREA	8,410 m²
DEVELOPMENT AREA	3,216 m²
WAREHOUSE AREA	230.58 m²
CONTAINERS COURT AREA	2,248 m²



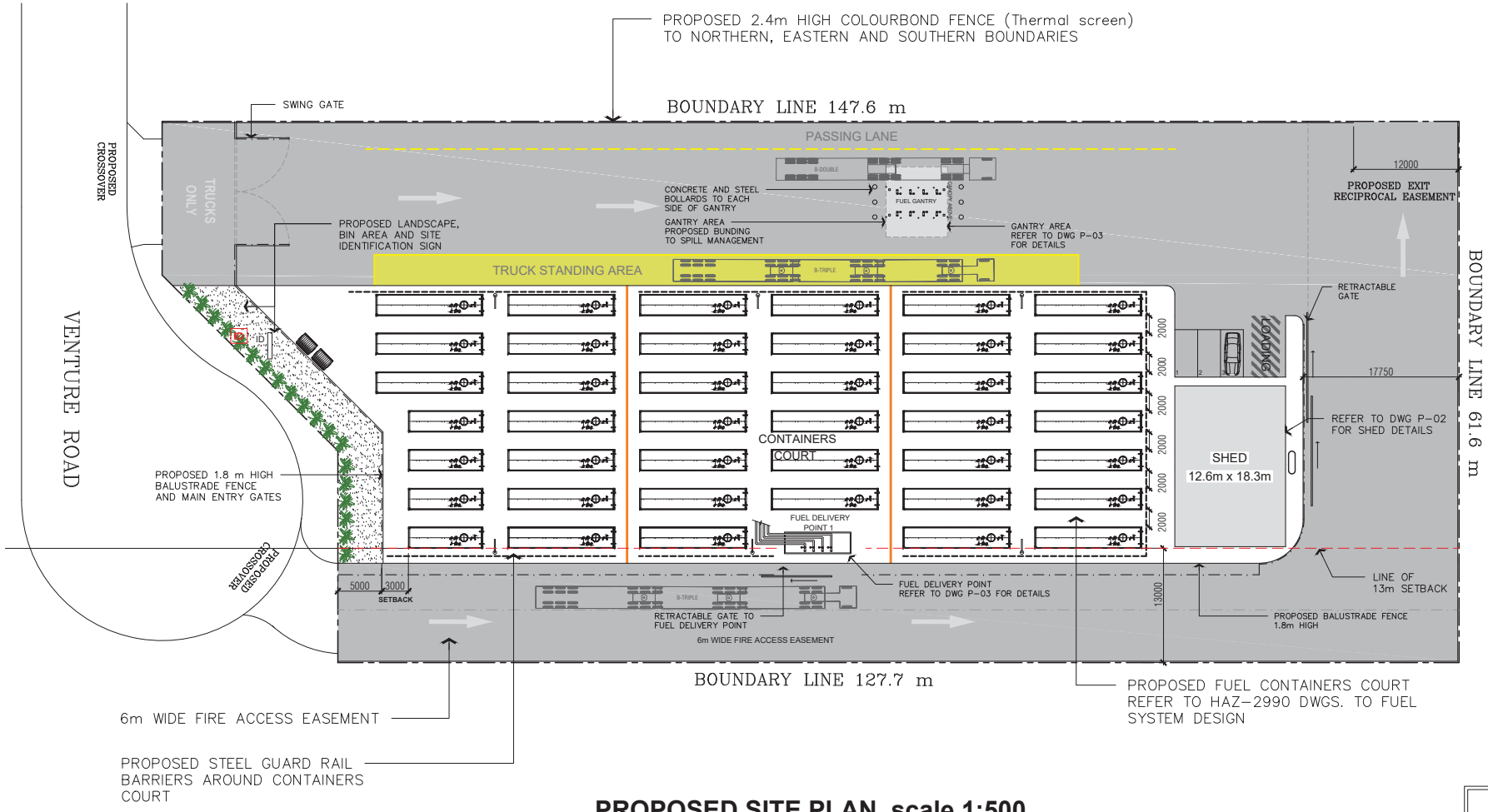
KEY PLAN scale 1:5000

PROPOSED FIREWALL 3.3m HIGH

SETBACK LINES

BOUNDARIES

BALUSTRADE FENCE 1.8m HIGH



PROPOSED SITE PLAN scale 1:500

ISSUE FOR PLANNING PERMIT

PO BOX 494
Flinders Lane
Melbourne VIC 8009

E: info@aksara.com.au
ACN 141 232 877

PROJECT:

ROCKINGHAM DEVELOPMENT

LOT 3 ROCKINGHAM WA AUSTRALIA

AMMENDMENT	
DATE	12/12/2022
DRAWING TITLE	SITE PLAN
SCALE	AS SHOWN @ A3

SPECIAL COMMENTS

AMMENDMENT	DATE	BY
FOR PLANNING PERMIT	29/09/2022	JC
FOR PLANNING PERMIT	18/10/2022	JC
FOR PLANNING PERMIT	27/10/2022	JC
FOR PLANNING PERMIT	12/12/2022	JC

DRAWING No.

P-02

Rev-A2

Hazard Analysis

Project: Aksara Rockingham at Venture Place, East Rockingham WA **Assessment Ref No:** HAZ-2990

Description/Activity: Design Stage for 41 x 72kl combustible liquids tanks and loading gantry **Date:** 25.01.2023

Likelihood (L)		Consequences (C)	
Rare	5	Insignificant	5
Unlikely	4	Minor	4
Moderate	3	Moderate	3
Likely	2	Major	2
Almost Certain	1	Extreme	1

Overall Risk Rating (L) x (C)

Score	Response Required
1 to 6	Immediate Action Required
7 to 14	Review Action Required ASAP
15 to 25	Acceptable risk - no need for action

Certification against AS1940 for Flammable and Combustible Liquids Storage

No.	Hazard		(L) 1-->5	(C) 1-->5	(L)x(C)	Action Required (Y/N)
1	Overfill of tank	The combustible liquids tanks are aboveground double walled tanks with remote fill points fitted with liquid tight connections with 100nb camlocks or dry break couplings. The tanks are fitted with an automatic flow limiting device, with a high level alarm set at a maximum of 97% of tank capacity. Fire fighting equipment will be provided for the tanks and loading gantry in accordance with AS 1940 and will be located within a close proximity to the fill points. Spill kits will also be located onsite in strategic positions to be in close proximities to delivery drivers and users of the installation.	4	4	16	N
2	Hose trip hazard	The tanker parking area is adjacent to the fill point in a nominated tanker parking area for deliveries and adjacent to the gantry loading arms for tanker loading. The hose used for deliveries are a small diameter pressure hose and is generally able to lie flat on the ground. The delivery tanker driver uses warning signage during operations. The hoses used for the loading gantry are all raised and attached to the loading arms.	5	4	20	N
3	Fire at fill point/loading point	All delivery tankers carry at least a single powder type extinguisher which is available near the fill points during product delivery. Additional fire protection equipment will be available within a close proximity. The filling arrangement for the end-of-line assembly comprising a no-return valve, manual shut-off valve and cap with witness hole installed or a dry break coupling. The delivery tanker is fitted with an emergency stop system in order to cease pumping quickly. An emergency stop is located between 10m and 30m of the loading point to immediately shut down the product transfer. A spill kit is located within 15m of the gantry at all times	5	3	15	N

4	Fire on site	The aboveground combustible liquids tanks and loading installations will be provided with fire protection in accordance with AS 1940. In the event of a fire the installation will be shut down at the main switch board. Design of the fire system will be completed by Certified Fire Engineers and Approved by the Fire Authority prior to installation and commissioning.	5	3	15	N
5	Leak in pipework	Pipework where located underground and double walled. All aboveground pipework is provided with impact protection. Pipework associated with the loading gantry extends aboveground and is steel lines. Regular pressure tests are performed to ensure tightness. Stock reconciliation is carried out weekly and would highlight any leaks immediately.	5	4	20	N
6	Ruptured fill/transfer hoses	Extremely unlikely event. The hoses are pressure tested and/or replaced regularly. The tanker and loading facility are both fitted with emergency stop system. The tanker standing area is specifically set up for containment of spills.	4	4	16	N
7	Equipment wear and tear	Regular maintenance checks will be carried out on the tanks and its equipment to maintain that everything is in a safe and working condition. Delivery drivers report anything that requires rectification.	4	4	16	N
8	Vandalism of equipment	The tanks and the loading facility will be designed so equipment is located away from the general public. The site is a private facility and will be secured from unauthorised access. All tank valves and fittings will be secured from tampering.	4	4	16	N
9	Fire on adjoining property	Should a fire on an adjoining property impact the site the aboveground combustible liquids tanks and loading gantry will be shut down ensuring that all product remains in the tanks. The tanks and loading gantry will be provided with fire protection in accordance with AS 1940.	5	3	15	N
10	Collision between vehicle and tank	The tanks will be protected from vehicular impact by with the assistance of Armco guardrails and bollards. The loading gantry and fill points will be fitted with impact protection as applicable to the configuration.	4	4	16	N
11	Use of mobile phone/transmitting devices	The site will be fitted with warning signs advising users of the risk of mobile phone and transmitting devices. Staff are trained in the safe maintenance and operation of this facility. Signage is provided for users for safe use of the dispensing installation	5	4	20	N
12	Spill of product onto persons	Only combustible liquids will be stored on this site. Users are provided with signage to outlining safe use of this facility. Only authorized personnel will have access to the site and will be trained in safe procedures and emergency response.	4	4	16	N
13	Misuse of equipment	The site is fitted with instructions indicating procedures for safe use of the equipment. Only authorized personnel will have access to the site and will be trained in safe procedures and emergency response applicable for the site.	5	4	20	N
14	Overfill of tanker	The tankers will be fitted with overflow sensors that shuts off the flow of product once the safe fill level has been reached. An emergency stop is located between 10m and 30m of the loading point to immediately shut down the product transfer. A spill kit is located within 15m of the gantry at all times	5	4	20	N
15	Spilling of product during tanker loading	The tankers will be fitted with overflow sensors that shuts off the flow of product once the safe fill level has been reached. The tanker parking area will be graded so any spilt liquid will be directed into the underground treatment system in accordance with AS 1940.. An emergency stop is located between 10m and 30m of the loading point should the system need to be shut down. A spill kit is located within 15m of the gantry alt all times	5	3	15	N

Hazard Analysis Summary

Project/Site: Aksara Rockingham at Venture Place, East Rockingham WA
Description/Activity: Design Stage for 41 x 72kl combustible liquids tanks and loading gantry

Assessment Ref No: HAZ-2990
Date: 25.01.2023
Last Updated:

Note. This section of the hazard analysis is for the proposed design of the loading system only and does not take into account any site issues which must be looked at regarding the bulk storage tanks located elsewhere on site.

CONTROL MEASURES		IMPLEMENTATION		MONITOR & REVIEW	
Item Ref	**Possible Control Measures**	**Responsibility and Action Required**	**Control Implemented Sign-off & Date**	**Planned Review Date**	**Review Sign-off & Date**
	NA	NA			

CONCLUSION/COMMENTS:

POST IMPLEMENTATION CHECKLIST REVIEW:

Risk Control Assessment

Project: Aksara Rockingham at Venture Place, East Rockingham WA **Assessment Ref No:** HAZ-2990

Description/Activity: Design Stage for 41 x 72kl combustible liquids tanks and loading gantr **Date:** 25.01.2023

The Code of Practice, Storage and Handling of Dangerous Goods requires a person with appropriately "demonstrated competence" to carry out the task of preparing this document. The likelihood and consequences are derived by a person with many years experience in the industry. These figures are considered to accurately reflect the scenarios detailed. This document has been prepared by Phil Kemm of Hazkem Pty Ltd, member of the AIDGC and DMP WA accreditation number 61M003.

Certification against the Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007

Reg No.	Risk Control Measure	Compliance Method	Adequate Y/N
51	Spill or leak containment	This site is provided with a spill kit for use on any minor spill. The site has been graded so any spilled liquid will flow away from all buildings and does not flow off site. Staff are trained and provided with appropriate equipment to contain any minor spill or leak onsite.	Yes
52	Segregation of dangerous goods	All bulk storages contain products that are compatible with each other. Storages are such that contamination is not possible during normal operations.	Yes
53	Stability	The products stored here are not affected by normal temperature variation.	Yes
54	Protection from impact	All combustible tanks, fittings and loading gantry are located aboveground and provided with bollards to protect from accidental impact.	Yes
55	Transferring dangerous goods	Dangerous goods are not transferred into the bulk storage containers by individuals onsite. An authorised and trained delivery driver is employed for this purpose. All transfer operations are in line with the relevant Australian Standard and ADGC 7.	Yes
56	Ignition sources in hazardous areas	This site stores combustible liquids only. There are no applicable hazardous areas as defined by AS/NZS IEC 60079.10.1	Yes
57	Control of hazardous atmosphere	Hazardous atmospheres are kept to a minimum on this site. All class 3 tanks are underground. Any area where vapours can be encountered are in the open air outside.	Yes
58	Design, build, maintenance and location of storage or handling systems	The dangerous goods storage systems on site were designed and installed in full compliance with the regulations relevant at the time. The storages are maintained in full accordance with current regulations. All relevant Australian Standards are employed in the design.	Yes
59	Accepting delivery of packages dangerous goods	There are no packaged dangerous goods associated with this site	Yes
60	Pipework	All pipework complies with the applicable standard for material and installation techniques.	Yes
61	Containers for bulk dangerous goods, other than IBC's	All bulk dangerous goods storages are monitored and maintained in full accordance with the relevant Standard. Installation of bulk tanks will be in accordance with the relevant Australian Standard.	Yes

62	Underground storage or handling systems for Class 3 dangerous goods and petroleum products	All bulk dangerous goods storages will be monitored and maintained in full accordance with the relevant Standard. Installation of bulk tanks are in accordance with the relevant Australian Standard.	Yes
63	Clearing of decommissioned storage or handling systems	The site does not have any decommissioned tanks.	Yes
64	Lighting	Sufficient and suitable lighting has been provided throughout the site to ensure there is safe access to and from the site and to enable safe handling and storage of the dangerous goods.	Yes
65	Access and egress	The site is provided with a safe means of access and egress. The site manager is responsible to ensure this is maintained.	Yes
66	Security at a dangerous goods site	The dangerous goods storages have been designed to ensure fittings are not accessible to the general public and are tamper proof. The site is for authorised users only and is secured from unauthorised users.	Yes
67	Control of fire hazards	All aboveground dangerous goods storages are kept clear of combustible materials that may present a fire hazard. Adequate fire protection is to be located on site.	Yes
73	Fire Protection	Fire protection will be provided for this site as required by AS 1940.	Yes
74	Other risk control equipment	PPE equipment is to be provided onsite as required by AS 1940 to ensure safe handling of the dangerous goods.	Yes

SIGNAGE

APPENDIX A.

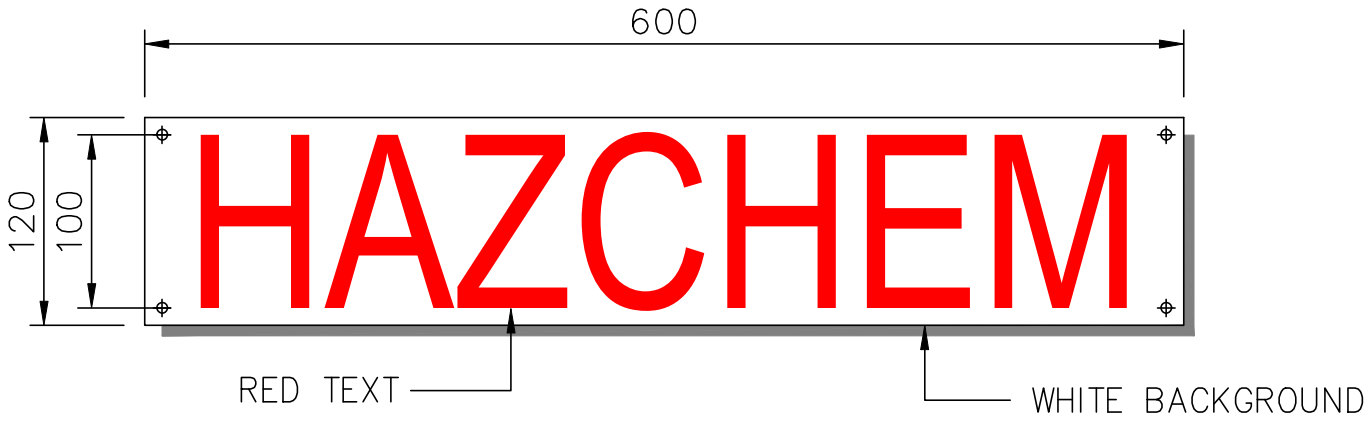


FIGURE 1.

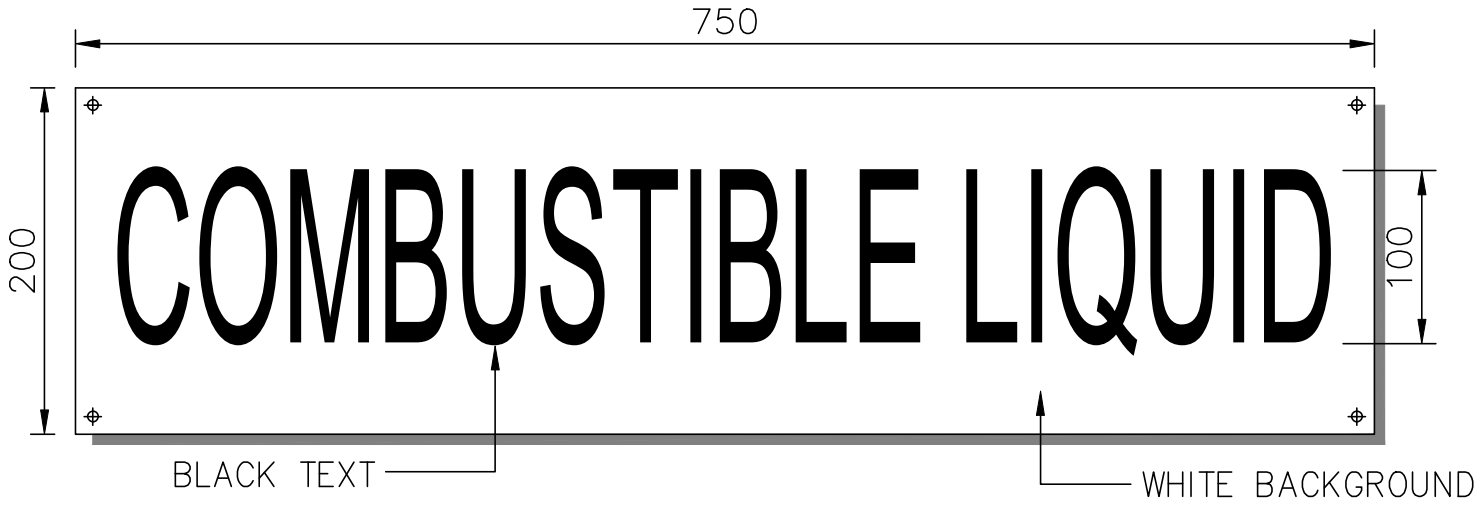


FIGURE 2.

REFERENCES

Reference 1

Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007

Part 4 — Dangerous goods sites
Division 2 — Risk assessment and control
Subdivision 1 — Risk assessment

48. Risk assessment

[(1) deleted]

(2) The operator of a dangerous goods site, at which more than the manifest quantity of dangerous goods are stored, must ensure that a risk assessment is made of the dangerous goods stored or handled at the site and that a record is kept of the assessment.

Penalty: a level 1 fine.

(2A) For the purposes of subregulation (2), in making a risk assessment of the dangerous goods stored or handled at a site the operator of the site may make a judgment in relation to the assessment of the risk posed by a hazard and the risk control measures for the hazard by reference to compliance with a code of practice approved under section 20 of the Act.

(3) The operator must review and, if necessary prepare a revised version of, the risk assessment —

(a) if there is a significant change to any process or system of work in relation to the storage and handling of dangerous goods; or

(b) if there is any other evidence to indicate that the risk assessment no longer adequately assesses the risks; or

(c) if a reportable situation under regulation 121(1) occurs at the dangerous goods site; or

(d) in any event, at intervals of not more than 5 years from the assessment or last review, and that a record is kept of the revised assessment.

Penalty: a level 2 fine.

[Regulation 48 amended: Gazette 2 Dec 2013 p. 5531; 5 Feb 2016 p. 367.]

49. Record of r. 48 assessment

The operator must make a copy of an assessment under regulation 48 available, on request, to the Chief Officer or DGO.

Penalty: a level 2 fine.

Reference 2

Dangerous Goods Safety Act 2004

Part 3 — Regulations and Codes of Practice

20. Codes of practice, approval of

(1) For the purpose of providing practical guidance to persons engaged, directly or indirectly, in storing, handling or transporting dangerous goods, the Minister may approve any code of practice as in force from time to time or as in force at a particular time.

(2) A code of practice —

(a) may consist of any code, standard, rule, specification or provision relating to the storage, handling or transport of dangerous goods published by a body recognised as having an expertise on the subject; and

(b) may incorporate by reference any other such document as in force from time to time or as in force at a particular time.

(3) The Minister may approve any revision of the whole or any part of a code of practice.

(4) The Minister may cancel the approval of a code of practice.

(5) The Chief Officer must —

(a) publish a notice in the *Gazette* giving details of any approval or cancellation made under this section;

(b) ensure that a copy of every approved code of practice, including any revision of the code and any document incorporated in it by reference, is available, without charge, for public inspection; and

(c) publish a notice in the *Gazette* giving details of where such documents may be inspected or obtained.

(6) An approval or cancellation made under this section comes into force on the day on which notice of it is published in the *Gazette* or on a later date specified in the notice.

(7) A code of practice approved under this section is a regulation for the purpose of section 42 of the *Interpretation Act 1984*.

(8) A person is not liable in any civil or criminal proceeding only because the person has not complied with a provision of an approved code of practice.

62. Defence of complying with code of practice

(1) In this section —

approved code of practice means a code of practice that has been approved by the Minister under section 20.

(2) In proceedings for an offence against this Act, it is a defence to prove that the accused acted in accordance with an approved code of practice that specified a means of complying with the provision of this Act that the accused is alleged to have contravened.

[Section 62 amended by No. 84 of 2004 s. 82.]

Reference 3

Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007

Part 4 — Dangerous goods sites
Division 2 — Risk assessment and control
Subdivision 4 — Emergency management and planning
75. Emergency plan

(1) In this regulation —

emergency plan, for a dangerous goods site, means a document that contains —

(a) a plan of the actions to be taken and the procedures to be followed; and

(b) the information needed by people, if a dangerous situation occurs on the site.

(2) This regulation applies to a dangerous goods site if dangerous goods are stored or handled on the site in quantities that exceed the manifest quantity in relation to those goods.

(3) The operator of the site must ensure there is an emergency plan for the site.

(4) The operator of the site may at any time revise the emergency plan for the site.

(5) The operator of the site must review the emergency plan for the site and, if necessary, revise it —

(a) whenever there is a significant change in the risk in relation to dangerous goods on the site to people, property or the environment; and

(b) whenever there is a significant change to the layout of or to any structure on the site; and

(c) as soon as practicable after a dangerous situation occurs on the site; and

(d) in any event, at intervals of not more than 3 years from the day on which the plan was first prepared or last reviewed.

(6) The operator of the site must have a copy of the current emergency plan for the site on the site.

Penalty: a level 1 fine.

(7) The operator of the site, on request, must give a copy of the current emergency plan for the site to the Chief Officer, a DGO or the FES Commissioner.

Penalty: a level 3 fine.

(8) The Chief Officer, a DGO or the FES Commissioner, by a written notice, may direct the operator of the site to make such amendments to the current emergency plan for the site as are specified in the notice before a date specified in the notice.

(9) An operator given a notice under subregulation (8) must obey it.

Penalty: a level 3 fine.

(10) A person who, under an emergency plan for a dangerous goods site, has a function and who, without a reasonable excuse, does not obey the emergency plan commits an offence.

Penalty: a level 2 fine.

[Regulation 75 inserted in Gazette 2 Dec 2013 p. 5535-6.]

Reference 4

Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007

Part 4 — Dangerous goods sites
Division 1 — Licensing of dangerous goods sites
Subdivision 2 — Preliminary matters
25. Dangerous goods sites to be licensed

(1A) In this regulation —

fire risk goods means —

(a) dangerous goods that are in Division 2.1 or Class 3, 4 or 5; or

(b) dangerous goods that —

(i) are in Division 6.1 or Class 8 or 9; and

(ii) are capable of igniting in air;

storage area, in relation to dangerous goods, includes an underground storage and handling system.

(1) For the purposes of the Act section 13, a dangerous goods site is required to be licensed if dangerous goods are stored or handled at the site in quantities that exceed the manifest quantities.

Note for this regulation:

The Act s. 13 (Unregistered or unlicensed dangerous goods sites).

(2) Despite subregulation (1), a dangerous goods site where dangerous goods are stored or handled in quantities that exceed the manifest quantities is not required to be licensed if —

(a) the dangerous goods are stored in more than one storage area on the site; and

(b) the quantity of dangerous goods stored in each storage area is less than the manifest quantity; and

(c) each storage area where fire risk goods are stored —

(i) is outdoors; or

(ii) is in a separate building in which only those goods are stored; or

(iii) is an underground storage and handling system in which only those goods are stored; and

(d) each storage area is separated from every other storage area by a distance that is sufficient to ensure that a dangerous goods incident in one storage area cannot cause a dangerous goods incident in another storage area.

(3) Despite subregulation (1), a dangerous goods site is not required to be licensed if —

(a) dangerous goods are intended to be stored or handled at the site for not more than 6 months; and

(ba) the dangerous goods are not manufactured or processed on the site; and

(b) the quantity of the dangerous goods does not exceed 3 times the manifest quantity; and

(c) the dangerous goods site is not a major hazard facility; and

(d) the operator of the site is in possession of a risk assessment in relation to the dangerous goods site; and

(e) the operator of the site notifies the Chief Officer in writing of the operator's intention to store or handle the dangerous goods at the site; and

(f) the operator of the site complies with any directions given to the operator by the Chief Officer in relation to the storage or handling of the dangerous goods.

[(4) deleted]

(5) An operator of a dangerous goods site referred to in subregulation (3) must, on request, provide to the Chief Officer or a DGO a copy of the risk assessment referred to in paragraph (d) of that subregulation within a reasonable time specified by the Chief Officer or DGO.

Penalty: a level 2 fine.

(6) Despite subregulation (1), a dangerous goods site is not required to be licensed if the only dangerous goods at the site are —

(a) liquid dangerous goods in containers that —

(i) do not contain Class 2 dangerous goods; and

(ii) contain only residual amounts of the dangerous goods that cannot be removed reasonably practicably by draining or decanting them; or

(b) Class 2 dangerous goods in containers that have a gauge pressure of less than 100kPa, whether or not liquid dangerous goods are also present in the containers.

(7) Despite subregulation (1), a dangerous goods site is not required to be licensed if —

(a) the site is the subject of an explosives manufacture licence issued under the Dangerous Goods Safety (Explosives) Regulations 2007; and

(b) the only dangerous goods on the site are those used to manufacture the explosives under that licence.

(8) Subregulations (2), (3), (5), (6) and (7) do not apply to a dangerous goods site within a port area as defined in regulation 134.

[Regulation 25 amended: Gazette 16 Mar 2012 p. 1204-6; 2 Dec 2013 p. 5527-8.]

34. Duration of licences

(1A) In this regulation —

existing licence means a licence granted under this Part that, immediately before 1 April 2012, is in effect.

(1B) This regulation is subject to the Dangerous Goods Safety (General) Regulations 2007 regulation 15.

(1) Each existing licence has effect for 5 years commencing on —

(a) if it has never been renewed, the date on which it was granted; or

(b) if it has been renewed, the date on which the last renewal took effect,

unless it is cancelled in that period.

(2A) A licence granted under this Part on or after 1 April 2012 has effect for 5 years unless it is cancelled in that period.

(2) A licence is to be taken to have been cancelled if —

(a) it ceases to have effect under these regulations; or

(b) the holder, being a body corporate or a partnership, is dissolved; or

(c) the holder, being an individual, dies.

[Regulation 34 amended: Gazette 31 Dec 2010 p. 6894-5; 16 Mar 2012 p. 1210.]

Reference 5

Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007

Part 4 — Dangerous goods sites
Division 2 — Risk assessment and control
Subdivision 3 — Placards

68. HAZCHEM placards, when and where required

(1) This regulation does not apply to a dangerous goods site if —

(a) it is a petrol station; and

(b) the only dangerous goods on the site that in quantity exceed the quantities specified in the column headed "Placarding quantity" in Schedule 1 are petroleum products or LP gas.

(2) The operator of a dangerous goods site where dangerous goods are stored or handled in quantities that exceed those specified in the column headed "Placarding quantity" in Schedule 1 must ensure that a "HAZCHEM" outer warning placard that complies with Schedule 4 clause 2 is displayed at —

(a) every entrance to the site; or

(b) any alternative place approved in writing by the FES Commissioner or a DGO.

Penalty: a level 2 fine.

[Regulation 68 inserted: Gazette 16 Mar 2012 p. 1217-18; amended: Gazette 19 Feb 2013 p. 991.]

69. Dangerous goods stored in bulk, signs at sites of

(1) In this regulation — **relevant sign**, for dangerous goods, means —

(a) if they are neither goods too dangerous to transport nor combustible liquids —

(i) a placard that complies with Schedule 4 clause 3; or

(ii) an emergency information panel the format and design of which and the particulars on which comply with the ADG Code clause 5.3.1.3.1 for the goods;

(b) if they are goods too dangerous to transport, a placard that complies with Schedule 4 clause 4;

(c) if they are combustible liquids, a placard that complies with Schedule 4 clause 6.

(2) The operator of a dangerous goods site where dangerous goods are stored in bulk must ensure that the relevant sign for the goods —

(a) is displayed —

(i) on every container in which the goods are stored in bulk; and

(ii) at the entrance to any building in which the goods are stored in bulk, whether in a container or not; and

(iii) on or adjacent to every place outside a building where the goods are stored in bulk but not in a container; or

(b) is displayed in an alternative place approved in writing by the FES Commissioner or a DGO.

Penalty: a level 2 fine.

(3) Subregulation (2) does not apply to a site if the only dangerous goods at the site are —

(a) dangerous goods in bulk in a container that is intended for transport and labelled in accordance with the ADG Code; or

(b) combustible liquids in bulk in a quantity not exceeding 10 000 L that are isolated from other dangerous goods; or

(c) dangerous goods of Division 2.1, Class 3 or petroleum products, that are stored in a container, other than an IBC, that comprises an underground storage or handling system at a petrol station.

(4) Subregulation (2) does not require a sign to be displayed on —

(a) any container in which there are packaged dangerous goods; or

(b) an IBC containing dangerous goods if —

(i) it is not connected to any other thing for the purposes of filling or emptying it; and

(ii) it is placarded in accordance with the ADG Code.

[Regulation 69 inserted: Gazette 16 Mar 2012 p. 1218-19; amended: Gazette 19 Feb 2013 p. 991; 3 Mar 2017 p. 1481.]

Reference 6

Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007

Schedule 1 — Quantities of dangerous goods

[r. 68, 69(1) and 78(1)]

1. For the purposes of the Table below, the Placarding Quantity or Manifest Quantity is equal to the total of the quantities determined in accordance with regulation 12.
2. In the Table below —

"kg or L" means, where this combination of letters immediately follows numbers, the combined total of —

(a) the number of kilograms of non-liquid dangerous goods; and

(b) the number of litres of liquid dangerous goods; and

(c) the capacity of containers of Class 2 dangerous goods, determined in accordance with regulation 12.

In part

Item	Description of Dangerous Goods	Packing Group	Placarding Quantity	Manifest Quantity
8	Other C1 combustible liquids	N/A	10 000L	100 000L

HAZKEM
DANGEROUS GOODS CONSULTING

DANGEROUS GOODS SAFETY ACT 2004
DANGEROUS GOODS SAFETY (STORAGE and HANDLING of NON EXPLOSIVES) REGULATIONS 2007
STORAGE and HANDLING of DANGEROUS GOODS, CODE of PRACTICE

CERTIFICATE OF COMPLIANCE-DESIGN

To
Department of Mines, Industry Regulation and Safety
Dangerous Goods Licensing
Locked Bag 100
EAST PERTH WA 6892

From
Phil Kemm
Hazkem Pty Ltd
Unit 7/273-275 Wickham Rd
MOORABBIN VIC 3189

PROJECT: Aboveground Diesel Storage
Aksara Rockingham
Venture Place
East Rockingham WA

I certify that I have examined the fuel storage designs described as: "Aksara Rockingham" specifically detailed in the design documents listed below, for the above site, and certify that it complies with the provisions of the following standards:

AS 1940-2017

Design Documents
Aksara Pty Ltd Design:
Rockingham Development Drawing no P-02 Rev A2 Date 12.12.2022 Titled "Proposed Site Plan"

Hazkem Pty Ltd Designs:
Drawing no HAZ-2990-D01 Rev 0 Date 04.10.2022 Titled "Drawing List"
Drawing no HAZ-2990-A01 Rev 2 Date 29.11.2022 Titled "Proposed Site Plan"
Drawing no HAZ-2990-A02 Rev 2 Date 29.11.2022 Titled "Tanker Path Layout B-Triple (Option 1)"
Drawing no HAZ-2990-A03 Rev 2 Date 29.11.2022 Titled "Tanker Path Layout B-Triple (Option 2)"
Drawing no HAZ-2990-C01 Rev 2 Date 29.11.2022 Titled "Pavement and Footing Plan"
Drawing no HAZ-2990-C02 Rev 0 Date 04.10.2022 Titled "Aboveground Tank Concrete Slab Details"

Australian Standards
The design takes into account the following Australian Standards:
AS 1940-2017 - The Storage and Handling of Flammable & Combustible Liquids

Phil Kemm
HAZKEM PTY LTD - 25/01/2023
WA DMIRS Accreditation number 61M003
UEENEEM052A - Classifying Hazardous Areas - Gas Atmospheres
AIDGC Member 024

AIDGC Australasian Institute of Dangerous Goods Consultants

Associated with:
NPCRS 2022 ACAPMA National Petroleum Contractors Recognition Scheme

The documentation prepared shows compliance with these codes and represents our understanding of the installation methods and locations. It has been prepared using information provided to us and has been prepared to the best of our ability as such. The site itself has not been inspected by Hazkem Pty Ltd and so accuracy can not be guaranteed.

SAFETY DATA SHEETS

PLEASE INSERT SUPPLIERS MATERIAL SAFETY DATA SHEETS HERE

element.

the art and science of place

Level 18, 191 St Georges Tce, Perth WA 6000

T. (08) 9289 8300 – **E.** hello@elementwa.com.au

elementwa.com.au

Your Ref: 20.2023.29.1 – D23/59546
Our Ref: 22-477

14 April 2023

Chief Executive Officer
City of Rockingham
PO Box 2142
ROCKINGHAM WA 6967

Attention Nyah Cheater – Planning Officer

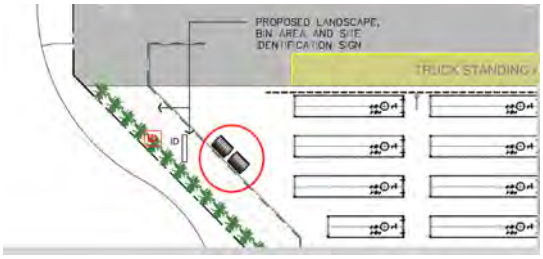
Via email: Nyah.Cheater@rockingham.wa.gov.au

Dear Nyah,

RE: PROPOSED FUEL DEPOT (DIESEL FUEL STORAGE FACILITY) – LOT 2 (NO 27) DAY ROAD, EAST ROCKINGHAM

Further to your letter of 24 March 2023 and request for further information, we provide the following response and amended plans (enclosed) in response to the matters raised.

Matter	Applicant Response
Design and Site Layout 1. Planning Policy No.3.3.8 East Rockingham Development Guidelines (PP3.3.8) requires the following design elements:- • The main building entrance must be designed to address the street, provide a corporate image and an inviting entrance which is visible from the street; • The ground floor facades of all buildings visible from the primary road must be of masonry construction with exposed aggregate or coated with a textured finish or equivalent. A mixture of materials, glazing and architectural features should be used. The City is concerned that the infrastructure associated with the development faces the street and has limited screening; • All plant/equipment are to be screened from the street and service/storage areas must be screened behind the front building line; • A 10.0m wide landscaping strip at the street frontage extending the length of the lot is required to be provided; and • Shade trees shall be provided at a rate of one (1) tree per four (4) car parking bays, evenly throughout all parking areas on site.	• The design elements raised by the City and referred to under LPP3.3.8 are not considered to apply in this instance, as the development standards referred to relate to "Office and administrative buildings". In this instance, no such building is proposed. The proposed shed is more akin to an outbuilding, rather than a traditional administrative building incorporating a customer reception / corporate administration areas and the like associated with a typical industrial operation. Whilst providing basic amenities for site personnel, the primary function of the shed is to accommodate equipment, and accessories associated with the facility. As the facility will not be open to the general public, no pedestrian entrance/access is proposed, or required. The proposed pylon sign will incorporate corporate branding that will assist with identification of the facility from the street. • In response to the City's comments regarding screening and relationship to the street, it should be noted that this development is discretely located within this industrial estate at the end of a cul-de-sac, adjance to a rail corridor, and opposite a drainage reserve to the west, both of which will be undeveloped.

	The enclosed indicative Landscape Concept demonstrates how the proposal can appropriately interface with, and positively enhances the streetscape in a manner that balances screening of the development. • A landscaping strip of 5 meters in width has been provided based on email advice received from the City (refer email of 16/11/2022 enclosed). In accordance the advice, the reduced setback is provided on the basis of providing a higher standard of fencing (such as the Garrison fencing in this instance), together with a 3-tiered landscape composition and shade trees within the verge (at a rate of 1 tree per 10 metres of street frontage), as detailed in the indicative Landscape Concept enclosed. • Refer to amended Site Plan which includes a shade tree adjacent the proposed car bays.
2. With regard to the proposed pylon sign, the following comments are provided:- • Pursuant to the City's Planning Policy No.3.3.1 Control of Advertisements, a pylon sign is not permitted to have a height exceeding 6.0m, unless it can be demonstrated that a greater height is warranted and it complies with the objectives of this Planning Policy. It is requested that justification be provided for the proposed height of 8.0m. • The Development Application Report states that the pylon sign will detail "the company logo and fuel prices." The City seeks clarity to understand why fuel prices are needed to be displayed if the site will not be open to the general public.	• Refer to amended plans which provides for a modified pylon sign of maximum 6 metres in height. • This reference is incorrect. The facility will not be accessible to the general public. As depicted on the plans, only the company logo is proposed. No fuel price details will be displayed on the pylon sign.
3. The development plans indicate a proposed 2.4m high colourbond fence to the northern, eastern and southern boundaries. Please detail the extent and location of this fencing on updated development and landscape plans, ensuring it will not restrict access to the Emergency Access Way and the Reciprocal Access Easement, and how the fence design addresses the requirements of PP3.3.8.	Refer to amended Site Plan which details extent and location of colourbond fence. The extent of the fencing ensures unencumbered access to the Emergency Access Way and the Reciprocal Access Easement. In relation to the requirements of LPP3.3.8, the colourbond fence: • Provides a level of security and screening of the development to adjacent industrial development; and • Is not located within the street setback (landscaped area) or to the front of the development (ie. side and rear boundaries only).
4. Please clarify the items shown circled in red below. Information is sought regarding their use and purpose. 	The items circled in red is the proposed bin enclosure, however note that this has been amended on the revised Site Plan which provides the bin enclosure adjacent to the shed.
Stormwater Management Plan 5. Due to the large expanse of impervious surface proposed, it is requested that an indicative/concept Stormwater Management Strategy be provided showing how stormwater is intended to be managed on site.	Refer to Stormwater Drainage Plans enclosed.

Access, Traffic and Parking 6. It is the City's understanding the surrounding road network does not form part of the MRWA RAV 7 standards. The City notes that B-Triples are proposed to be used, however, there is no linking RAV 7 Network to this site. If you can please clarify the arrangements.	We confirm the development will be serviced by B-Double trucks only. Acknowledging the TIS includes reference to B-Triple trucks, this is premised on a conservative assessment of truck access through the site. No B-Triple trucks are proposed. Reference to B-Triple trucks has been removed from the amended plans enclosed.
7. Further information is sought with regard to the surface treatment and maintenance of the Bushfire Emergency Access Way (EAW). The City is concerned with the potential for damage/impact as a result of the intended use by b-triple vehicles.	The EAW will be of either concrete, bitumen or similar construction and designed and rated to support the nature of vehicles that will traverse over it. As noted above, only B-Double trucks will access the development. The design of the EAW will be to the specifications of the City, and maintained by the proponent/landowner to the satisfaction of the City.
8. The City notes discrepancies between the Development Application Report and the Traffic Impact Statement (TIS). Clarification is sought with regard to the following matters:- • Will visitors and/or the general public be permitted on site? • Please specify the entry/egress points for all vehicles accessing the site, and provide a plan that clearly details/annotates the vehicle movements for the site. Noting the above, it is requested that the TIS and Development Application report and supporting plans be updated to correspond with one another and resubmitted to the City.	• The development will not be open to the general public. Only site operation personnel and/or personnel associated with the operator will access the facility. • Refer to site vehicle movement plan which delineates truck and light vehicle movement through the site. As noted above, the development will be serviced by B-Double trucks only. Reference to B-Triple trucks has been removed from the amended plans enclosed.
9. The City seeks to understand the need for multiple crossovers. Swept path analysis suggests the proposed northern-most crossover would be able to accommodate b-triple vehicle movements with some minor adjustments.	The development provides two points of access into and through the site. The northern accessway caters for trucks collecting fuel, whilst the second (southern) accessway caters for trucks delivering fuel. The need for separate, and discrete access is to ensure efficiency in operations and truck access through the site. As noted above, the swept path plans included in the TIS is based on a B-Triple truck, and reflects a conservative assessment of truck access through the site. No B-Triple trucks are proposed.
10. Section 5.4 of the TIS suggests five (5) delivery trucks during the peak hour period would access the site. Further clarity is sought regarding how the proposal will operate, confirming the number of b-triples and b-doubles anticipated throughout the day and their purpose for accessing the site (i.e., delivering fuel or collecting/loading fuel). A clear breakdown of vehicle numbers, types and trips to the site is required.	The proposal will comprise B-Double trucks that will deliver and collect fuel from the depot. The facility will operate on a 24/7 basis. Within any 24 hour period, anticipated total truck movements are expected to comprise: • 22 trucks delivering fuel to the depot • 29 trucks collecting fuel to the depot During peak hour periods, no more than five (5) truck movements in total (ie. collecting and delivering) are anticipated. The majority of truck movements to and from the site will occur outside of peak hours, generally between 9am to 4pm and 6pm to 7am.
11. Please clarify the operation of the swing gates and the retractable gates proposed as noted on the development plans. How will access be granted/managed (i.e., key card) or will the gates remain open during daytime operating hours? Consideration to	Operation of the gates will be manually controlled by on-site staff (via remote control / automation system). As the facility will be continuously staffed over a 24-hour period, operation of the gates will ensure no queuing/waiting of vehicles occurs.

the siting of the gates should be given with respect to a vehicle waiting to enter the site.	
12. It is understood that the EAW is to be gated which will restrict access to the southern crossover. If you can please clarify the arrangement.	As indicated on the Site Plan, no gate to the EAW is proposed. Access to the EAW will remain unencumbered.

Landscape Concept Design Philosophy

With respect to the Landscape Concept plan enclosed, the plant species selected have been extracted from the *Rockingham Industry Zone Landscape Strategy (Rev 7)*. This will ensure that the proposed landscaping sits cohesively within the broader RIZ development. The plant species are reflective of the local character and suited to the local climatic conditions.

The proposed landscaping has been divided into three zones reflecting plant growth habit, consisting of:

- Groundcovers approximately 300mm height, located between the back of kerb and approximately 1.0m within the verge;
- Small-Medium Shrubs varying from 0.6-2.0m in height, located between 1.0m from back of kerb to 2.5m within the lot; amd
- Taller Shrubs greater than 1m in height, located 2.5m–5m within the lot.

The establishment of these zones provides a gradual development of the landscape, from low landscape to the back of kerb (ensuring sightlines are maintained across the verge), through to mid story plants in the centre and taller plants to the back of the strip. The taller plants to the back of the strip provide a visual buffer to the industrial lot behind.

Trees are proposed in the verge, on the standard alignment where possible, along with trees proposed in the lot. The trees in the lot are proposed to be offset from the verge trees to create the sense of linking canopy.

It is proposed that the landscape will be irrigated via a drip system that will be connected to the mains water supply for the subject site, with the landscape and irrigation for the site and associated verge maintained by the lot owner in perpetuity.

I trust the above clarifies the matters and enable the City's favourable assessment of the proposal. Should you have any queries or require clarification on the above matter, please do not hesitate to contact the undersigned on 9289 8300.

Yours sincerely

element

Leigh Caddy

Senior Consultant – Planning

Development Services
629 Newcastle Street Leederville WA 6007
PO Box 100 Leederville WA 6902
T (08) 9420 2099
F (08) 9420 3193

Your Ref: 20.2023.29.1 – AD23/24319
Our Ref: DAP394725
Enquiries: Daniel Lawrence
Direct Tel: 9420 3257
Email: land.planning@watercorporation.com.au

10 March 2023

City Of Rockingham
PO Box 2142
ROCKINGHAM WA 6967

Attention of: Nyah Cheater

Re: Lot 2, 27 Day Rd, East Rockingham - Fuel Depot (Storage) DAP

Thank you for your letter dated 10 March 10, 2023.

Connection to reticulated sewer is dependent on construction of East Rockingham Wastewater Pump Station 'E' and extension of gravity sewers from the pump station. The pump station is currently schedule for completion in July of 2024, the extension of the gravity sewers will be delivered by the developer as such will be dependent on there schedule.

Reticulated water is available for connection in Lodge Drive. Extension of the water main will be required along Venture Place to connect Lot 2 to the network.

The information provided above is subject to review and may change. If the proposal has not proceeded within six months, it is recommended that the developer contacts us to confirm whether or not the above information is still valid.

Should you have any queries, please do not hesitate to contact the Enquiries Officer.

Daniel Lawrence
Senior Planner
DEVELOPMENT SERVICES

Government of Western Australia
Department of Water and Environmental Regulation

Your ref: 20.2023.29.1 – A023/19869
Our ref: RF1746-03 & PA054682
Enquiries: Fiona Routledge, Ph 9550 4237

City of Rockingham
PO Box 2142
ROCKINGHAM DC WA 6967

Attention: Nyah Cheater

Dear Nyah

PROPOSED FUEL DEPOT – LOT 2 (NO. 27) DAY ROAD / LOT 13 (NO. 15) VENTURE PLACE, EAST ROCKINGHAM

Thank you for providing the development application received with correspondence on 24 February 2023 for the Department of Water and Environmental Regulation (Department) to consider.

The Department has identified that the proposed fuel depot has the potential for impact on environment and/or water resource values and/or management. In principle the Department does not object to the proposal however key issues, recommendations and advice are provided below and these matters should be addressed.

Issue
Industry Regulation

Advice
The Department regulates emissions and discharges from the construction and operation of prescribed premises through a works approval and licensing process, under Part V, Division 3 of the *Environmental Protection Act 1986* (EP Act).

The categories of prescribed premises are outlined in Schedule 1 of the *Environmental Protection Regulations 1987*.

The EP Act requires a works approval to be obtained before constructing a prescribed premises and makes it an offence to cause an emission or discharge from an existing prescribed premises unless they are the holder of a works approval or licence (or registration) and the emission is in accordance with any conditions to which the licence or works approval is subject.

The provided development application request was reviewed in relation to works approval and licence requirements under Part V Division 3 of the EP Act.

Kwinana Peel Region
107 Breakwater Parade Mandurah Ocean Marina Mandurah Western Australia 6210
PO Box 332 Mandurah Western Australia 6210
Telephone: 08 9550 4222 Facsimile: 08 9581 4560
www.dwer.wa.gov.au

Based on the information provided, the proposed operations will likely cause the premises to be considered a Prescribed Premise as per Schedule 1 of the *Environmental Protection Regulations 1987* for the following category:

Category	Category description	Production or design capacity
73	Bulk storage of chemicals etc: premises on which acids, alkalis or chemicals that - (a) contain at least one carbon to carbon bond; and (b) are liquid at STP (standard temperature and pressure), are stored	2,952m^3

The *Environmental Protection Act 1986* requires a works approval to be obtained before constructing a prescribed premises and makes it an offence to cause an emission or discharge unless a licence or registration (for operation) is held for the premises.

The Department has not received an application for a works approval or licence for this premises to date. As such, the Department recommends that the applicant lodge an application for a works approval (or licence) with the Department.

The applicant is advised to refer to the information and *Guideline: Industry Regulation Guide to Licensing* available at http://www.der.wa.gov.au/our-work/licences-and-works-approvals and / or if they have queries relating to works approvals and licences to contact the Department at info@dwer.wa.gov.au or 6364 7000 for information on the application for a works approval.

The application will also need to demonstrate compliance with the general provisions of the EP Act and all relevant regulations including with the *Environmental Protection (Noise) Regulations 1997* and *Environmental Protection (Unauthorised Discharges) Regulations 2004.*

Please note that this advice is provided based on the information provided. Should this information change, the works approval and/or licensing requirements may also change. Applicants are encouraged to contact the Department at the above contact details to clarify requirements, should there be changes to information.

Issue
Stormwater Management

Advice
An onsite stormwater management plan is to be prepared and approved to the satisfaction of the City of Rockingham. The proposed stormwater system is to be designed, constructed and managed in accordance with the *Decision process for stormwater management in WA* (DWER 2017) and the *Stormwater Management Manual for Western Australia* (DWER, 2022), including Chapter 9, section 6.2 Hydrocarbon management. As a minimum, stormwater should pass through oil-water separators for hydrocarbon removal.

Where the Department has a statutory role, planning applications should be considered prior to the Department issuing any relevant permits, licences and/or approvals.

In the event there are modifications to the proposal that may have implications on aspects of environment and/or water management, the Department should be notified to enable the implications to be assessed.

Should you require any further information on the comments, please contact Fiona Routledge at the Mandurah office on 9550 4237.

Yours sincerely

Brett Dunn
Program Manager – Planning Advice
Kwinana Peel Region

31 / 03 / 2023

Department of **Planning, Lands and Heritage**

GOVERNMENT OF WESTERN AUSTRALIA

Your ref: 20.2023.29.1
Our ref: DAP/23/02442
Enquiries: Mike Critch - 6551 9471

Chief Executive Officer
City of Rockingham
PO Box 2142
Rockingham DC
WA 6967

Sent via email: nyah.cheater@rockingham.wa.gov.au

Dear Nyah

PROPOSED FUEL STORAGE FACILICY – LOT 13 ON DP 61713 (NO. 15) VENTURE PLACE (FOMER LOT 2 (No. 27) DAY ROAD), EAST ROCKINGHAM

I refer to the City's request dated 24 February 2023 seeking Department of Planning, Lands and Heritage (DPLH) comments on the proposed Fuel Depot (Diesel Fuel Storage Facility) (the proposal) currently under assessment for the Metro Outer Development Assessment Panel.

With respect to the proposal and submitted information, DPLH note the following:

WAPC Policy Considerations

- State Planning Policy 3.7: *Planning in bushfire prone areas*
- State Planning Policy 4.1: *Industrial interface*
- DCP 4.2: *Planning for hazards and safety*
- DC 5.1: *Regional Roads (Vehicular Access)*

With respect to the above, the proposed Fuel Storage Facility is generally consistent with WAPC policy and practice.

Transport Impact Statement (TIA)

The Traffic Impact Assessment (TIA) report by Cardno/Stantec dated 31 January 2023 (Appendix D), states that the main access to the site will be obtained via Venture Road, a local road with an additional reciprocal easement in the north-east of the site which will also connect to the local road network. This is in accordance with WAPCs DC 5.1 policy which seeks to minimise the number of new crossovers onto regional roads.

The proposal will generate 16 AM and 16 PM peak hour trips which is considered a minor impact to the road network. Institute of Transportation Engineers' Trip Generation Manual (11th Edition) indicates an Industrial Park land use would

generate 2.91 daily trip per employee (3 daily), which is lower than trip generation outlined by the submitted TIA.

Swept Path Analysis

It is recommended that the submitted swept path plans at section 5.5 of the TIA for RAV 7 B-Triple trucks be verified/checked to the satisfaction of the City of Rockingham's Technical Services Directorate as a minor encroachment shown.

Cardno previously undertook a swept path assessment as part of the supporting TIA for WAPC reference: 160809 (13 August 2021) and demonstrated that both RAV 4 and RAV 7 vehicles would be able to turn within proposed road reserves without encroaching into lots. The subdivision, comprising the creation of 11 industrial lots, was anticipated to generate 101 AM and PM peak hour trips.

DPLH do not lodge any objection to the proposal on land use or transport planning grounds.

Should the City have any additional queries or require clarification on the above, please feel free to contact the undersigned on 6551 9471 or mike.critch@dplh.wa.gov.au

Yours sincerely,

Mike Critch
Senior Planning Officer
Metro South

31 March 2023

Government of **Western Australia**
Department of **Mines, Industry Regulation and Safety**
Resources Safety

Your ref: 20.2023.29.1-AD23/19823
Our ref: X0001/201901
Enquiries: Eric Gruber - Ph 9358 8037
Email: eric.gruber@dmirs.wa.gov.au

Nyah Cheater
Planning Officer
City of Rockingham
via email: nyah.cheater@rockingham.wa.gov.au

Dear Miss Cheater,

DEVELOPMENT APPLICATION – PROPOSED FUEL DEPOT – LOT 2 (NO 27) DAY ROAD, EAST ROCKINGHAM

A request for comment was received from the City of Rockingham, in relation to the above planning application and the proposal to develop a fuel depot, at the now recognised address of Lot 13 (No.15) Venture Place, East Rockingham.

Based on the provided information there is no issue identified at this stage with the proposal. Before the site is used to store Dangerous Goods above manifest quantity 100KL in the case of diesel, it will require a Dangerous Goods Site licence.

The storage of bulk fuel is governed by AS1940; and a Dangerous Goods Site Licence applications will be assessed against this and any other relevant Australian Standards during the application process for a Dangerous Goods Site licence.

If you have any queries regarding this letter, please contact me on 9358 8037.

Yours faithfully,

Eric Gruber

_____

Eric Gruber
Acting Manager Dangerous Goods
WorkSafe Petroleum Safety and Dangerous Goods Directorate
04 April 2023

Mineral House 100 Plain Street East Perth Western Australia 6004
Telephone +61 8 9222 3333358 8037
www.dmirs.wa.gov.au
www.wa.gov.au
ABN 69 410 335 356

From:	WAPCreferrals
To:	City of Rockingham
Cc:	Nyah Cheater
Subject:	Public Transport Authority Referral Response - Proposed Fuel Depot (Diesel Fuel Storage Facility) - Lot 2 (No.27) Day Road, East Rockingham (20.2023.29.1)
Date:	Thursday, 6 April 2023 11:38:06 AM
Attachments:	image001.png image002.png image003.png image004.png image005.png image006.png

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Dear Nyah,

PROPOSAL – FUEL DEPOT (DIESEL FUEL STORAGE FACILITY) – Lot 2 (No. 27) DAY ROAD, EAST ROCKINGHAM

With regards to your letter, dated 24 February 2023, the Public Transport Authority (PTA) has no objections to the above proposal subject to the following conditions:

CONDITIONS

1. Prior to the commencement of the use the applicant/landowner must construct a fence along the shared boundary of Lot 2 and the railway reserve at the expense of the applicant/landowner, to the PTA's standards and to the satisfaction of the PTA.

   Justification for condition – The PTA requires, at a minimum,1.8 metre chain link mesh fence, 3 strands of barb wire on top. The Condition is consistent with Condition 30 of the Western Australian Planning Commission (WAPC) subdivision approval letter 160809 dated 15 September 2021.

2. Prior to the commencement of construction the applicant/landowner must have a soil contamination assessment completed (within the railway reserve) by a suitably qualified professional and at the expense of the applicant/landowner, to the satisfaction of the PTA.

   Justification for condition – Condition provides an understanding of existing land contamination (if any) within the railway reserve prior to the development and use of the land for Fuel Depot.

3. Any fuel transported to/from the site as well as fuel being stored on the site (above and below ground) must not leak into the railway reserve.

   Justification for condition – Ensure that the railway reserve is not impacted.

Should the City have any queries in respect to the above conditions, in the first instance please feel free to contact Rashidah MacLeod, Transport and Land Use Planner, 9326

5658 or WAPCreferrals@pta.wa.gov.au.

The PTA requests a copy of the JDAP's final determination on this proposal to be sent to WAPCreferrals@pta.wa.gov.au.

Kind regards,

Rashidah MacLeod
Transport and Land Use Planner | Infrastructure Planning and Land Services
Public Transport Authority of Western Australia
Public Transport Centre, West Parade, Perth, 6000
PO Box 8125, Perth Business Centre, WA, 6849
Tel: (08) 9326 5658 Fax: (08) 9326 2000
Email: Rashidah.MacLeod@pta.wa.gov.au | Web: www.pta.wa.gov.au

The Public Transport Authority of Western Australia cannot accept any liability for any loss or damage sustained as a result of software viruses. You must carry out such virus checking as is necessary before opening any attachment to this message. The information in this email and any files transmitted with it may be of a privileged and/or confidential nature and is intended solely for the addressee(s). If you are not an intended addressee please notify the sender immediately, and note that any disclosure, copying or distribution by you is prohibited and may be unlawful. The views expressed in this email are not necessarily the views of the Public Transport Authority.

Our Ref: D27626
Your Ref: 20.2023.29.1 – AD23/19769

Nyah Cheater
City of Rockingham
customer@rockingham.wa.gov.au

Dear Ms Cheater

RE: HIGH RISK LAND USE - LOT NUMBER 13, STREET NUBMER 15 VENTURE PLACE, EAST ROCKINGHAM – PROPOSED FUEL DEPOT – DEVELOPMENT APPLICATION

I refer to your email dated 24 February 2023 regarding the submission of a Bushfire Management Plan (BMP) (Version 3), prepared by Eco Logical Australia and dated 1 February 2023, for the above development application.

This advice relates only to *State Planning Policy 3.7: Planning in Bushfire Prone Areas* (SPP 3.7) and the *Guidelines for Planning in Bushfire Prone Areas* (Guidelines). It is the responsibility of the proponent to ensure the proposal complies with relevant planning policies and building regulations where necessary. This advice does not exempt the applicant/proponent from obtaining approvals that apply to the proposal including planning, building, health or any other approvals required by a relevant authority under written laws.

Assessment

- Further clarification is required within the BMP of the requirements of SPP 3.7, and the supporting Guidelines as outlined in our assessment below.
- DFES would also recommend changing terminology / titling of the Bushfire Risk Management Plan. While the purpose is understood in the context of the application, the term Bushfire Risk Management Plan (BRMP) is defined as a strategic document developed by local governments to facilitate a coordinated approach towards identification, assessment and treatment of assets exposed to bushfire risk and the use of this term may cause confusion.

1. Policy Measure 6.5 a) (ii) Preparation of a BAL contour map

Issue	Assessment	Action
Vegetation classification	Vegetation plot 2 cannot be substantiated as Class D Scrub with the limited information and photographic evidence available. The photos provided detail similar species to plot 1 (Class A Forest), with similar soil types and climate present in the area. It is unclear how Plot 2 will not mature into Class A Forest unless management is applied. Further it is noted that height sticks have not been used to validate the height of the vegetation.	Modification to the BMP is required.

	The BMP should detail specifically how the Class D Scrub classification was derived as opposed to Class A Forest. If unsubstantiated, the vegetation classification should be revised to consider the vegetation at maturity as per AS3959, or the resultant BAL ratings may be inaccurate.	
Vegetation Management	It is noted that the BMP indicates that the entire site, including the area outside the Asset Protection Zone, will be managed to a low threat status. An appropriate mechanism is required to provide certainty that the proposed exclusion can be achieved in perpetuity and it is enforceable.	Comment only.

2. Policy Measure 6.5 c) Compliance with the Bushfire Protection Criteria

Element	Assessment	Action
Location, and Siting & Design	**A1.1 & A2.1 – not demonstrated** The BAL ratings cannot be validated for the reason outlined in the above table. Further, as the proposal includes a class of building not covered by AS3959:2018, DFES advocates for the building be constructed to utilise all of the aspects of AS3959 that apply to the appropriate Bushfire Attack Level (BAL) (noted in the BMP at section 2.2.2). This is consistent with Clause 78E(1) of Schedule 2 of the *Planning and Development (Local Planning Schemes) Regulations 2015* which requires the local government to have regard to the bushfire construction requirements of the Building Code of Australia. In addition, Clause 5.8.3 of *Applying SPP 3.7* in the Guidelines reads as follows: *The bushfire construction provisions of the Building Code of Australia do not apply to Class 4 to Class 9 buildings. In these instances the applicant has the discretion to utilise any or all of the elements of AS3959 in the construction of the building that they deem appropriate.* Although BAL construction standards do not guarantee the survival of the occupants or building, DFES does support the improved bushfire resilience provided by AS3959 construction.	Modification to the BMP required.

Vehicular Access	**A3.2a and A3.2b – insufficient information** DFES recommends access/egress to be provided via public roads where possible, to ensure construction and maintenance in perpetuity to an acceptable standard. It is noted that DFES did not receive a referral on the subdivision on this site and was unable to provide advice at that time. Compliance with AS3.2 now relies upon a number of roads and accesses outside of the subject site, including Venture Road, the continuation of the EAW along the southern boundary and the reciprocal access from the north east corner of the site. The site is located at the end of a proposed no through road (Venture Road), with no confirmation provided as to when the road will be completed. Further, Venture Road comes off Lodge Drive, which also appears to be a no through road (currently). The BMP states that an EAW is will be provided to ensure compliance with A3.2a and A3.2b, however no clear detail is provided to confirm that the EAW will be installed outside of the lot area, or to confirm that the reciprocal access agreement will provide a second access route back to Lodge Road. The BMP should be updated to provide evidence of these requirements (including the timeframe for construction of Venture Road and the required EAW/reciprocal access agreement routes), and clear diagrams showing the widths, lengths, and horizontal clearances of each route to ensure that compliance with A3.2a and A3.2b can be assessed. Figure 6 is noted, however does not provide all information required above. **A3.6 – insufficient information** Assessment of the internal driveway references A3.5, and there is no confirmation of the proposed standards of the internal driveway. The length of the driveway is unknown and should comply with the requirements of A3.6 of the Guidelines.	Modification to the BMP is required. Please demonstrate compliance or provide substantiated evidence of a performance principle-based solution.
Water	**A4.2 – not demonstrated** The BMP states that *'existing reticulated water is present within the area and the subject site is expected to be connected to this water supply. The nearest existing hydrant is located outside the south west corner of the subject site (Figure 6). ELA assumes the surrounding network of hydrants meet Water Corporation design Standard DS 63 and LGA requirements'.* The above statement does not provide confirmation that water will be connected (noting it currently appears more than 200m from the site), and associated comments in the implementation table requiring that the site be connected to reticulated water are not sufficient to ensure full compliance with the specifications of A4.2.	Modification to the BMP is required.

Hazardous Materials Comments

Please note that DFES has not been able to provide specific comments from Hazardous Materials officers due to commitments with deployment in relation to Cyclone Ilsa.

If further comments are received, they will be passed on to the Decision Maker, or will be discussed during later stages.

Recommendation – Compliance with Acceptable Solutions not demonstrated – modifications required

It is critical the bushfire management measures within the BMP are refined to ensure they are accurate and can be implemented to reduce the vulnerability of the development to bushfire. The proposed development has not demonstrated compliance to:

Element 1: Location,
Element 2: Siting and Design,
Element 3: Vehicular Access, and
Element 4: Water.

As this planning decision is to be made by a Joint Development Assessment Panel please forward notification of the decision to DFES for our records.

If the decision maker is of a mind to approve the proposal the above assessment of compliance with SPP 3.7 is provided to aid decision making.

If you require further information, please contact Senior Land Use Planning Officer – Michael Ball on telephone number 9395 9819.

Yours sincerely

Naomi Mynott
DIRECTOR LAND USE PLANNING
18 April 2023

CC Nyah.Cheater@rockingham.wa.gov.au

From:	DFES Land Use Planning
To:	Nyah Cheater
Subject:	20.2023.29.1 - Lot 13 (No.15) Venture Place, East Rockingham - Proposed Fuel Depot (Diesel Fuel Storage Facility) - Updated DFES comments
Date:	Tuesday, 2 May 2023 7:31:01 AM
Attachments:	image001.png image002.png image003.png image004.png image005.png image006.png image007.png

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Good morning Nyah,

Thank you for your time on the phone on Friday.

As discussed, the vegetation for Plot 2 may currently be at a height that could present as Class D Scrub however as Plot 2 abuts Class A Forest (Plot 1), and contains similar species to Plot 1, it is likely that without management Plot 2 will mature into Class A Forest. The updated comments from the practitioner have not provided additional information (including the requested use of height sticks to determine the current height of vegetation within Plot 2) to satisfy DFES that the area will not reach a mature state of Class A Forest.

Regarding the other issues discussed (vehicle access and water supply), it is understood that the City are satisfied with these items as you have additional information regarding the road network/additional accesses (and their current construction progress) and further information regarding the provision of water to the site. As raised in the previous response, the BMP does not provide the requested information therefore without further information being provided for review, the DFES comments provided dated 18 April 2023 have not changed.

I have forwarded a request for HAZMAT to contact you regarding the proposal.

Please call me on 9395 9819 if you have any queries regarding the above.

Kind regards,

Michael Ball
Senior Land Use Planning Officer

20 Stockton Bend, Cockburn Central, Perth WA 6164
T: 08 9395 9819 | **E:** advice@dfes.wa.gov.au | **W:** dfes.wa.gov.au

Acknowledgement of Country: DFES acknowledges the Traditional Owners of Country throughout Australia, and their connections to land, sea and community. We pay our respects to Elders past and present.

Recommended Conditions if the MOJDAP decides to grant Development Approval

The following conditions of Development Approval are provided by the City 'without prejudice' to the Council's deferral recommendation provided in the RAR, should the Metro Outer Joint Development Assessment Panel decide to grant Development Approval. For clarity both the Council and City recommendation is to defer the Development Application for the reasons outlined in the RAR.

The recommended conditions are provided below:

That the Metro Outer Joint Development Assessment Panel resolves to:

Approve DAP Application reference DAP/23/02442 and accompanying plans:

- Site Plan, Drawing No.P-02, Rev-A6, dated 27 April 2023;
- Elevations and Shed Plan, Drawing No.P-03, Rev-A4, dated 1 February 2023;
- Gantry and Fuel Delivery Point Details, Drawing No.P-04, Rev-A4, dated 1 February 2023;

in accordance with Clause 68 of the Planning and Development (Local Planning Schemes) Regulations 2015 and the provisions of clause 68(2)(b) of the deemed provisions of the City of Rockingham Town Planning Scheme No. 2, subject to the following conditions:

Conditions

1. This decision constitutes Development Approval only and is valid for a period of 4 years from the date of approval. If the subject development is not substantially commenced within the specified period, the approval shall lapse and be of no further effect.

2. This Development Approval is for the storage and sale in bulk of diesel fuel only.

3. Earthworks over the site associated with the development must be stabilised to prevent sand or dust blowing off the site, and appropriate measures must be implemented within the time and in the manner directed by the City of Rockingham in the event that sand or dust is blown from the site.

4. The vehicle crossovers are to be designed and constructed in accordance with the City's *Specification for the Construction of Commercial/Industrial Crossovers*.

5. Prior to applying for a Building Permit, signage details must be submitted to the satisfaction of the City of Rockingham demonstrating that the following maximum luminance values have been adhered to;
   - Daytime - 6,000 cd/m^2
   - Dawn/Dusk - 600 cd/m^2
   - Night - 300 cd/m^2

6. The carpark must:

   (i) provide a minimum of 3 car parking spaces;

   (ii) be designed, constructed, sealed, kerbed, drained and marked in accordance with User Class 2 of Australian/ New Zealand Standard AS/NZS 2890.1:2004, Parking facilities, Part 1: Off-street car parking prior to applying for a Building Permit;

   (iii) provide one (1) car parking space(s) dedicated to people with a disability, which are designed, constructed, sealed, kerbed, drained and marked in accordance with Australian/New Zealand Standard AS/NZS 2890.6:2009, Parking facilities, Part 6: Off-street parking for people with disabilities and which are linked to the main entrance of the development by a continuous accessible path of travel designed and constructed in

accordance with Australian Standard AS 1428.1—2009, Design for access and mobility, Part 1: General Requirements for access—New building work;

(iv) be constructed, sealed, kerbed, drained and marked prior to the development being occupied and maintained thereafter; and

(v) comply with the above requirements for the duration of the development.

7. Prior to applying for a Building Permit, a Landscaping Plan to the satisfaction of the City of Rockingham must be prepared and must include the following detail:

   (i) the location, number and type of existing and proposed trees and shrubs, including calculations for the landscaping area;

   (ii) any lawns to be established and areas to be mulched;

   (iii) those areas to be reticulated or irrigated; and

   (iv) proposed upgrading to landscaping, paving and reticulation of the street setback area and all verge areas.

   The landscaping, paving and reticulation must be completed prior to the occupation of the development, and must be maintained at all times to the satisfaction of the City of Rockingham for the duration of the development.

8. Prior to applying for a Building Permit, an on-site Stormwater Management Plan must be prepared and approved to the satisfaction of the City of Rockingham. The proposed stormwater system is to be designed, constructed and managed in accordance with the Decision process for stormwater management in WA (DWER 2017) and the Stormwater Management Manual for Western Australia (DWER, 2022), including Chapter 9, section 6.2 Hydrocarbon management. As a minimum, stormwater must pass through oil-water separators for hydrocarbon removal. All stormwater generated by the development must also be managed in accordance with the City's Local Planning Policy No.3.4.3 – Urban Water Management.

9. Prior to applying for a Building Permit, a bin storage area must be designed with a size suitable to service the development and screened from view of the street to the satisfaction of the City of Rockingham.

   The bin storage area must be constructed prior to the occupation of the development and must be retained and maintained in good condition for the duration of the Development.

10. All development works, including drainage and landscaping, within the development site and Venture Place must be designed and constructed to the satisfaction of the City of Rockingham.

11. Prior to the commencement of the development, the applicant/landowner must have a soil contamination assessment completed (within the railway reserve) by a suitably qualified professional and at the expense of the applicant/landowner, in consultation with the Public Transport Authority and the Department of Water and Environmental Regulation, to the satisfaction of the City of Rockingham.

12. The buildings and structures on site must be designed, constructed and maintained to BAL-29 as specified in Australian Standard AS3959-2009: Construction of Buildings in Bushfire-Prone Areas (AS3959).The building must be maintained in accordance with the specified requirements of the BAL for the duration of the development.

13. Prior to applying for a Building Permit, the Bushfire Management Plan prepared by Ecological Australia, dated 1 February 2023, shall be updated to:

(i) Classify the vegetation within the railway reserve south of the subject site in consultation with the Department of Fire and Emergency Services; to the satisfaction of the City of Rockingham;

(ii) Provide supporting information to demonstrate compliance with Element 3 - Vehicular Access of the Bushfire Protection Criteria; and

(ii) Provide confirmation that the subject site has been connected to reticulated water to demonstrate compliance with Element 4 - Water of the Bushfire Protection Criteria.

The Bushfire Management Plan must thereafter be implemented and maintained at all times to the satisfaction of the City of Rockingham.

14. Prior to applying for a Building Permit, the Applicant must obtain advice, regarding the proposed development, from the Hazardous Materials (HazMat) Team at the Department of Fire and Emergency Services. Any requirements outlined by the HazMat Team must be fulfilled to the satisfaction of the City of Rockingham.

15. Prior to occupation of the development, the Asset Protection Zone (APZ), as depicted in Figure 6 of the Bushfire Management Plan prepared by Eco Logical (as reviewed), must be installed on the site in accordance with the following requirements:

    (a) maximum Fine Fuel Load of 2 tonnes per hectare;

    (b) tree trunks at maturity must be a minimum distance of 6 metres from all elevations of the building and tree canopies at maturity must be 5 metres apart;

    (c) shrubs must not be located within 3 metres of a building;

    (d) Grass must be managed to maintain a height of 100m or less;

    (e) fences and sheds must be constructed of non-combustible material; and

    (f) sheds must not contain flammable materials.

    The APZ must be maintained in accordance with these requirements and in a good and safe condition for the duration of the development.

16. Prior to the occupation of the development, the recommendations in the Bushfire Risk Management Plan prepared by Eco Logical, dated 1 February 2023, shall be implemented in the design, construction and ongoing operation of the development at all times to the satisfaction of the City of Rockingham including but not limited to the following requirements:

    (i) The facility is to be fitted with a monitored alarm system, and fire extinguishers/hydrants are to be provided at various locations within the subject site.

    (ii) Emergency stop buttons and Spill Response Kits are to be installed in the locations where fuel transfer takes place.

    (iii) An Emergency Management Plan for the subject site is to be prepared to the satisfaction of the Department of Fire and Emergency Services, identifying evacuation triggers and depicting muster points on-site.

17. Prior to occupation of the development, pavement line-marking must be provided to identify the truck parking area adjacent to the fuel delivery point, outside of the extent of the Emergency Access Way.

18. Vehicles must not park within the Emergency Access Way and must not enter/exit Day Road via the Emergency Access Way, unless for emergency purposes, at any time for the duration of the development.

19. Prior to occupation of the development, a fence must be constructed, at the Applicant/Owner's cost, along the shared boundary of the development site and the railway reserve, in accordance with the Public Transport Authority requirements; to the satisfaction of the City of Rockingham.

20. Any fuel transported to/from the site, as well as fuel being stored on the site, must not leak into the ground of the development site, being Lot 13 (No.15) Venture Place, East Rockingham, or any adjoining land at any time. On-going monitoring must be undertaken by the landowner to ensure all fuel is contained within the fuel containers on site in accordance with the requirements of the Department of Water and Environmental Regulation and the Department of Mining, Industrial Regulation and Safety; to the satisfaction of the City of Rockingham.

Advice Notes

1. The applicant is responsible for protecting any existing City streetscape assets along Venture Place during the course of the project. This includes any existing streetscape lighting, grated gully pits, side entry pits, kerbing, footpaths, grated, trees, turf etc. If any damage is caused to the existing assets (identified to be retained), they must be rectified to the satisfaction of the Manager Land and Development Infrastructure. It is recommended that a photographic dilapidation report is undertaken by the applicant, to record the current condition of these assets.

2. Street trees must be in accordance with the City's standard for street tree planting and to the Utility's Providers Code of Practice for Western Australia, 1 June 2015.

3. With regard to Condition No.5, Main Roads Western Australia's *Policy and Application Guidelines for Advertising Signs* provides recommendations on the maximum values for luminance under varying ambient lighting conditions.

4. The applicant is advised that in respect of Condition 9, a Stormwater Management Plan will require compliance with Planning Policy 3.4.3 - Urban Water Management. The applicant is encouraged to discuss the specific policy requirements with the City prior to the submission of the plan. The Stormwater Management Plan s ensure any rainwater drainage reserves, basins or swales are to be cleared (infiltrated) within 96 hours to prevent mosquito and midge breeding.

5. With regard to Condition No.10, engineering drawings for works within the development site and along the existing road reserves must be submitted to the City of Rockingham as part of the Application for Building Permit.

6. A Building Permit is required to be obtained from the City of Rockingham prior to any building work commencing; a certified application (BA1 form) is required to be submitted. It is recommended the proponent engage a private Building Surveyor for further advice.

7. The disposal of wastewater on-site must be with the approval of the City; the applicant and owner should liaise with the City's Health Services in this regard

8. A Sign Permit must be obtained for any advertising associated with the development, including signage painted on the building; the applicant and owner should liaise with the City's Building Services in this regard.

9. With respect to the Landscape Plan, the applicant/owner should liaise with the City's Land Infrastructure and Development Services for further information in this regard.

10. With regard to Condition No.20, a Works Approval for the development, being a Fuel Depot (Diesel Fuel Storage Facility), a Prescribed Premises listed under Category 73 - Bulk Storage of Chemicals, must be obtained from the Department of Water and Environmental Regulation.

11. A Dangerous Goods Site License must be obtained from the Department of Mines, Industry Regulation and Safety, as the proposed development involves a manifest quantity above 100kL.

12. The development must comply with the Environmental Protection (Noise) Regulations 1997; contact the City of Rockingham's Health Services in this regard.

13. Where a development approval has so lapsed, no development shall be carried out without further approval having first been sought and obtained, unless the applicant has applied and obtained Development Assessment Panel approval to extend the approval term under regulation 17(1)(a) of the *Planning and Development (Development Assessment Panels) Regulations 2011.*