Development Application

Liberty Tapping – Service Station

Lot 1 (1351) and Lot 132 (1369) Wanneroo Road
Wanneroo

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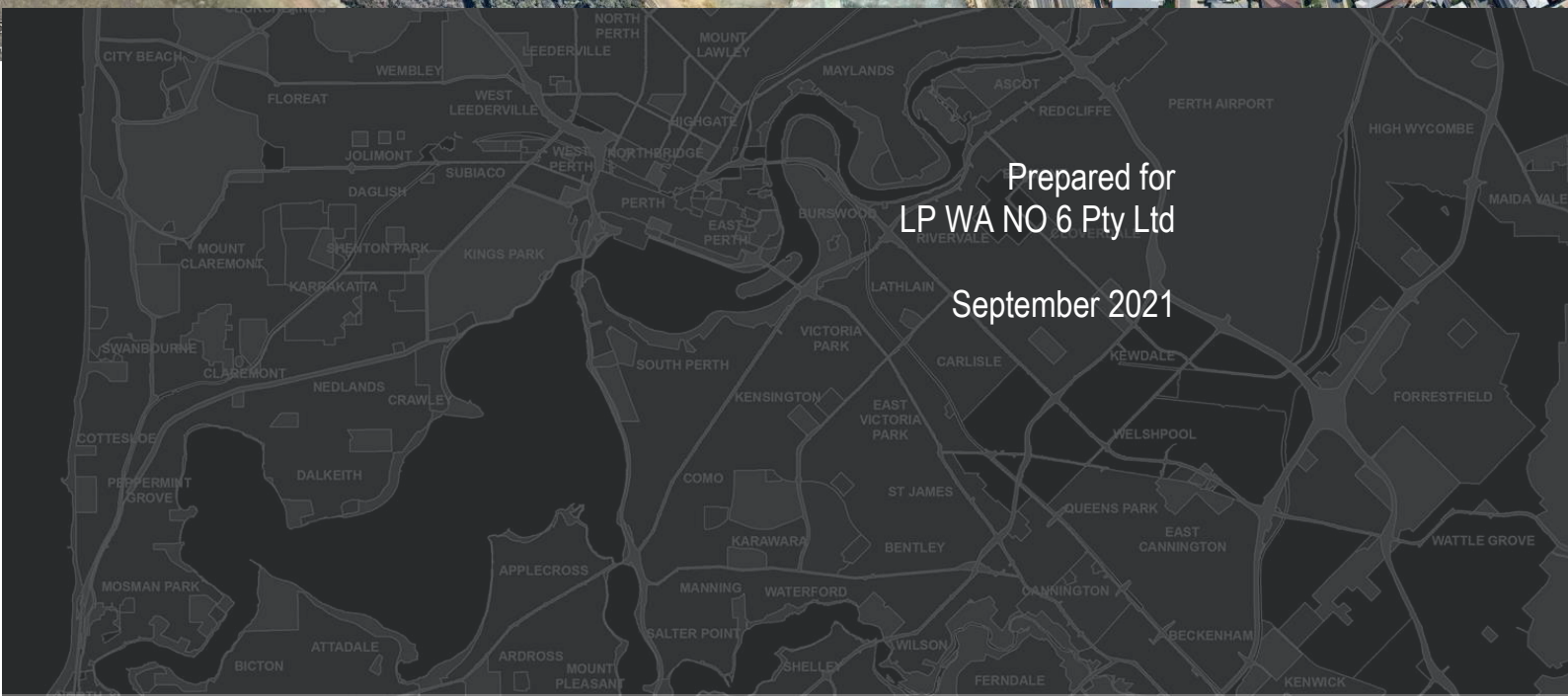

Prepared for
LP WA NO 6 Pty Ltd

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1 Preliminary

1.1 Introduction

Planning Solutions acts on behalf of LP WA NO 6 Pty Ltd, the proponent of the proposed service station development at Lot 1 (1351) and Lot 132 (1369) Wanneroo Road, Wanneroo (**subject site**). Planning Solutions has prepared the following Development Application in support for the proposed development situated on the central east portion of the subject site (**development area**).

This report will discuss various matters pertinent to the proposal, including:

- Background.
- Site details.
- Proposed development.
- Town planning considerations.

This application seeks development approval for the use and development of a Liberty service station, comprising a 330m^2 retail building, 16 refuelling bays, 9 standard bays (including 1 ACROD bay and 1 air and water bay), service areas, landscaping, signage, and access. The development forms part of stage one of the broader development and will provide the sale of petroleum products as well as goods and services of a convenience nature to passing motorists and the surrounding locality.

The development is appropriately situated along a major arterial road and reflects the prevailing and merging highway commercial character of the locality. We respectfully request the Metro Outer Development Assessment Panel (**JDAP**) grant approval to the proposed development.

1.2 Background

1.2.1 Pre-lodgement engagement

Consultation and pre-lodgement engagement have occurred with the City of Wanneroo (**City**) with respect to the proposed service station. On 21 May 2021, Planning Solutions and Leyton Property attended a meeting with senior officers at the City. The outcomes of this engagement have informed this proposal and the finalisation of the development plans.

1.2.2 Subdivision

On 6 July 2018, the Western Australian Planning Commission (**WAPC**) granted approval to an application to subdivide the subject site (WAPC ref 156082) into two freehold lots, a POS reserve and local road reserve.

Subsequent approval to subdivide the southern lot into six freehold lots, including Future Lot 1 (**development area**) was granted by the WAPC on the 11 January 2019 (WAPC ref 157288). As a condition of this approval, Future Lot 1 cannot be created until the creation of the parent lots under Subdivision 156082. As part of this subdivision, an easement for the purpose of right of carriageway will be created along the middle / southern portion of the site, including on Future Lot 1. This will grant access from the internal road to the future lots.

Future Lot 1 will be located in the central portion of the subject site, adjacent to the future internal road and comprises a total area of 3,530m^2. As part of the subdivision, all existing features and improvements on the development area will be removed with the land being filled and levelled prior to creation.

Refer **Appendix 1** for a copy of the approved Plans of Subdivision.

2 Site Details

2.1 Land Description

Refer to **Table 1** below for a description of the subject site.

Table 1 – Lot details

Lot	Plan/Diagram	Volume	Folio	Registered Proprietor	Area (m²)
1	P7782	28	14A	Silverglade Holdings Pty Ltd	32,871
132	DP231049	1663	446	Lakewide Pty Ltd	34,0775

An easement burden to the benefit of the Water Corporation for pipeline purposes (sewerage) is listed on the Certificate of Title for Lot 1.

The development area is situated on the central east portion of the subject site and comprises an area of 3,530m^2. On creation, an easement burden for the purpose of public access will be placed on the title of Future Lot 1. The future easement has been incorporated into the design of the development.

Refer to **Appendix 2** for copies of the Certificates of Title and Plans.

2.2 Location

2.2.1 Regional Context

The subject site is within the municipality of the City of Wanneroo (**City**), located approximately 27 kilometres north west of the Perth city centre, 3 kilometres north east of the Joondalup city centre and 3.5 kilometres north west of the Wanneroo town centre.

The subject site fronts Wanneroo Road, a major arterial road linking the Perth city centre to the northern metropolitan region. Joondalup Drive is located to the north of the subject site, linking the subject site to the Joondalup city centre, Mitchell Freeway and north coastal metropolitan region.

Bus services are located along Wanneroo Road, linking the subject site to the Joondalup and Whitfords Railway Stations. Pedestrian and cycling paths are provided along Wanneroo Road, linking the subject site to the surrounding locality.

2.2.2 Local Context, Land Use and Topography

The subject site is located within the locality of Wanneroo, on the eastern side of the Yellagonga Regional Park.

The subject site is bounded by Wanneroo Road to the east, rural residential properties to the south and a mixed commercial/ retail development to the north. A mixture of single detached residential properties, a Western Power substation and a remnant market garden is situated on the opposite side of Wanneroo Road.

Broadly, the following uses are within proximity of the subject site:

- Wanneroo Botanical Gardens and Minigolf.
- Drovers Centre.
- Regent Garden Lake Aged Care Home.
- Carramar Shopping Centre.

- Carramar Primary School.
- St Stephens School.
- Tapping Primary School.

The subject site slopes from north east to west from a high of 29.46 AHD to a low of 17 AHD. Several depressions are located though the subject site.

The subject site is partially cleared and contains remnant vegetation and dilapidated structures. As part of the approved subdivision for the subject site, the development area will be cleared and levelled.

Refer to **Figure 1**, aerial photograph.

Figure 1: Aerial photograph

3 Proposed Development

This application seeks development approval for a Liberty service station and associated parking, access, signage and landscaping on the development area of the subject site. The proposed development forms part of the first stage of development on the southern portion of the subject site. Ultimately, the broader site will comprise a mixture of retail and commercial development.

The proposed service station reflects the prevailing and emerging highway commercial nature of the area. Designed in a contemporary manner, and reflective of Liberty's corporate standard, the proposed development is appropriately situated along a major arterial road and will provide the sale of petroleum products as well as goods and services of a convenience nature to passing motorists and to the surrounding locality.

The Liberty service station is proposed to operate 24/7 and will provide additional employment opportunities to the local community.

Specifically, the development comprises:

- 330m^2 retail building, situated on the southern portion of the development area;
- 5.7m high fuel canopy with 4 fuel bowsers, comprising 8 refuelling bays, situated on the central portion of the development area.
- 18 car bays, comprising:
    - 1 ACROD bay and adjacent shared space.
    - 1 air and water bay.
    - 1 delivery bay.
    - 8 refuelling bays.
    - 7 standard bays, for use by customers and staff.
- Plant and bin store, situated to the west of the retail building.
- Underground tanks and associated filling points.
- 410m^2 of landscaping area and 8 shade trees.

The proposed development has been designed on a logistical and site responsive manner, promoting both safe and efficient manoeuvrability, whilst providing appropriate ingress and egress. The development has been oriented to reflect the intended development of the broader site as well as to optimise patronage from passing traffic on Wanneroo Road.

The site has been deliberately designed to facilitate vehicle movement through the site and link to the future development to the south. The design has also considered the existing Water Corporation easement, which will continue to be located through the northern of the subject site. No significant structures are proposed within these easements.

Refer **Appendix 3** for the development plans and perspective drawings of the proposed development.

3.1 Retail Building

The proposed retail building is situated on the southern portion of the development are and comprises a gross floor area of 330m^2. The retail building is in line with Liberty's corporate branding implemented on new and refurbished sites across Australia.

The building is setback:

- Nil from the southern boundary;
- 18m from Wanneroo Road;
- Approximately 48m distance from Mowatt Close;
- 5.8m from the western boundary.

The proposed retail building incorporates ancillary convenience offerings, including food and drinks for the enjoyment of customers on or off the premises. The retail building includes toilets, staff area, office and back of house areas that allow for the day to day running of the service station. A plant / bin sore is also provided on the western side of the retail building.

The design of the retail building includes an inviting frontage to the light vehicle canopy that incorporates glazing, signage, and selected finish cladding. The building has been designed in a contemporary manner and provides a significant amount of glazing to encourage activation and passive surveillance along the northern and eastern facades (Wanneroo Road and the service station forecourt area).

3.2 Landscaping

The proposed development comprises extensive landscaping throughout the development area, ensuring an attractive streetscape response. Comprising 410m^2 (11.6%) of the total site area, all landscaped areas will comprise of native vegetation, appropriately selected for the locality, including species endemic to the Yellagonga Regional Park. A total of 8 shade trees will be provided within the development area.

Refer **Appendix 3** for a copy of the landscaping plan.

3.3 Access and Traffic Management

The proposed development has been designed in a manner that ensures safe and efficient ingress and egress to the site. Vehicles are proposed to access the development area via three crossovers. Specifically, two crossovers to the adjoining internal road to the west and one accessway from the future adjoining lot to the south.

The proposed vehicular access arrangements result in a safe and coordinated traffic flow for passenger vehicles, trucks, and fuel tankers. The proposed access and circulation have been designed with consideration to the future internal road and adjoining lots.

The proposed access and traffic management arrangements has been subject to a detailed analysis, in the form of a Transport Impact Assessment (**TIA**) prepared by Transcore, contained in **Appendix 4**. As confirmed within the TIA, the traffic generation associated from the subject site was found to have no significant impact on the surrounding road network, including the intersection of Clarkson Avenue and Wanneroo Road.

Tanker and service vehicle swept path plans depicting the swept path movements is contained within the TIA in **Appendix 4**. Service vehicles and tankers will ingress and egress via the northern crossover which has been designed to allow the safe and efficient movement of vehicles from the future internal road, including the use of mountable rollover curbing. Fuel tankers will generally make between one to two deliveries per week, depending on retail fuel consumption and general demand. Deliveries will generally take place outside of peak traffic periods to ensure minimal disturbance to the site's operations and external traffic.

Pedestrians and cyclists are proposed to access the development area via a concrete path linking the retail building to the local path network along Wanneroo Road. One pedestrian crossing is provided, linking the footpath from Wanneroo Road to the retail building.

3.4 Waste Management

The proposed development provides a screened bin and service yard at the western side of the retail building, accessed via a delivery bay. Bins will be of a standard size and collected by a private contractor on an at needs basis.

3.5 Stormwater Management and Treatment

A drainage management plan has been provided to demonstrate the location and number of stormwater soak wells within the development area. The plan demonstrates the proposed stormwater storage can accommodate stormwater as per the City of Wanneroo's requirements.

Refer to **Appendix 5** for a copy of the drainage management plan.

Stormwater runoff within the forecourt area will be treated through the use of a stormwater treatment system. The stormwater treatment system will be an underground collection system which treats stormwater by separating fuels, oils, and other potential contaminants from stormwater runoff.

Use of a stormwater treatment system is a standard industry practice and is generally implemented on all new fuel sites across Australia.

3.6 Signage

The following signage is proposed as part of the development:

- 6m high internally illuminated monolith sign fronting Wanneroo Road.
- 2x 2100mm x 850mm 'Liberty' wording signs located on fuel canopy.
- 2x 1200mm x 1190mm Liberty logos on fuel canopy.
- 1x 2350mm x 1000mm illuminated shopfront signage above retail building entrance.
- 1x advertising wall sign on shopfront.
- 1x 2800mm x 3000mm Liberty logo wall sign on eastern elevation of retail building.

The proposed monolith sign will comprise LED digital price board panels to display the price of fuel to passing motorists and an illuminated signage panel. The pylon sign is internally illuminated, ensuring the advertising panels are visible at night.

The proposed incorporates high quality advertising sign panels that complement the architectural style and design of the retail building and fuel canopy. The proposed signage is consistent with Liberty's corporate branding implemented on all new and refurbished sites across Australia.

The proposed signage has been carefully considered and incorporated into the development to ensure it serves an important function, whilst integrating with the overall style of design to maintain a high level of quality. Refer to **Appendix 3** for a copy of the development plans which depict the proposed signage.

4 Statutory Planning Framework

4.1 Metropolitan Region Scheme

The subject site is zoned Urban under the provisions of the Metropolitan Region Scheme (**MRS**) and fronts Wanneroo Road, which is reserved as 'Primary Regional Roads under the MRS. In addition, the subject site abuts land reserved Parks and Recreation. The subject site is not impacted by these reservations.

The proposed development is compliant with the provisions of the MRS and may be approved accordingly.

4.2 State Planning Policies

4.2.1 State Planning Policy 3.7 Planning in Bushfire Prone Areas

The Western Australian Planning Commission's (**WAPC**) *State Planning Policy 3.7 Planning in the Bushfire Prone Areas* (**SPP3.7**) sets out the foundations for land use planning to address bushfire risk management. It applies to all development located within designated 'bushfire prone areas'.

As part of the approved subdivision for the subject site, it was identified the subject site falls within a designated bushfire prone area as identified by the Department of Fire and Emergency Services Map of Bushfire Prone Areas. As such, pursuant to the requirements of SPP3.7, a Bushfire Attack Level (**BAL**) Assessment has been prepared.

The BAL Assessment identifies a maximum BAL rating of BAL-12.5 and BAL-LOW for the development area. Therefore, pursuant to SPP3.7, a Bushfire Management Plan and Bushfire Risk Management Plan was prepared. The Bushfire Management Plan and Bushfire Risk Management Plan demonstrate that the proposed development is satisfactory from a bushfire risk perspective.

Refer **Appendix 6** for a copy of the Bushfire Management Plan and Bushfire Risk Management Plan.

4.2.2 Development Control Policy 5.1 Regional Roads (Vehicular Access)

The WAPC's *Development Control Policy 5.1 Regional Roads (Vehicular Access)* (**DCP5.1**) sets out the general requirements for development involving vehicular access to regional roads. As the subject site fronts the Wanneroo Road Primary Regional Roads reserve, the proposed development has been assessed against the relevant provisions of DC 5.1. Refer **Table 2** below.

Table 2: Assessment against DCP5.1

Requirement	Comment	Complies
Cause 3.3.1 *In considering applications for access on regional roads, the effects of the proposals on traffic flow and road safety will be the primary consideration. The more important the regional road, the greater the importance attached to these factors. In general, the Commission will seek to minimise the creation of new driveways on regional roads and rationalise existing access arrangements.*	The proposed development has no direct access to Wanneroo Road rather gaining access via Mowatt Close which connects to Wanneroo Road at the signalised intersection. Notwithstanding, a Transport Impact Assessment (**TIA**) was prepared for the proposed development. The TIA identified that: • The level of trips generated is considered to have no material impact on Wanneroo Road under the WAPC *Transport Assessment Guidelines for Developments.* • Acceptable Levels of Service are maintained for Wanneroo Road, including with the intersection with Clarkson Avenue. Refer **Appendix 5** for a copy of the Transport Impact Assessment.	✓

Clause 3.3.2 *Where regional roads are constructed or planned to freeway standards, no access to frontage development is permitted. On regional roads not constructed or planned to freeway standards, there is a general presumption on traffic and safety grounds against the creation of new driveways or increased use of existing accesses to these roads. Where alternative access is or could be made available from side or rear streets or from rights of way, no access shall be permitted to the regional road unless special circumstances apply.*	The proposed development has no direct access to Wanneroo Road. A TIA has been prepared in support of the application, demonstrating the proposed development is acceptable from a traffic / access perspective with no insignificant impacts on Wanneroo Road.	✓
Clause 3.3.5 *In determining applications for development involving the formation, laying out or alteration of a means of access to regional roads, the following must be considered:* *i) the effects of the development on traffic flow and safety, the character and function of the road, the volume and speed of traffic, the width of the carriageway and visibility; and* *ii) the volume and type of traffic generated by the development.*	The proposed development does not propose any modifications or alterations to Wanneroo Road. It is noted that as part of the approved subdivision for the subject site, Mowatt Close was constructed which also upgraded the intersection of Wanneroo Road and Clarkson Avenue to a four-way signalised intersection.	✓

The proposed development therefore meets the requirements of DCP5.1. The proposed access arrangements have been appropriately informed by a suitably qualified transport consultant and warrant approval accordingly.

4.3 City of Wanneroo District Planning Scheme No. 2

4.3.1 Zoning

The subject site is zoned 'Business' under the provisions of the City of Wanneroo's (**City**) District Planning Scheme No. 2 (**DPS2**) Additional Use No. 38 (**A38**) and Special Control Area No. 1 (**SCA1**) are also applicable to the subject site. Refer to **Figure 2** for the zoning map.

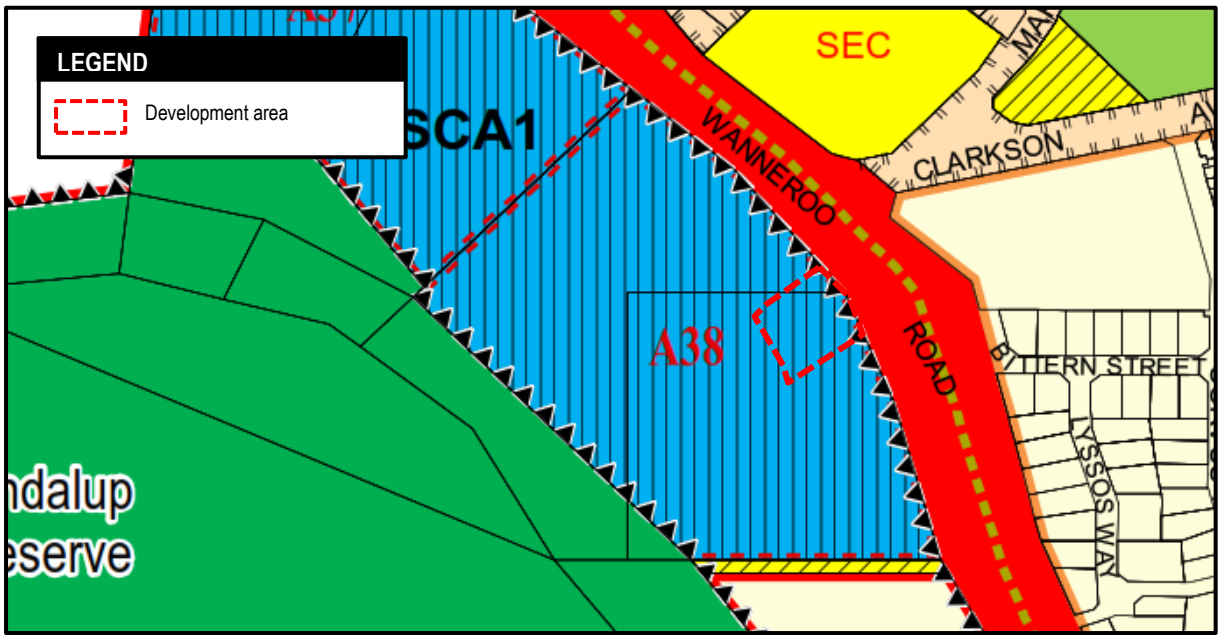


Figure 2: Zoning map

Pursuant to Clause 3.6.2 of DPS2, the objectives of the Business zone are to:

> *(a) provide for retail and commercial businesses which require large areas such as bulky goods and category/theme based retail outlets as well as complementary business services;*
>
> *(b) ensure that development within this zone creates an attractive façade to the street for the visual amenity of surrounding areas.*

The proposal involves the use and development of service station on the development area, which acts as a complementary service to the broader development on the subject site. The proposed development is appropriately located along a major arterial road, providing services to passing motorists as well as to the surrounding locality. It is considered that the proposed development meets the objectives of the Business zone and warrants approval accordingly.

Additional Use No. 38

Additional Use No. 38 (**A38**) conditionally permits Showroom and Retail Nursery uses on the subject site. A38 does not impact the proposed development.

Special Control Area No. 1

Schedule 17 of DPS2 provides additional provisions which relates to land under a Special Control Area. Special Control Area No. 1 (**SCA1**) exists over the subject site and normalises the provisions of Agreed Structure Plan No. 80 (**ASP80**).

An assessment against the provisions of ASP80 is provided in section 5.4 of this report.

In addition, Clause 1.4.1 of Schedule 17 requires a Wetland Management Plan be required where a development affects or is adjacent to Lake Joondalup or the wetland buffer under ASP80. It is noted that whilst the proposed development is adjacent to Lake Joondalup on lodgement, the development area is located on Future Lot 1 under the Plan of Subdivision approved for the subject site.

During pre-lodgement engagement with the City, it was confirmed that a Wetland Management Plan will not be required for this development application.

4.3.2 Land Use and Permissibility

Pursuant to the provisions of Schedule 1 – Definitions of DPS2, the proposed development is best classified as 'Service Station', defined as:

> ***service station:*** *means premises other than premises used for a transport depot, panel beating, spray painting, major repairs or wrecking, that are used for –*
>
> *(a) the retail sale of petroleum products, motor vehicle accessories and goods of an incidental or convenience nature; or*
>
> *(b) the carrying out of greasing, tyre repairs and minor mechanical repairs to motor vehicles.*

A Service Station is a 'D' Discretionary use within the Business zone, meaning the use is not permitted unless the decision maker has exercised their discretion and approved the development. It is considered that the proposed use is entirely appropriate and suitable for establishment on the subject site for the following reasons:

1. The proposed service station will provide additional services to the surrounding locality, including future employees of the broader development on the subject site.
2. The proposed development is appropriately located adjacent to a major arterial road.
3. The development has been designed in a contemporary manner that responds to the prevailing service commercial character of the locality.

4. The proposal is supported by a Transport Impact Assessment which demonstrates it is satisfactory from a traffic and access point of view.

For the reasons as outlined above, it is considered that the proposed use is appropriate for establishment on the subject site and warrants approval accordingly.

4.3.3 General Development Standards

Part IV of DPS2 stipulates the general development requirements applicable for the subject site. An assessment against the relevant provisions of Part IV is provided in **Table 3** below.

Table 3 – Assessment against general development requirements of DPS2

Required	Proposed	Complies
Clause 4.7 – Setbacks for Non Rural and Non Residential Development		
4.7.1 *Subject to the provisions of Part 3 or as otherwise provided in this clause, non rural and non-residential buildings shall be set back as follows:* *(a) street boundary - 6 metres;* *(b) side and rear boundaries - Nil.* *4.7.2* *Where a lot has a boundary with two or more streets, the local government shall determine which of these streets may be considered secondary street boundaries. Setbacks to secondary street boundaries may be reduced by local government to 3 metres.*	At a minimum, the proposed development is setback: Retail Building • Nil from the southern boundary; • 18m from Wanneroo Road; • Approximately 48m distance from Mowatt Close; • 5.8m from the western boundary. Fuel Canopy • Approximately 23m from the southern boundary. • 6.8m from Wanneroo Road. • 6.6m from Mowatt Close. • 17.5m from the western boundary.	✓
4.7.4 *That portion of a lot within 3 metres of the street alignment shall only be permitted to be used for a means of access and landscaping.* *4.7.5* *That portion of a lot between 3 metres of the street alignment and the building setback line shall only be permitted to be used for:* *(a) a means of access;* *(b) The loading and unloading of vehicles;* *(c) landscaping;* *(d) a trade display;* *(e) the daily parking of vehicles used by employees and customers of the development.* *No such area shall be used for the parking of vehicles displayed for sale or which are being wrecked or repaired or for the stacking or storage of materials, products or wastes.*	The land between the building setback line and 3 metres from the lot boundary will only be used for parking, access and landscaping. Additionally, no land will be utilised for storage or the sale of vehicles.	✓

Clause 4.8 - Building Facades for Non rural and Non Residential Development		
4.8.1 *The façade or facades of all non-rural and non-residential development shall be of a high standard of architectural design and constructed in brick, masonry and/or plate glass or other approved material which in the opinion of Local government would not adversely impact on the amenity or streetscape of the area. Where metal clad walls are approved by Local Government they shall have a factory applied paint finish.*	The proposed development comprises glazed windows, rendered/ painted concrete and feature cladding.	✓
4.8.2 *The façade or facades of all non-rural and non-residential development shall have incorporated in their design, integrated panels for the purpose of signage placement.*	All proposed signage has been integrated into the overall façade of the retail building.	✓
Clause 4.10 - Visual Truncation to Vehicular Accessways in the Vicinity of Streets or Rights-of-Ways		
No building, wall, fence, landscaping or other development greater than 0.6m in height measured from natural ground level at the boundary shall be constructed or maintained within the sight line area stipulated in the Australian Standard for Off Street Parking AS2890.1 at the intersections of a vehicle access way and a street or right-of-way.	No built structures are proposed within the sightline areas adjacent to the vehicle access points to the car park.	✓
Clause 4.11 - Pedestrian and Vehicle Reciprocal Access Requirements		
If the local government approves car parking and pedestrian access on neighbouring premises in a manner which relies on the reciprocal movement of vehicles and pedestrians between or across the premises, the owners concerned shall allow the necessary reciprocal access and parking at all times to the satisfaction of Local government.	The development has been deliberately designed to provide through access to the proposed lot to the south on the eastern and western sides of the development.	✓
Clause 4.12 - Service Areas and Access		
Provisions shall be made for service access to the rear of all taverns, hotels, motels, shops, showrooms, restaurants, takeaway food outlets, drive through takeaway food outlets and other commercial uses as required by the Local government for the purpose of loading and unloading goods unless considered by the Local government to be undesirable in a particular instance.	A loading bay is suitably located adjacent to the bin storage area/ plant room on the western side of the retail building.	✓
Clause 4.13 - Storage and Rubbish Accumulation		
All storage, including storage of accumulated rubbish, shall be confined to within a building, or suitably enclosed area screened from its immediate surrounds and any adjacent public street or road by normal viewing by a wall not less than 1.8 metres in height constructed of brick, masonry or other approved material. All storage of accumulated rubbish shall be located in a position accessible to rubbish collection vehicles and where vehicular access and car parking will not be adversely affected.	A dedicated bin storage area is located adjacent to the proposed retail building on the western side. The storage area will be screened from public view at a height of 3 metres.	✓

<table>
<tr><th colspan="3">Clause 4.14 - Car Parking</th></tr>
<tr><td>Clause 4.14.1 of DPS2 requires the number of on-site car parking bays to be provided in accordance with the requirements of Table 2 – Car Parking Standards. Pursuant to Table 2, the required parking rates for the proposed development are as follows:

<table>
<tr><th>Use</th><th>Rate</th><th>Required</th></tr>
<tr><td>Service Station</td><td>5 bays per service bay plus 7 bays per 100m² non service bay NLA. Up to 50% of non-service bays may be located in refuelling positions.</td><td>330m² NLA = 21 bays
1 service bay = 5 bays</td></tr>
<tr><td colspan="2">Total:</td><td>26 bays</td></tr>
</table>
</td><td>25 bays are proposed on the subject site, comprising:
• 1 accessible bay and shared space.
• 7 regular staff and visitor bays.
• 16 refuelling bays.
• 1 air and water bay.

This results in an on-paper shortfall of 1 bays. Given the minor nature of the shortfall, the proposed parking is considered acceptable and warrants approval accordingly. The proposed parking has also been assessed by Transcore in their TIA, upon which they confirmed was acceptable.</td><td>Discretion</td></tr>
<tr><td>In relation to the design of off-street car parking areas, Clause 4.14.2 of DPS2 states:
The design of off-street parking areas including parking for disabled shall be in accordance with Australian Standards AS 2890.1 or AS 2890.2 as amended from time to time. Car parking areas shall be constructed, marked, drained and thereafter maintained to the satisfaction of the Local government.</td><td>All car parking spaces have been designed in accordance with the Australian Standards AS 2890.1 and AS 2890.2 where applicable. The car parking spaces will be constructed, line marked and drained on-site prior to the occupation of the development.</td><td>✓</td></tr>
<tr><th colspan="3">Clause 4.17 - Landscaping Requirements for Non Rural and Non Residential Development</th></tr>
<tr><td><u>4.17.1</u>
A minimum of 8% of the area of a development site shall be set aside, developed and maintained as landscaping to a standard satisfactory to the Local government.</td><td>The development proposes 410m² of landscaping within the development area, which equates to 11.6% of the development site area (3,530m²).

Landscaping will be endemic to the locality, including to species of Yellagonga Regional Park.

Refer Appendix 3 for a copy of the Landscaping Plan.</td><td>✓</td></tr>
<tr><td><u>4.17.2</u>
When a proposed development includes a car parking area abutting a street, an area no less than 3 metres wide within the lot along all street alignments shall be set aside, developed and maintained as landscaping to a standard satisfactory to the local government. This landscaped area shall be included in the minimum 8% of the area of the total development site referred to in the previous subclause.</td><td>A 3-metre portion of land between the car parking area and primary street boundary is reserved for landscaping.

A small portion of land is required for vehicle access. This is offset by a larger landscaping area closer to the intersection of Mowatt Close and Wanneroo Road.</td><td>✓</td></tr>
<tr><td><u>4.17.3</u>
Landscaping shall be carried out and maintained on all those areas of a development site which are not approved for buildings, accessways, storage purposes or car parking. Alternatively, local government may require these areas to be screened from view of streets and other public places.</td><td>All areas utilised for car parking, access, storage or buildings will be adequately landscaped.</td><td>✓</td></tr>
</table>

4.17.4 *Landscape areas shall be designed and located to improve the visual appeal of the development from the street and other public spaces and the standard of amenity for those using the development. The use of endemic trees and shrubs are encouraged.*	A suitable and appropriate species section is proposed, consistent with existing landscaping in the locality, including Yellagonga Regional Park.	✓
4.17.5 *Shade trees shall be planted and maintained in car parking areas designed within the wells at the rate of one tree for every four (4) car parking bays, to the Local government's satisfaction.*	As shown on the landscaping plan, 8 shade trees are proposed throughout the development area. Due to safety and operational requirements for a service station tree cannot be located adjacent to the retail building, where the proposed car parking is located. To offset this operational matter, trees are proposed to be in different locations throughout the site at a rate greater than one tree for every 4 car parking bays.	✓
Clause 4.18 - Screening of Storage Areas		
The owner of land on which there is stored, stacked or allowed to remain any materials which in Local government's opinion detract from the amenity of the area shall completely screen the said materials from adjoining properties and from street in a manner specified by and to the satisfaction of Local government, by means of walls, fences, hedges or shrubs.	No storage is proposed outside the proposed buildings or bin storage areas as shown on the proposed development plans.	✓

Having regard to **Table 3** above, it is considered that the proposed development generally meets the relevant requirements of DPS2 and warrants approval accordingly.

4.4 Drovers Place Precinct Structure Plan No. 80

Drovers Place Precinct Structure Plan No. 80 (**Structure Plan**) provides a framework for subdivision and development within the Structure Plan area. The Structure Plan, since being approved, has been normalised into Schedule 17 – Special Control Areas of DPS2. An assessment of the development against the provisions of Schedule 17 is provided in **Table 4** below.

Table 4: **Assessment against Schedule 17 of DPS2.**

Requirement	Comment	Complies
Clause 3.3.1 Development adjacent to the Yellagonga Regional Park shall coordinate with natural levels at the common boundary with Yellagonga Regional Park to minimise the visual impact of site levels, retaining walls, and fencing to the satisfaction of the City of Wanneroo. Retaining walls above 1 metre in height shall be discouraged.	Whilst the subject site is situated beside the Yellagonga Regional Park, the development area is located on eastern portion of the subject site and does not share a common boundary with the park. Notwithstanding, the proposed development complies with the indicative FFL of 23 AHD.	✓
Clause 3.3.2 The location and design of buildings, access ways and footpaths shall provide for view corridors to the Yellagonga Regional Park.	The proposed development does not impact view corridors to Yellagonga Regional Park.	✓

Clause 3.3.3 The bulk and scale of any future development shall have regard for preserving the views, significance and character of and visual relationship to Yellagonga Regional Park.	The proposed development has been designed in a manner to respond to the natural attributes of the locality. The overall layout preserves view corridors with the choice of landscaping respectful to the character of the Yellagonga Regional Park.	✓
Clause 3.3.5 Service areas shall be integrated within the development and designed to minimise any negative visual impacts along the interface with the Yellagonga Regional Park and Wanneroo Road. All service areas are to be appropriately screened from the public realm to the satisfaction of the City of Wanneroo.	The servicing yard and loading bay is proposed to be located on the western portion of the development area, beside the proposed retail building and will be screened from public view. Three shade trees are also proposed along the western boundary to help screen the service yard.	✓
Clause 3.3.6 Hardscape shall provide for reduction of impervious area to facilitate water sensitive urban design.	Refer **Appendix 5** for a copy of the drainage management plan.	✓
Clause 3.3.7 Building facades shall be of a high architectural standard utilising brick, masonry, concrete and glazing and include colour schemes sympathetic to the natural environment.	The proposed development comprises of glazed windows, rendered/ painted concrete and composite cladding. The choice of colours, materials and tones are consistent with Liberty's corporate branding implemented on new and refurbished sites across Australia.	✓
Clause 3.3.8 Buildings are to be designed to suit local climatic conditions, be energy efficient and designed to help reduce the risk and fear of crime.	The proposed Liberty is designed in accordance with their corporate design standards. These standards ensure energy efficiency in design in addition to safety standards for staff and operations. The facility will operate 24/7 days a week and will provide passive surveillance for the area.	✓
Clause 3.3.9 New buildings are to be of a quality of architectural design that is consistent with the role, setting and natural character of the Special Control Area.	The proposed development comprises of glazed windows, rendered/ painted concrete and feature wooden/ aluminium composite cladding. The choice of colours, materials and tones are sympathetic to the natural character of the locality.	✓
Clause 3.3.10 Buildings are to provide opportunities for passive surveillance and be sited to enable and encourage pedestrian access to Yellagonga Regional Park. This may include glazing and seating or alfresco areas to integrate development with the Yellagonga Regional Park.	The proposed retail building has substantial glazing on the northern and eastern frontage providing passive surveillance to the development area. Pedestrian linkages to the Yellagonga Regional Park are provided outside the development area.	✓
Clause 3.3.11 A minimum of eight percent of the site shall be provided as landscaping in addition to the Wetland Buffer defined in the Plan included in this Schedule.	The development proposes 410m² of landscaping within the development area, which equates to 11.6% of the development site area (3,530m²). Landscaping will be endemic to the locality, including to species of Yellogona Regional Park. Refer **Appendix 3** for a copy of the Landscaping Plan.	✓

Having regard to **Table 4** above, it is considered that the proposed development meets the relevant requirements of the Structure Plan and warrants approval accordingly.

4.5 Drovers Place Central Detailed Area Plan

The proposed development is subject to the provisions of the Drovers Place Central Precinct Detailed Area Plan (**DAP**). An assessment against the relevant provisions of the DAP and ASP80 is provided in **Table 5** below.

Table 5: Assessment against DAP

Requirement	Comment	Complies
1. Building Envelopes Buildings should generally be located within the building envelopes as depicted on the Detailed Area Plan. This may be varied at the City's discretion having regard for the following: 1. Ability to achieve a functional car parking and access layout that accommodates the required car parking bats and reciprocal access arrangements. 2. Preservation of views to Yellagonga Regional Park. 3. Vehicle sight lines and impact on amenity as viewed from Wanneroo Road and Yellagonga Regional Park 4. And other considerations to ensure the objectives of the DAP are not compromised.	The proposed retail building is situated on the southern portion of the development area, south east of the indicative location on the DAP. The proposed building location allows a more optimum site layout, facilitating more efficient circulation and access through the site. The development also aligns with the subdivision layout that was approved by the WAPC. The proposed layout does not unduly effect site lines to Yellagonga Regional Park.	**Discretion**
2. Permitted Building Height In accordance with the DAP Map, the permitted building height is 6 metres.	The proposed retail building has a maximum height of 5.2 metres. The proposed fuel canopy has a maximum height of 5.7m, with a vehicle clearance height of 4.7m.	✓
3. Built Form Mandatory active frontages as shown on the DAP shall incorporate the following: 1. Minimum 60% glazing on frontages for that portion of the frontage that extends to 2.7m above the FFL. 2. Adjacent pedestrian footpaths. 3. Eaves, awnings and or colonnades that project 2.0 metres from the building and have a minimum of 2.75m clearance to ground level; and 4. Pedestrian entrances to buildings that are clearly defined and articulated.	The design of the proposed retail building is to Liberty's corporate standard, typical of a service station development. The building has been oriented towards the northern boundary to provide the main frontage to Mowatt Close. In saying this, the eastern façade contains a substantial amount of glazing to ensure some activation and passive surveillance is provided to Wanneroo Road. As a service station development, it is not considered reasonable to provide an active edge to all elevations as the primary purpose of the development is to provide the retail sale of petroleum products.	**Discretion**
3.4 Buildings facing Wanneroo Road shall be designed to minimise blank walls.	The retail building, whilst not entirely oriented towards Wanneroo Road, provides glazing along the eastern frontage to increase activation and passive surveillance to Wanneroo Road.	✓
3.5 Service areas to be screened from Wanneroo Road.	The proposed service area is situated on the western side of the retail building and is adequately screened from Wanneroo Road.	✓

3.7 Primary entrances to buildings are to be clearly defined and articulated and provided with shelter from the weather. Eaves, awnings and / or colonnades shall be provided at primary entrances to buildings.	The proposed retail building is designed to Liberty's corporate standard, typical of new and refurbished sites around Australia. The building is designed in an inviting manner through incorporation of a defined and well-articulated façade, designed using glazed windows, rendered / painted concrete and feature composite cladding.	✓
3.8 Development over the sewer easement shall be limited to a concrete pad, asphalt or paving to permit access to the underground sewer pipeline. Buildings over the easement shall not be permitted.	No substantial development is proposed on the sewer Easement.	✓
4. Earthwork Design Levels Development shall have regard to the indicative finished floor levels as depicted on the DAP. This may be varied at the City's discretion having regard for the extant that: 1. The site can accommodate the intended use 2. Finished ground levels at the boundaries of the lots match or otherwise coordinate with the existing and/ or proposed finished ground levels of the abutting land and 3. The development demonstrates consistency with the endorsed Urban Water Management Plan for stormwater drainage.	The development area has a finished floor level of 23 AHD.	✓

Having regard to **Table 5** above, it is considered that the proposed development meets the relevant requirements of the DAP and warrants approval accordingly.

4.6 Local Planning Policies

4.6.1 Local Planning Policy 2.9 – Service Stations and Roadhouses

Local Planning Policy 2.9 – Service Stations and Roadhouses provides guidance on the development of service stations and roadhouses throughout the City. (**LPP2.9**). An assessment against the provisions of LPP2.9 is provided in **Table 6** below.

Table 6: Assessment against LPP 2.9

Requirement	Comment	Complies
Development Requirements Service stations and roadhouses shall not cause undue conflict through the generation of traffic demand for parking or the emission of noise, light, fumes, odours, dust, vibration, electrical interference, waste water or any other form of pollution or activity which may be undesirable or incompatible; Buildings shall be of a high standard of architectural design with landmark characteristics such as roof features that protrude above the roofline. Additional building detail, articulation, colours and textures can also be included to enhance architectural quality;	The proposed development is supported by a TIA prepared by Transcore. As confirmed within the TIA, the traffic generation associated from the subject site was found to have no significant impact on the surrounding road network, including the intersection of Clarkson Avenue and Wanneroo Road. The design of the retail building includes an inviting frontage to the light vehicle canopy, and incorporates glazing, signage, and cladding. The building has been designed in a contemporary manner and provides a significant amount of glazing to encourage activation and passive	✓

The use of bold and innovative canopy structures that provide a strong architectural statement is encouraged; Buildings shall address the street by way of major openings and entries so as to provide a level of passive surveillance from inside the building to adjacent streets and the public realm. The use of blank walls shall be minimised and glazing to openings shall not be obscured with signage, translucent films, paint, fittings, or furniture; Where blank walls cannot be avoided they should be designed in such a way that they contribute to a safe and attractive street environment by: • Minimising the length and height of blank walls; and • Articulating blank walls through the creative application of complementary materials, avoiding large continuous masses of the same finish and/or the provision of appropriately integrated structural features, lighting, street furniture, artworks and/or landscaping;	surveillance along the northern and eastern facades (Wanneroo Road and the service station forecourt area).	
<u>Amenity</u> Service stations and roadhouses abutting residential or other sensitive development shall be designed to minimise impact on abutting residents and shall address, noise, light, fumes, odours, dust, vibration, electrical interference, waste water, traffic, visual amenity, safety and any other matter that may detract from the amenity of the area. The location of service stations and roadhouses shall have regard to the prescribed buffer distances set out under the Environmental Protection Authority Separation Distances between Industrial and Sensitive Land Uses. Variations to the Separation Distances can be supported by the City where it is demonstrated that the potential impacts are satisfactorily able to be managed.	The proposed service station is not located within close proximity of residential or other sensitive development.	✓
<u>Location</u> Where potential conflict between a proposed service station or roadhouse and adjoining or nearby residential or sensitive land use cannot be adequately managed, alternative locations need to be considered where the use will be more compatible.	The proposed service station is not located within close proximity of residential or other sensitive development.	✓
<u>Signage</u> Signage associated with service stations an roadhouses are to have regard to the provisions and requirements of the City of Wanneroo's, Local Planning Policy 4.6: Signs.	The proposed signage is generally consistent with LPP4.6.	✓

Having regard to **Table 6** above, it is considered that the proposed development meets the relevant requirements of LPP2.9 and warrants approval accordingly.

4.6.2 Local Planning Policy 4.4 Urban Water Management

Local Planning Policy 4.4 – Urban Water Management (**LPP4.4**) provides requirements for the use and management of water resources within the City.

Pursuant to Section 5 of Table 2 of LPP4.4 a Stormwater Drainage Plan was prepared for the proposed development. Refer **Appendix 5** for a copy of the Stormwater Drainage Plan.

4.6.3 Local Planning Policy 4.6 Signs

Local Planning Policy 4.6 – Signs (**LPP4.6**) provides the requirements and standards pertaining to the erection of signage within the City. Specifically, the development proposes the following signage.

- 6m high internally illuminated monolith sign fronting Wanneroo Road.
- 2x 2100mm x 850mm 'Liberty' wording signs located on fuel canopy.
- 2x 1200mm x 1190mm Liberty logos on fuel canopy.
- 1x 2350mm x 1000mm illuminated shopfront signage above retail building entrance.
- 1x advertising wall sign on shopfront.
- 1x 2800mm x 3000mm Liberty logo wall sign on eastern elevation of retail building.

Table 7 below provides an assessment against the proposed signage against the provisions of LPP4.6.

Table 7 – Assessment against LPP4.6

Requirement	Provided/ Comment	Compliance
Pylon Sign *A Pylon sign means a sign supported on one or more poles and not attached to a building and includes a detached sign framework, supported on one or more poles to which sign infills may be added.* *Pylon signs shall:*		
1. be limited to a maximum of one per street frontage or one for every 40 metres of linear street frontage; 2. not exceed 6.0 metres in height; 3. not exceed 2.5 metres measured horizontally across the face of the sign; and 4. be located centrally within the lot and no closer than 3.0m to a side boundary.	The proposal comprises a single pylon sign along Wanneroo Road and is situated on the centre of the lot boundary, a substantial distance away from the side boundary. The proposed pylon sign does not exceed 2.5 metres when measured horizontally. The proposed pylon sign does not exceed 6 metres in height.	✓
Wall Sign *A Wall sign means a sign that is painted or affixed on the front, side or rear elevation of a building or structure but does not project more than 300mm out from the wall.* *Wall signs shall:*		

1. be limited to a maximum of one sign per tenancy, per street frontage; 2. not extend laterally beyond either end of the wall or protrude above the top of the wall; 3. not exceed 25% in aggregate area on any one wall to a maximum of 8m2; and 4. be integrated with the building design.	The proposal comprises: • 2 Liberty wording signs and logos on the fuel canopy. • 1x 2350mm x 1000mm illuminated shopfront signage above retail building entrance. • 1x advertising wall sign on shopfront. • 1x 2800mm x 3000mm Liberty logo wall sign on eastern elevation of retail building. All signs are deliberately integrated into the design of the canopy and retail building respectively and are presented in a manner typical of Liberty service station sites in Western Australia. No sign protrudes above the wall of the canopy or building. Notwithstanding, more than one sign is proposed on the northern elevation of the retail building. The aggregate of signage on the retail building does not exceed 8m^2. It is considered that the above variation warrants discretion for the following reasons: • The proposed signage is integrated into the façade of the retail building and has been designed in a manner which reflects the architecture of the overall development. • The signage is consistent with Liberty's corporate branding implemented on refurbished and new sites throughout Australia. • The signs are not large, and do not dominate the shopfront.	**Discretion**

Having regard to **Table 7** above, it is considered that the proposed development meets the relevant requirements of LPP4.6 and warrants approval accordingly.

4.7 Matters to be Considered

Clause 67 Deemed Provisions of the *Planning and Development (Local Planning Schemes) Regulations 2015* (**Regulations**) details the matters to be considered in determining a development application. The provisions of the Regulations applicable to the proposal are addressed in **Table 8** below.

Table 8 – Matters to be considered

Matter to be considered	Provided
(a) the aims and provisions of this Scheme and any other local planning scheme operating within the Scheme area;	The aims and provisions of DPS2 are considered and addressed throughout this 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 or approving;*	There are no known scheme amendments that would affect the assessment of this application.
(c) any approve State panning policy;	Refer to section 4.2 of this report.

Matter to be considered	Provided
(g) any local planning policy for the Scheme area;	Refer to section 4.6 of this report for an assessment against the City's Local Planning Policies.
(h) any structure plan or local development plan that relates to the development.	The structure plans and local developments plan have been considered within this DA report.
(l) the effect of the proposal on the cultural heritage significance of the area in which the development is located;	The subject site is not included on the City's Register of Places of Cultural Heritage Significance. The proposed development will not negatively impact the nearby Yellagonga Regional Park.
(m) the compatibility of the development within its setting, including – *i) The compatibility of the development with the desired future character of its setting; and* *ii) 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 height, bulk, scale, orientation and appearance of the development.*	The proposed development is entirely compatible with its setting for the following reasons: • The service station is located within an envisioned business / commercial precinct and fits in perfectly with the desired character of the area. • The built form is consistent in scale and character of the business precinct which it is located within. The built form also provides a high level of passive surveillance through glazing to Wanneroo Road and the service station forecourt 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;*	The proposed development will respond to the business character of the area using various façade treatments, materials and textures. The service station will also provide substantial landscaping areas, more than what is required by the City's planning framework. The service station will positively contribute to the locality, through the creation of jobs to support the local Wanneroo / Tapping community. A stormwater drainage plan has also been prepared to ensure stormwater is appropriately captured and treated on site.
(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;	High quality landscaping is incorporated into the development, resulting in a high level of amenity for customers, pedestrians and passers-by.
(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;*	As demonstrated in section 3.3 of this report and the supporting TIA prepared by Transcore (Appendix 4), the proposed means of access to and from the site is satisfactory, including service vehicle and fuel tanker movement, and has been considered carefully.
(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;	A TIA has been prepared, demonstrating the proposed development is satisfactory from a traffic and access point of view – refer to **Appendix 4**.
(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;	The proposed development will not result in the loss of community service. On the contrary, the proposed development of the Liberty service station will provide an important and convenient service to the local community.

Matter to be considered	Provided
(x) *the impact of the development on the community as a whole notwithstanding the impact of the development on particular individuals;*	It is noted the service station will provide additional employment opportunities and a convenient service for residents in the locality. In this respect, there is a positive social outcome resulting from this development.

Having regard to **Table 8** above, it is considered that the proposed development meets the relevant requirements of the Regulations and warrants approval accordingly.

5 Conclusion

This application seeks development approval for a service station and associated landscaping and car parking on the subject site. This report and its appendices comprehensively demonstrate the proposed development is consistent with the City's local planning framework and will provide a positive contribution to the locality.

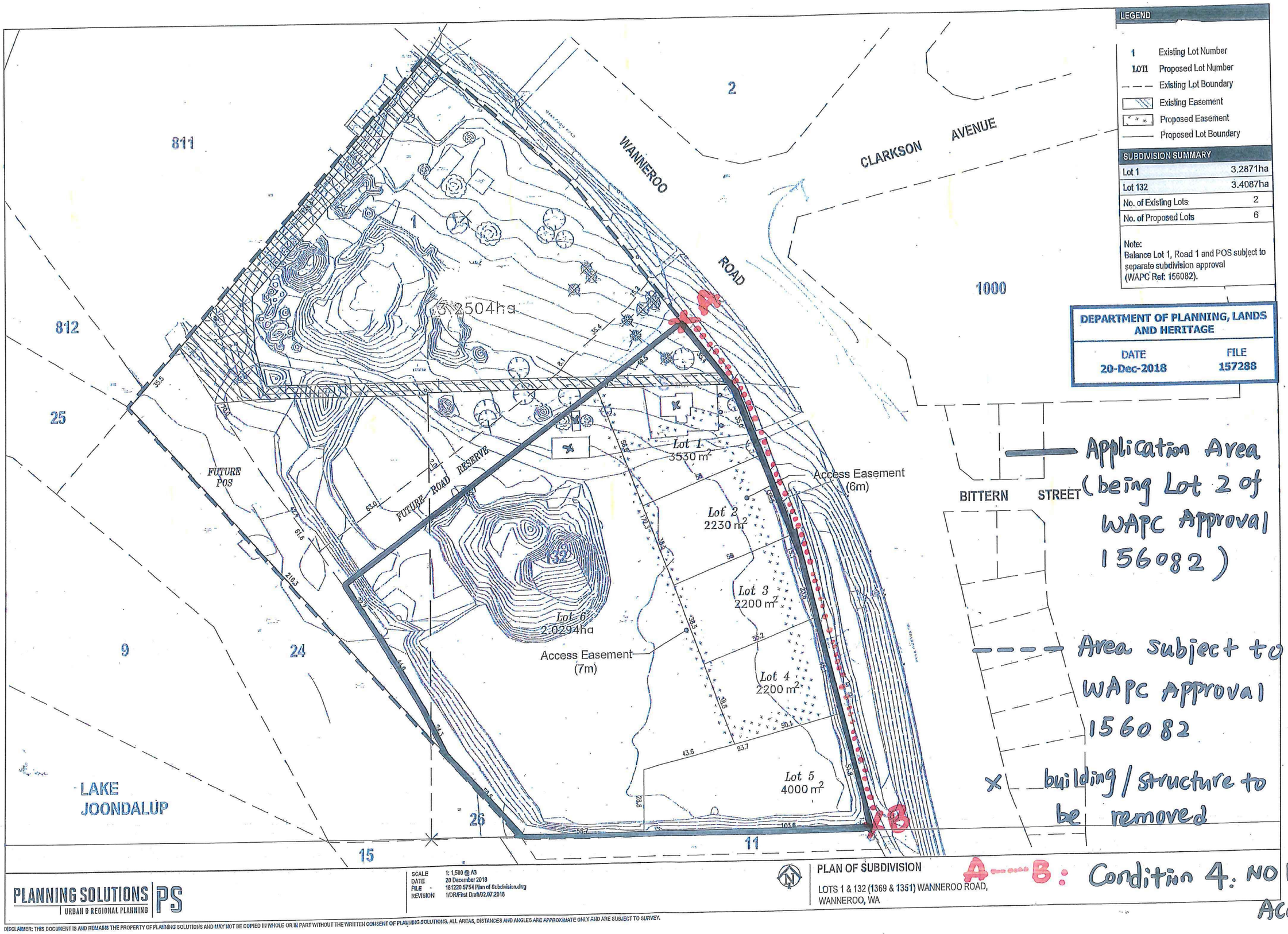
The proposed development warrants approval for the following reasons:

- The proposed development is an acceptable use within the envisioned business precinct and provides a high level of amenity and activation along Wanneroo Road and Mowatt Close.
- The proposed retail building, whilst primarily facing the forecourt area of the service station, provides an attractive interface to the street with a varied use of architectural features, and a high quality of landscaping along all street frontages.
- The proposal is supported by substantial co-consultant and expert input, demonstrating its suitability from a design, traffic, bushfire, stormwater and landscaping point of view.

The proposed development has substantial merit and warrants approval accordingly. We therefore respectfully request the Metro-Outer JDAP to grant approval to the application.

Appendix 1
Subdivision Approval

ATTACHMENT 6



20.12.18

Appendix 2
Certificates of Title

WESTERN AUSTRALIA

REGISTER NUMBER	
132/DP231049	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
2	24/4/2007

VOLUME 1663 FOLIO 446

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 132 ON DEPOSITED PLAN 231049

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

LAKEWIDE PTY LTD OF 312 OXFORD STREET, LEEDERVILLE

(T K016428) REGISTERED 8/12/2006

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

1. THE LAND THE SUBJECT OF THIS CERTIFICATE OF TITLE EXCLUDES ALL PORTIONS OF THE LOT DESCRIBED ABOVE EXCEPT THAT PORTION SHOWN IN THE SKETCH OF THE SUPERSEDED PAPER VERSION OF THIS TITLE.
2. TITLE EXCLUDES THE LAND SHOWN ON DIAGRAM 64902.
3. *O598041 MORTGAGE TO POLSI NOMINEES (WA) PTY LTD, IN 1/2 SHARE, GOLDMASS CORPORATION PTY LTD, IN 1/2 SHARE, BOTH OF 122 MAIN STREET OSBORNE PARK WA 6017, AS TENANTS IN COMMON REGISTERED 24/12/2020.

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.

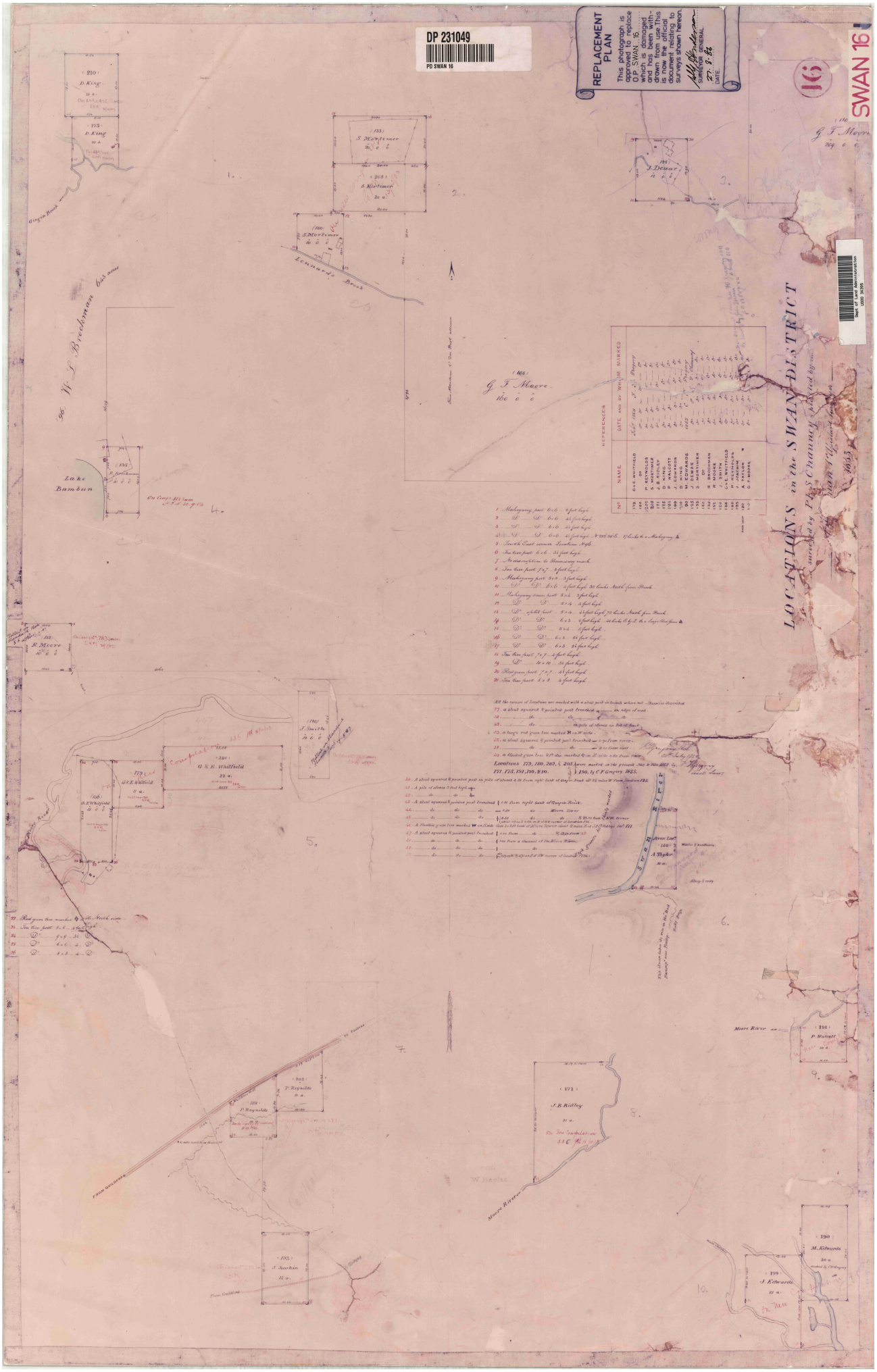
----------END OF CERTIFICATE OF TITLE----------

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: 1663-446 (132/DP231049)
PREVIOUS TITLE: 1081-433
PROPERTY STREET ADDRESS: 1351 WANNEROO RD, WANNEROO.
LOCAL GOVERNMENT AUTHORITY: CITY OF WANNEROO

NOTE 1: DUPLICATE CERTIFICATE OF TITLE NOT ISSUED AS REQUESTED BY DEALING L243847
NOTE 2: O496577 DEPOSITED PLAN 415568 LODGED
NOTE 3: O500546 INTEREST ONLY 419935 LODGED



WESTERN AUSTRALIA

REGISTER NUMBER	
1/P7782	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
5	3/6/2016

VOLUME 28 FOLIO 14A

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 1 ON PLAN 7782

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

SILVERGLADE HOLDINGS PTY LTD OF PO BOX 1773 WEST PERTH WA 6872
(T O092425) REGISTERED 15/2/2019

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

1. TITLE EXCLUDES THE LAND SHOWN ON DIAGRAM 56993.
2. TITLE EXCLUDES THE LAND SHOWN ON DIAGRAM 64903.
3. K127722 EASEMENT BURDEN FOR PIPELINE PURPOSES TO WATER CORPORATION - SEE DEPOSITED PLAN 53856 REGISTERED 20/3/2007.
4. *N548619 CAVEAT BY LAKEWIDE PTY LTD LODGED 7/2/2017.
5. *O096734 CAVEAT BY BOWRA & O'DEA PTY LTD LODGED 22/2/2019.
6. *O408245 MORTGAGE TO COMMONWEALTH BANK OF AUSTRALIA REGISTERED 18/5/2020.

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: 28-14A (1/P7782)
PREVIOUS TITLE: 1276-81
PROPERTY STREET ADDRESS: 1369 WANNEROO RD, WANNEROO.
LOCAL GOVERNMENT AUTHORITY: CITY OF WANNEROO

NOTE 1: K026292 DEPOSITED PLAN 53856 LODGED FOR EASEMENT PURPOSES ONLY
NOTE 2: DUPLICATE CERTIFICATE OF TITLE NOT ISSUED AS REQUESTED BY DEALING O092425
NOTE 3: O496577 DEPOSITED PLAN 415568 LODGED

END OF PAGE 1 - CONTINUED OVER

NOTE 4: O500524 INTERESTED ONLY DEPOSITED PLAN 419934 LODGED
NOTE 5: O500546 INTEREST ONLY 419935 LODGED

SWAN LOC 2512, 2595 & PT LOC 1034

F.B. 21008

TOTAL AREA 35.7641 ha.

C/T 603-163
607-130
NOW 1276-81

Depth Limit Metres
60.96
As to LOCS 2512, 2595

INDEX PLANS
SWAN 2000 08.10
SWAN 5000 04.05
" " 03.05

APPROVED
12·6·62

LOCAL GOVERNMENT ACT
ALL ROADS WITHIN THE GREEN BORDER ARE NOW DEDICATED.

PLAN 7782

P 007782 F 01

BURNS BEACH ROAD
Nº 3883 ROAD
WANNEROO ROAD
ROAD WIDENING
PLAN
See Endst 'A'
See Endst 'B'
See Endst 'C'
ENLARGEMENT 'A' Not to Scale
ENLARGEMENT 'B' Not to Scale
ENLARGEMENT 'C' Not to Scale
Rd. 3882 Gaz: 15.11.68 Cor: 291-10 R.D. 296-48 S.D. Dia: 71398
GAZ. 17-2-78
CANCELLED DIA 58827
REVESTED NOW LOC 12462
PT RESUMED GAZ. 24.5.94 F563794
RD Nº 3 (wdg) GAZ: 24.12.86
RD 3 (wdg) GAZ: 23.8.85
Rv. 3 (wpe.) Gaz: 23.6.67 Cor: 239-09 S.D. Dia: 71729
Resumed
Remains OM
Pt. LOC 132
JOONDALUP LAKE
PERTHSHIRE PT LOC 107
LOC 2512
LOC 2595
DIA 61588 F.B. 45599
DIA 52670 F.B. 37827
DIA 57090 F.B. 39460
DIA 54303 F.B. 39460
DIA 57094 F.B. 39460
DIA 54302 F.B. 39460
DIA 56994 F.B. 39460
DIA 56992 F.B. 39460
DIA 56993 F.B. 39460
DIA 54902 F.B. 39460
DIA 57114 F.B. 39460
8 7 6 5 4 3 2 1 9
3.9229 ha. 3.9229 ha. 3.9229 ha. 3.9255 ha. 3.9204 ha. 3.9229 ha. 3.9255 ha. 1.0092 ha. 4.5122 ha. 2.6785 ha.
57093
57094
28806
9605
O.M.
O.M. and Fence
Remains OM
Remains O.M.R.
SCALE
20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300 m
ALL DISTANCES ARE IN METRES
DAT PLAN 7682
PLAN 7782
CI

Appendix 3
Development Plans

N

HINDLEY & ASSOCIATES PTY LTD
BUILDING DESIGNERS

166 STIRLING HIGHWAY
NEDLANDS WA 6009

PO BOX 199
NEDLANDS WA 6909

PHONE - 9386 6699
FAX - 9386 6700
admin@hindley.com.au

DEVELOPMENT APPLICATION

HINDLEY & ASSOCIATES P/L
AS TRUSTEE FOR
HINDLEY TRUST
ACN No. 088 989 904

BUILDING DESIGNERS ASSOCIATION OF WA INC.

NO:	DATE:	REVISION:	DRAWN:	CHECK:
A	06.09.21	ISSUED FOR DA	JJR	CPH

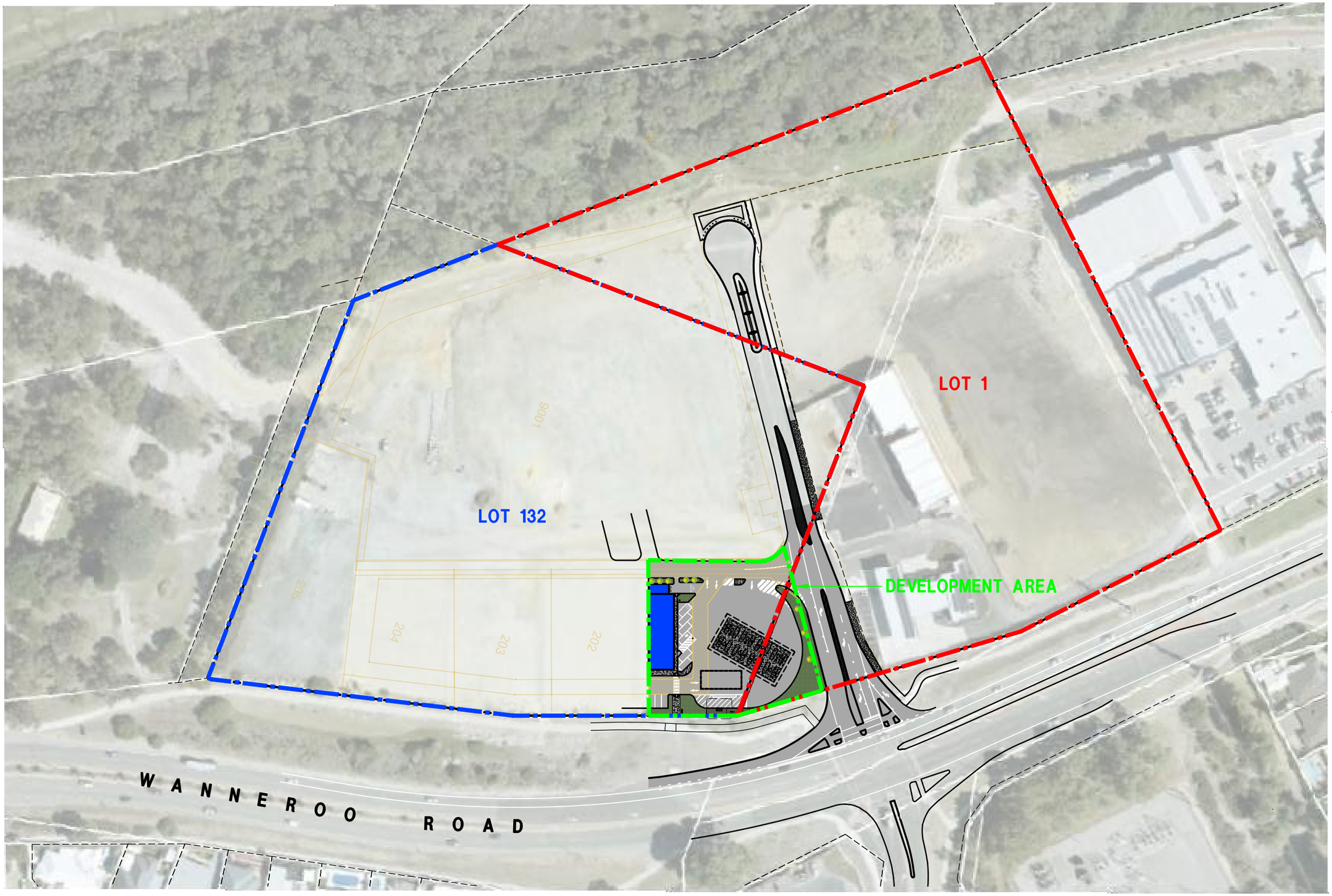
A3 SHEET

SITE LOCATION PLAN

NOT TO SCALE

PROPOSED SERVICE STATION
LOT 1 (No. 1369), LOT 132 (No. 1351)
WANNEROO ROAD, WANNEROO
LP WA No6 Pty Ltd

Date	-	16.07.21
Design	-	CPH
Drawn	-	JJR
Checked	-	CPH
Scale	-	NTS
Job No.	-	0678
Dwg -		DA01
Rev -		A



N

HINDLEY & ASSOCIATES PTY LTD
BUILDING DESIGNERS

166 STIRLING HIGHWAY
NEDLANDS WA 6009

PO BOX 199
NEDLANDS WA 6909

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admin@hindley.com.au

DEVELOPMENT APPLICATION

HINDLEY & ASSOCIATES P/L
AS TRUSTEE FOR
HINDLEY TRUST
ACN No. 088 989 904

BUILDING DESIGNERS ASSOCIATION OF WA INC.

NO:	DATE:	REVISION:	DRAWN:	CHECK:
A	06.09.21	ISSUED FOR DA	JJR	CPH

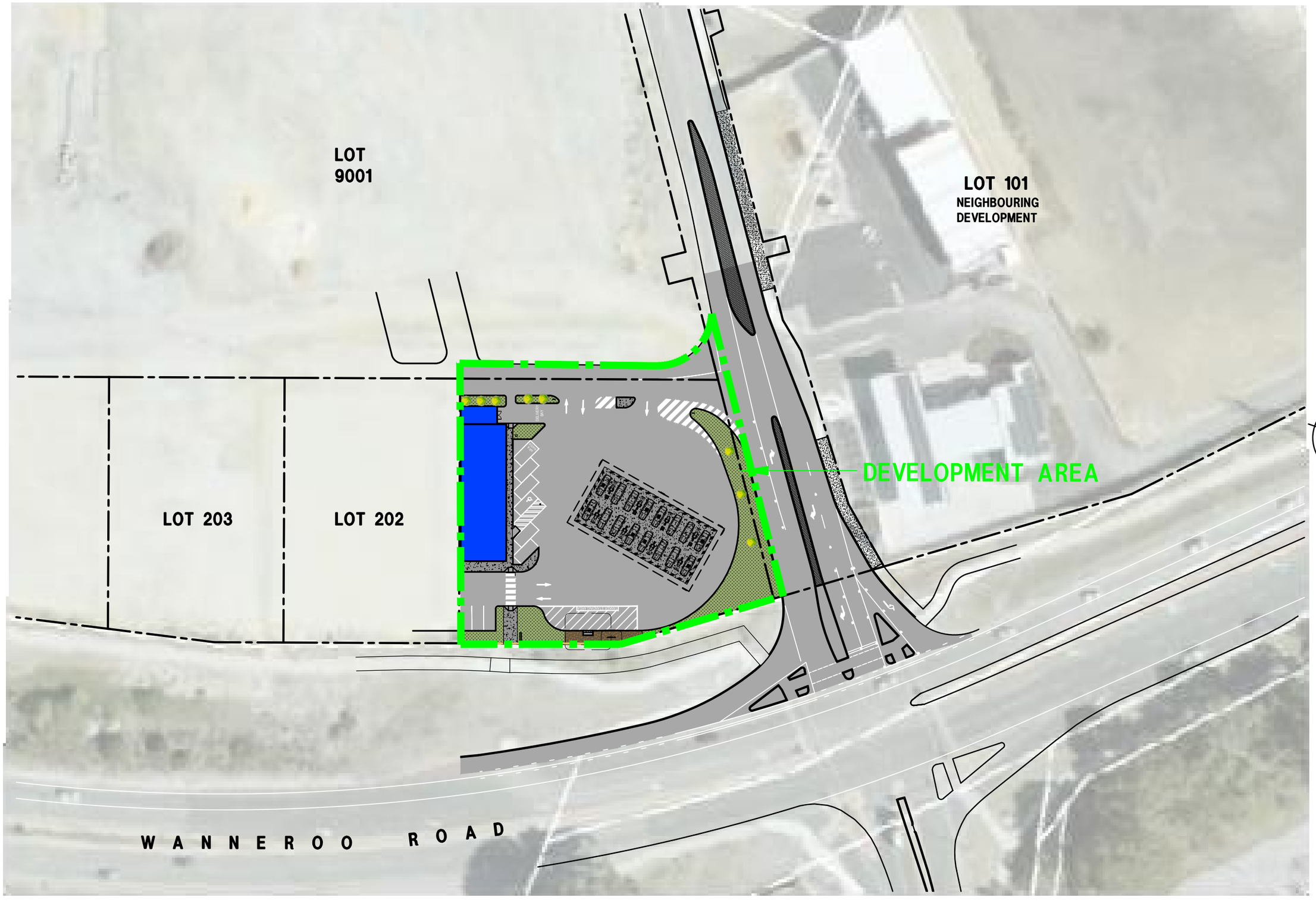
A3 SHEET

OVERALL SITE PLAN

SCALE 1:1500

PROPOSED SERVICE STATION
LOT 1 (No. 1369), LOT 132 (No. 1351)
WANNEROO ROAD, WANNEROO
LP WA No6 Pty Ltd

Date	-	16.07.21
Design	-	CPH
Drawn	-	JJR
Checked	-	CPH
Scale	-	1:1500
Job No.	-	0678
Dwg -		DA02
Rev -		A



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BUILDING DESIGNERS ASSOCIATION OF WA INC.

NO:	DATE:	REVISION:	DRAWN:	CHECK:
A	06.09.21	ISSUED FOR DA	JJR	CPH

A3 SHEET

PROPOSED SITE PLAN

SCALE 1:800

PROPOSED SERVICE STATION
LOT 1 (No. 1369), LOT 132 (No. 1351)
WANNEROO ROAD, WANNEROO
LP WA No6 Pty Ltd

Date	- 16.07.21
Design	- CPH
Drawn	- JJR
Checked	- CPH
Scale	- 1:800
Job No.	- 0678
Dwg	- DA03
Rev	- A

110 SETBACK
10000 CONVENIENCE
8000 SERVICE
1500
7210 PARKING
4645
34500 CANOPY

EXTENT OF WORKS

INTERNAL ROAD

ROAD TO BE CONSTRUCTED BY OTHERS

BOUNDARY 56.60m PROPOSED LOT 1

1000

E4

1730
4500 SERVICE
30050 CONVENIENCE

PROPOSED CROSSOVER

PROPOSED CROSSOVER

5286 CROSSOVER

PLANT/ BIN STORE

DELIVERY BAY

17550

L'SCAPING

NEW 150W CONCRETE SEMI MOUNTABLE KERBING. TYPICAL.

AIR & WATER DISPENSER.

CONCRETE FOOTPATH.

2600

5400

2.6 x 5.4m LONG CARBAYS IN ACCORDANCE WITH AS2890.1-2004.

E3

E6

E1

E7

LOT A
3530m²

WHITE LINEMARKING - TYPICAL.

30100

LINE OF CANOPY.
LINE OF BUNDED AREA.

BOUNDARY 58.09m

PROPOSED SERVICE STATION
G.L.A. 330m²
F.F.L. 23.00

ENTRY

RAMP

BOLLARD

6250

16 CAR FORECOURT
8 PUMPS

6640

BOUNDARY 49.50m

MOWATT CLOSE

ACCESSIBLE CARBAY WITH SIGNAGE IN ACCORDANCE WITH AS2890.6-2009.

BOLLARD PROTECTION TO STORE FRONT.

LINE OF BUNDED AREA.
LINE OF CANOPY.

E5

E8

15800

LANDSCAPING
SELECTED WATER WISE VEGETATION.

FILL POINT CONTAINMENT AREA SHOWN DASHED. CLEARANCE ZONE TO BE IN ACCORDANCE WITH AS.60079.10.1-2009

UNDERGROUND TANKS SHOWN INDICATIVELY

2400
7420
18200 SETBACK
5400
3000

PROPOSED ACCESS EASEMENT SHOWN HATCH.

E2

2.6 x 5.4m LONG CARBAYS IN ACCORDANCE WITH AS2890.1-2009.

CONCRETE FOOTPATH.

TANKER STANDING AREA

FILL POINTS

VENT PIPES

6420

BOUNDARY 35.05m

EXISTING COUNCIL FOOTPATH RETAINED.

BOUNDARY 35.00m

WANNEROO ROAD

6m HIGH PYLON
REFER TO ELEVATIONS.

VENT PIPE CONTAINMENT AREA SHOWN DASHED. CLEARANCE ZONE TO BE IN ACCORDANCE WITH AS.60079.10.1-2009

LEGEND

EXTENT OF CONCRETE PAVING

EXTENT OF LANDSCAPING
- REFER TO LANDSCAPING PLAN FOR DETAILS

SITE AREA	3530m²
LANDSCAPING AREA	410m²
PERCENTAGE OF LANDSCAPING	11.6%

SHADE TREE

N

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DEVELOPMENT APPLICATION

HINDLEY & ASSOCIATES P/L AS TRUSTEE FOR HINDLEY TRUST
ACN No. 088 989 904

BUILDING DESIGNERS ASSOCIATION OF WA INC.

NO:	DATE:	REVISION:	DRAWN:	CHECK:
A	06.09.21	ISSUED FOR DA	JJR	CPH

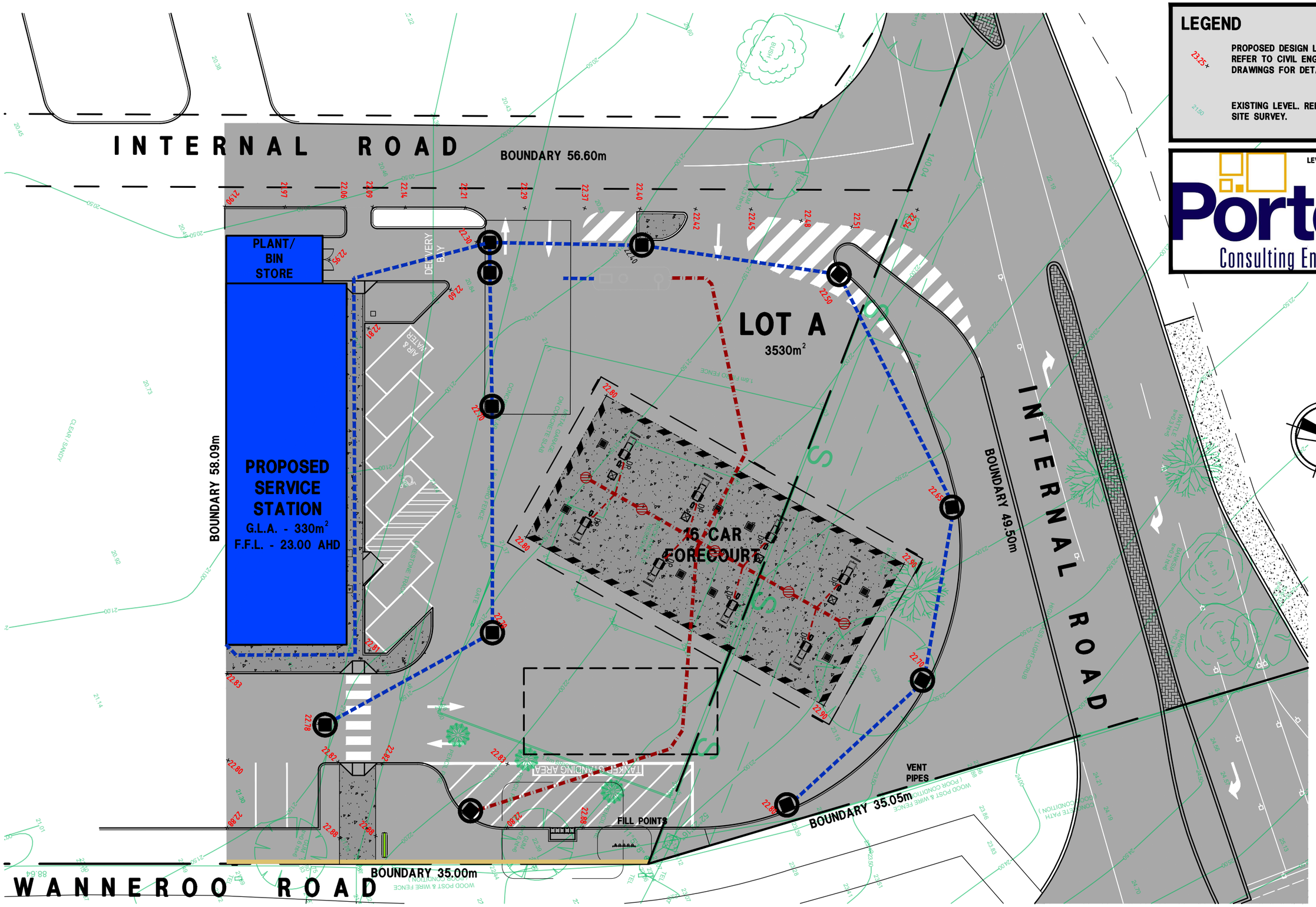
A3 SHEET

PROPOSED SITE PLAN

SCALE 1:300

PROPOSED SERVICE STATION
LOT 1 (No. 1369), LOT 132 (No. 1351)
WANNEROO ROAD, WANNEROO
LP WA No6 Pty Ltd

Date	13.07.21
Design	LIBERTY
Drawn	JJR
Checked	CPH
Scale	1:300
Job No.	0678
Dwg	DA04
Rev	A



LEGEND

23.25 PROPOSED DESIGN LEVELS REFER TO CIVIL ENGINEER'S DRAWINGS FOR DETAILS.

21.50 EXISTING LEVEL. REFER TO SITE SURVEY.

LEVELS SUPPLIED BY

Porter Consulting Engineers

HINDLEY & ASSOCIATES PTY LTD
BUILDING DESIGNERS

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DEVELOPMENT APPLICATION

HINDLEY & ASSOCIATES P/L AS TRUSTEE FOR HINDLEY TRUST ACN No. 088 989 904

BUILDING DESIGNERS ASSOCIATION OF WA INC.

NO:	DATE:	REVISION:	DRAWN:	CHECK:
A	06.09.21	DEVELOPMENT APPLICATION ISSUE	CPH	CPH

A3 SHEET

SITE LEVELS/ DRAINAGE OVERLAY

SCALE 1:300

PROPOSED SERVICE STATION
LOT 1 (No. 1369), LOT 132 (No. 1351)
WANNEROO ROAD, WANNEROO
LP WA No6 Pty Ltd

Date	03.04.19
Design	CPH
Drawn	CPH
Checked	CPH
Scale	1:300
Job No.	0678
Dwg	DA05
Rev	A

LANDSCAPING AREA

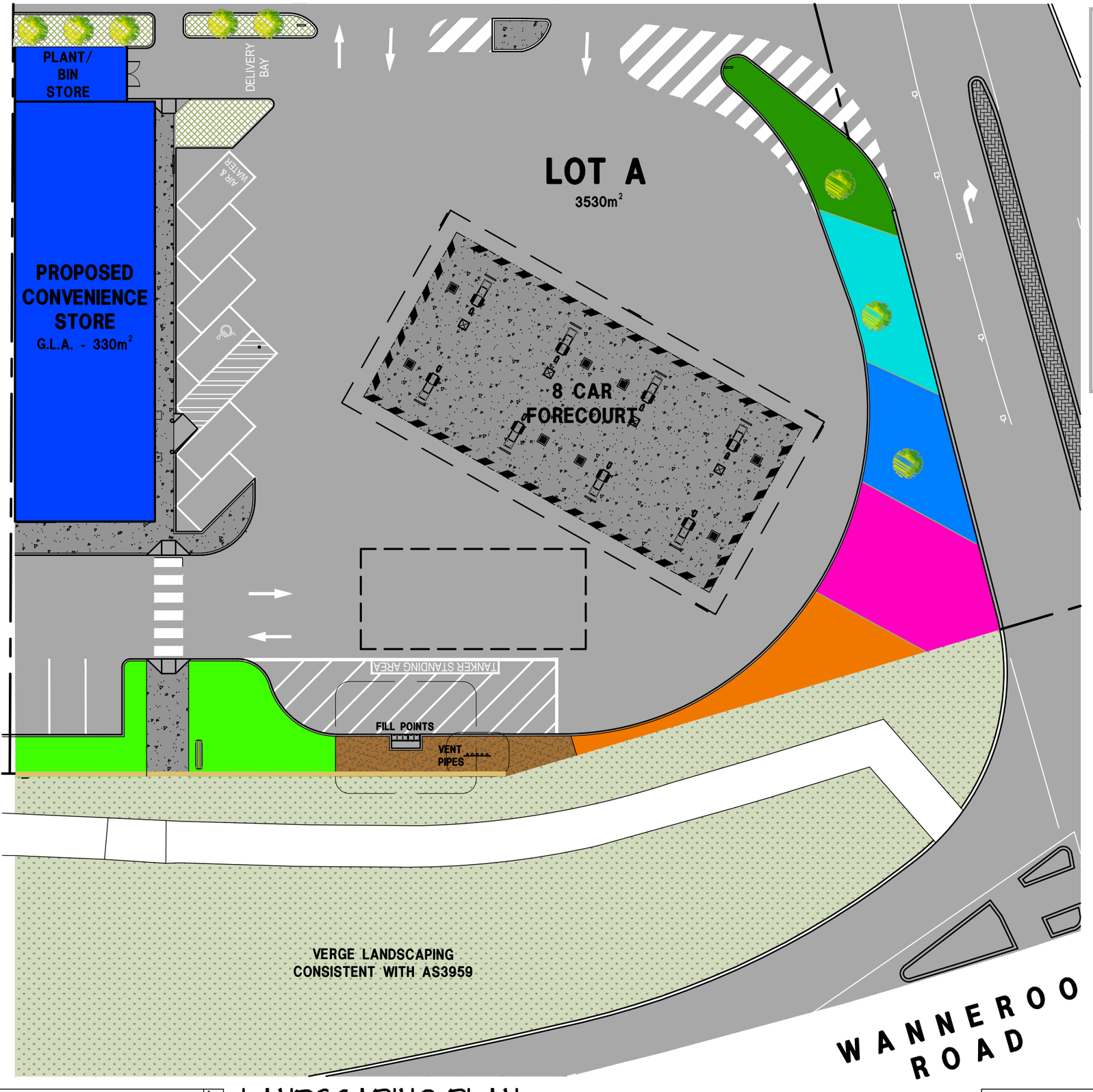
SITE AREA	3530m²
LANDSCAPING AREA	410m²
PERCENTAGE OF LANDSCAPING	11.6%

LEGEND

- CONCRETE PAVING TO FOOTPATH.
- BUILDING FOOTRPINT.
- CONCRETE PAVING TO BUNDED CANOPY AREA REFER TO CIVIL ENGINEERS DRAWINGS FOR DETAILS.
- 20mm BLUE METAL.
- VERGE LANDSCAPING.

SHRUB SPECIES

- HIBBERTIA SCANDENS 14cm POT SIZE @ 600mm SPACING
- PIMELEA FERRUGINEA 14cm POT SIZE @ 600mm SPACING
- JUNIPERUS CONFERTA 14cm POT SIZE @ 600mm SPACING
- DIANELLA REVOLUTA 14cm POT SIZE @ 600mm SPACING
- SCAEVOLA SP 14cm POT SIZE @ 600mm SPACING
- LEUCOPHYTA BROWNII 14cm POT SIZE @ 600mm SPACING
- EREMOPHILLIA GLABRA 14cm POT SIZE @ 500mm SPACING
- AGONIS FLEXUOSA 30LT POT SIZE



LANDSCAPING NOTES

- FINAL DENSITY, SPECIES AND PLANTING LOCATION OF SHRUBS AND GROUNDCOVERS ARE TO BE CONFIRMED BY CONTRACTOR WITH THE SUPERINTENDENT PRIOR TO PLANTING.
- FINAL LOCATIONS OF TREE PLANTINGS TO BE DETERMINED BY ACTUAL SERVICE LOCATIONS AND ARE TO BE CONFIRMED ON SITE.
- PLANTS TO BE OFFSET 1m FROM KERBLINE TO ALLOW FOR OVERHANG IF ABLE.
- GROUNDCOVERS ARE TO BE PLANTED IN GROUPS OF 3 & 5.
- SQUARE SHOULDER CONCRETE KERBING TO DEFINE GARDEN AREAS.
- CONCRETE SQUARE SHOULDER KERB 3m AROUND VENT STACKS WITH 20mm BLUE METAL AT BASE OF STACKS.
- RETICULATION CONTROLLER FIXED IN SERVICE AREA WITH WATERPROOF GPO.
- ALL GARDEN AREAS SUPPLIED WITH WOOD CHIP MULCH.
- IRRIGATION TO ALL GARDEN AREAS WITH 13mm COMMERCIAL BORE DRIP LINE.
- 1000mm SPACING BETWEEN PLANT VARIETIES.

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ACN No. 088 989 904

BUILDING DESIGNERS ASSOCIATION OF WA INC.

NO:	DATE:	REVISION:	DRAWN:	CHECK:
PRE	16.07.21	PRELIMINARY ISSUE	JJR	CPH
A	06.09.21	ISSUED FOR DA	CPH	CPH

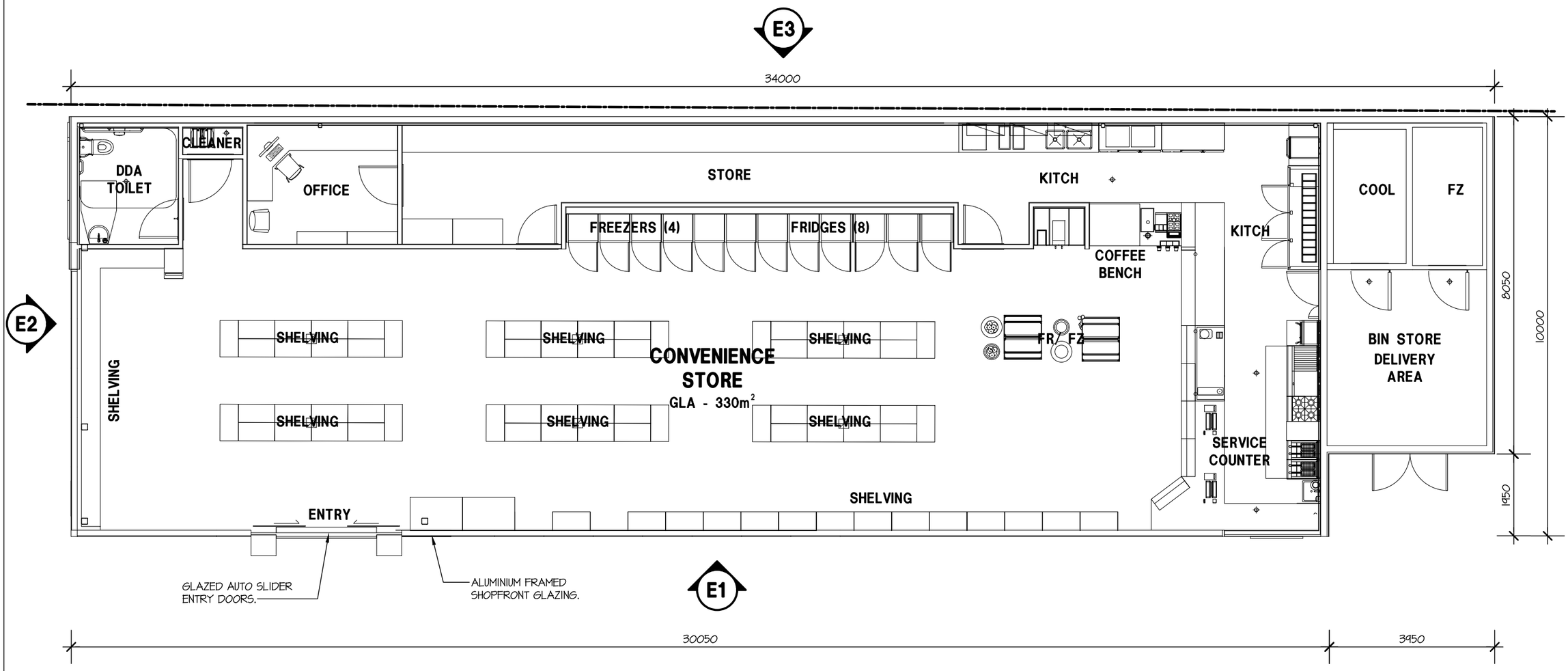
A3 SHEET

LANDSCAPING PLAN

SCALE 1:300

PROPOSED SERVICE STATION
LOT 1 (No. 1369), LOT 132 (No. 1351)
WANNEROO ROAD, WANNEROO
LP WA No6 Pty Ltd

Date	16.07.21
Design	CPH
Drawn	JJR
Checked	CPH
Scale	1:300
Job No.	0679
Dwg	DA06
Rev	A



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DEVELOPMENT APPLICATION

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NO:	DATE:	REVISION:	DRAWN:	CHECK:
PRE	16.07.21	PRELIMINARY ISSUE	JJR	CPH
A	06.09.21	ISSUED FOR DA	JJR	CPH

A3 SHEET

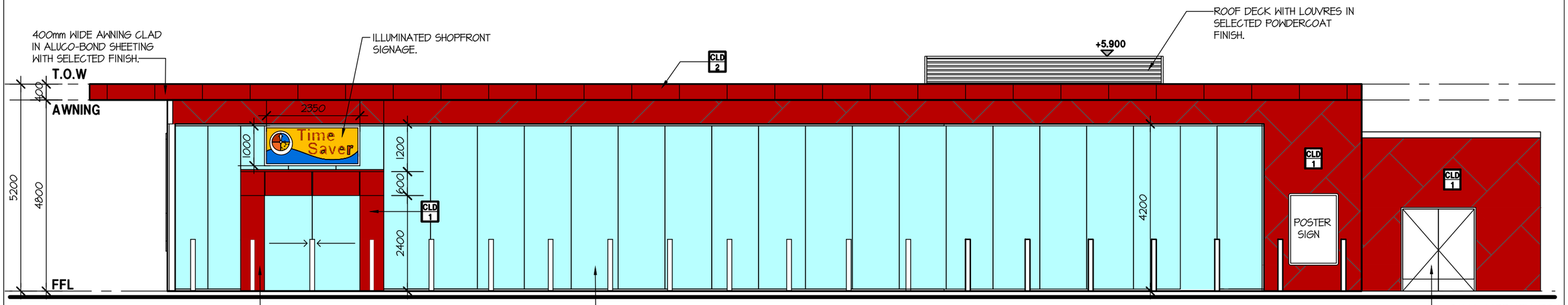
SERVICE STATION FLOOR PLAN

SCALE 1:100

N

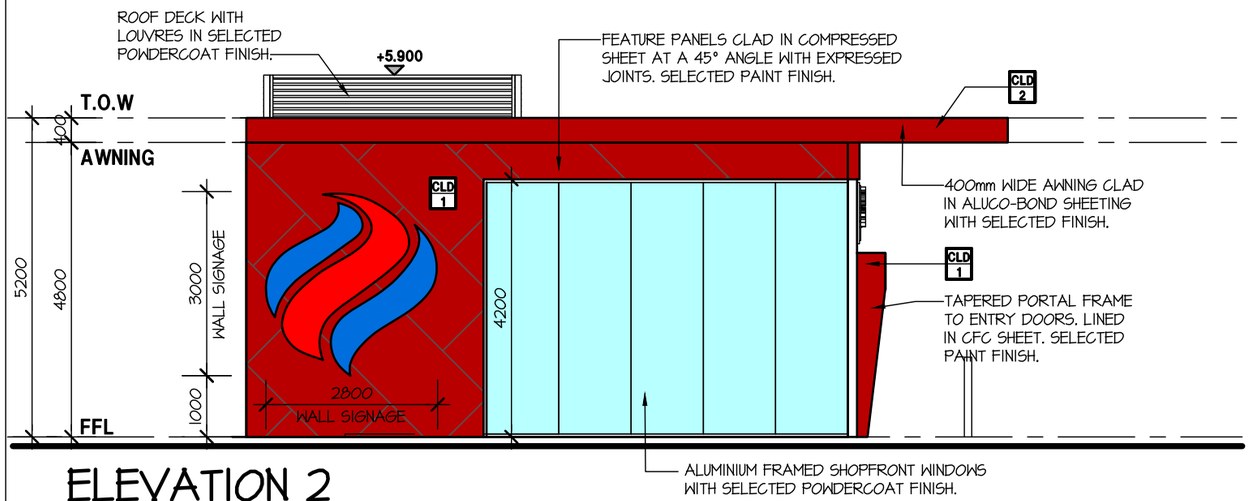
PROPOSED SERVICE STATION
LOT 1 (No. 1369), LOT 132 (No. 1351)
WANNEROO ROAD, WANNEROO
LP WA No6 Pty Ltd

Date	16.07.21
Design	CPH
Drawn	JJR
Checked	CPH
Scale	1:100
Job No.	0678
Dwg	DA07
Rev	A



ELEVATION 1

SCALE 1:100



ELEVATION 2

SCALE 1:100

EXTERNAL FINISHES SCHEDULE			
MARK	MANUFACTURER	DESCRIPTION	COMMENTS
CLD 1	DULUX	EXPRESS JOINT FC CLADDING. PAINT FINISH 'LIBERTY RED'	ANGLE JOINTS AS SPECIFIED ON ELEVATIONS
CLD 2	ALUCOBOND	ALUCOBOND PLUS ON 35mm TOP HATS. COLOUR "LIBERTY RED"	ALUCOBOND PLUS CLADDING INSTALLED TO MANUFACTURERS SPECIFICATIONS
CLD 3	STRAMIT	STRAMIT K-PANEL SHEETING INSTALLED VERTICALLY - COLOUR 'BUSHLAND'	STRAMIT K-PANEL INSTALLED TO MAUFACTURERS SOECIFICATIONS.
PF 01	DULUX	DULUX 'STOWE WHITE'	PAINT FINISH APPLIED ACCORDING TO MANUFACTURERS SPECIFICATIONS

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DEVELOPMENT APPLICATION

HINDLEY & ASSOCIATES P/L AS TRUSTEE FOR HINDLEY TRUST ACN No. 088 989 904

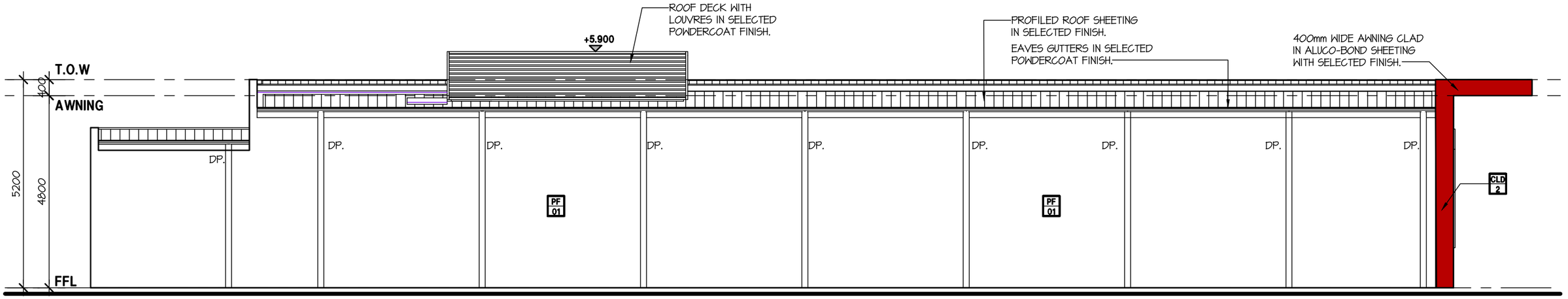
BUILDING DESIGNERS ASSOCIATION OF WA INC.

NO:	DATE:	REVISION:	DRAWN:	CHECK:
PRE	16.07.21	PRELIMINARY ISSUE	JJR	CPH
A	06.09.21	ISSUED FOR DA	JJR	CPH

A3 SHEET

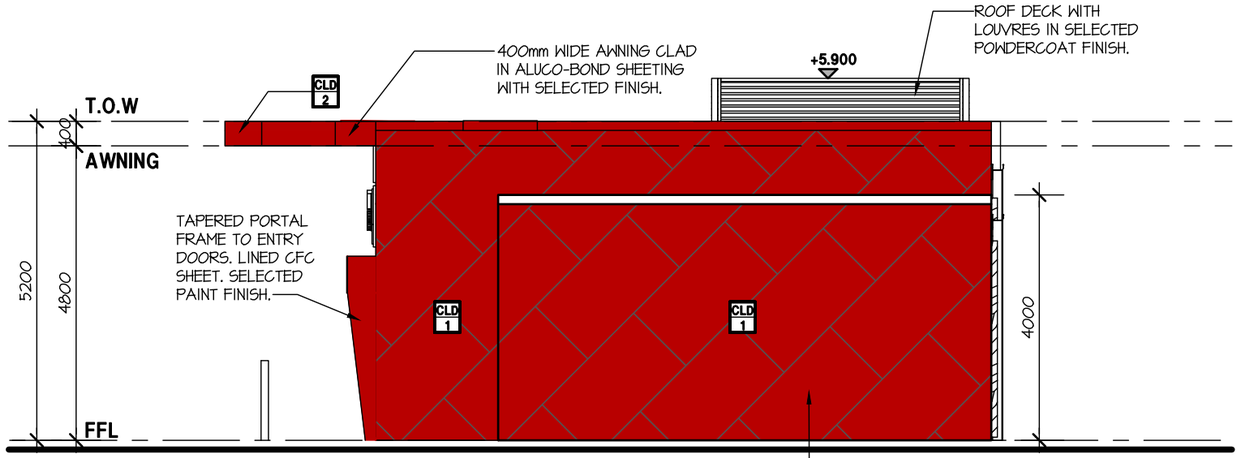
PROPOSED SERVICE STATION
LOT 1 (No. 1369), LOT 132 (No. 1351)
WANNEROO ROAD, WANNEROO
LP WA No6 Pty Ltd

Date - 14.01.21
Design - LIBERTY
Drawn - JJR
Checked - CPH
Scale - 1:100
Job No. - 0734
Dwg - **DA08**
Rev - **A**



ELEVATION 3

SCALE 1:100



ELEVATION 4

SCALE 1:100

EXTERNAL FINISHES SCHEDULE			
MARK	MANUFACTURER	DESCRIPTION	COMMENTS
CLD 1	DULUX	EXPRESS JOINT FC CLADDING. PAINT FINISH 'LIBERTY RED'	ANGLE JOINTS AS SPECIFIED ON ELEVATIONS
CLD 2	ALUCOBOND	ALUCOBOND PLUS ON 35mm TOP HATS. COLOUR "LIBERTY RED"	ALUCOBOND PLUS CLADDING INSTALLED TO MANUFACTURERS SPECIFICATIONS
CLD 3	STRAMIT	STRAMIT K-PANEL SHEETING INSTALLED VERTICALLY - COLOUR 'BUSHLAND'	STRAMIT K-PANEL INSTALLED TO MAUFACTURERS SOECIFICATIONS.
PF 01	DULUX	DULUX 'STOWE WHITE'	PAINT FINISH APPLIED ACCORDING TO MANUFACTURERS SPECIFICATIONS

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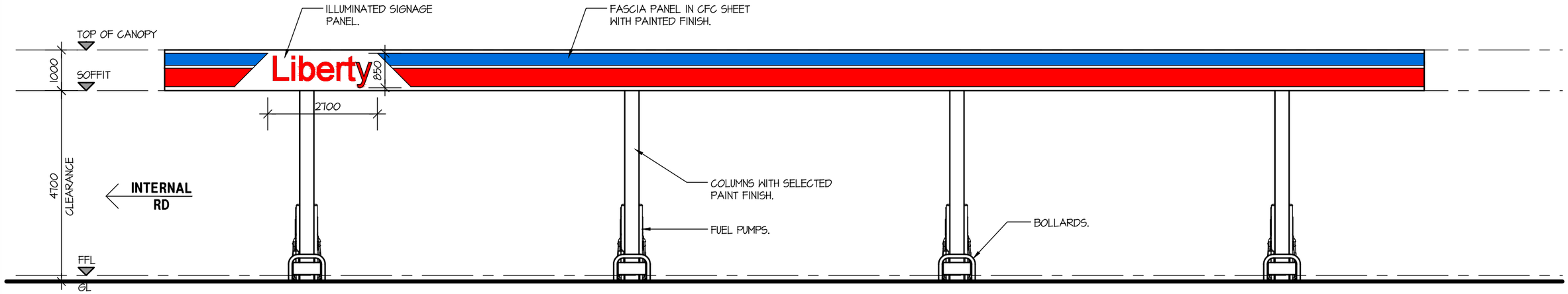
A	06.09.21	ISSUED FOR DA	JJR	CPH

A3 SHEET

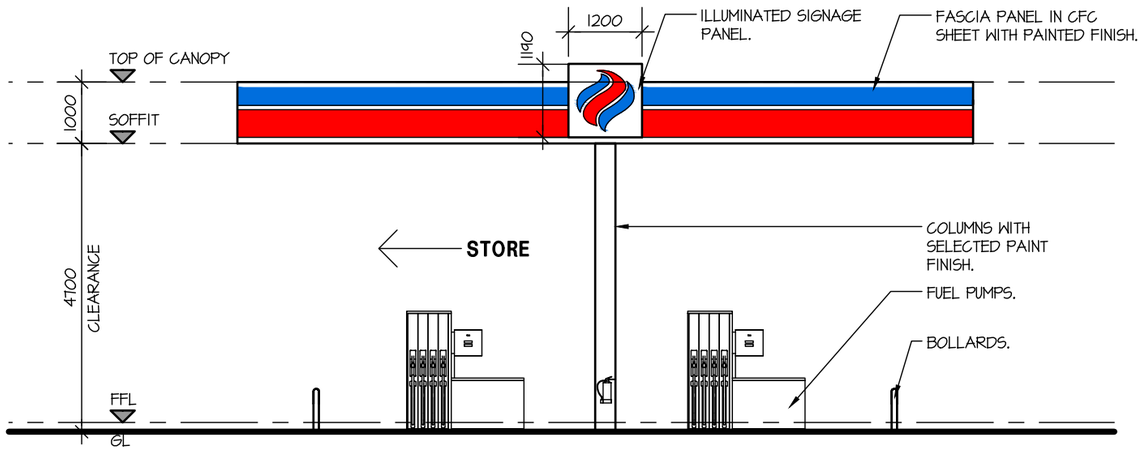
PROPOSED SERVICE STATION
LOT 1 (No. 1369), LOT 132 (No. 1351)
WANNEROO ROAD, WANNEROO
LP WA No6 Pty Ltd

Date	-	16.07.21
Design	-	CPH
Drawn	-	JJR
Checked	-	CPH
Scale	-	1:100
Job No.	-	0678
Dwg	-	DA09
Rev	-	A



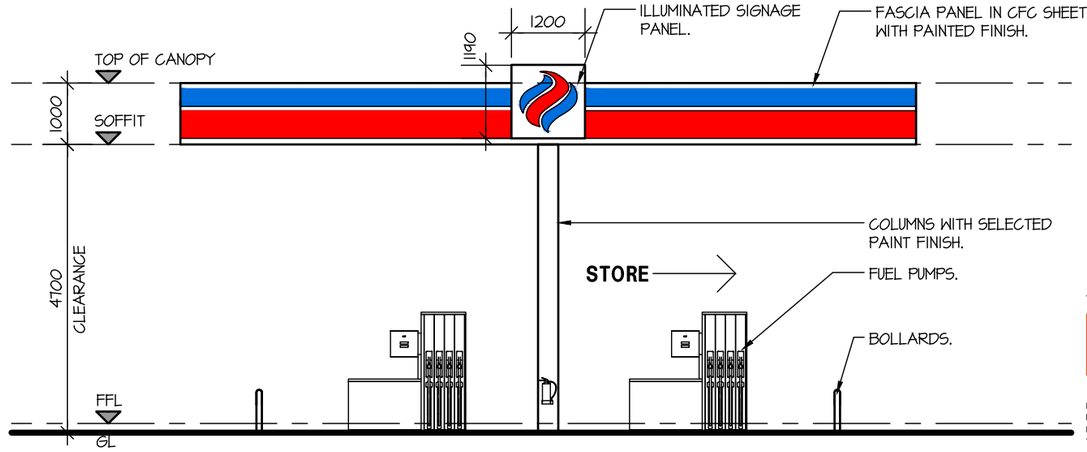
ELEVATION 5

SCALE 1:100



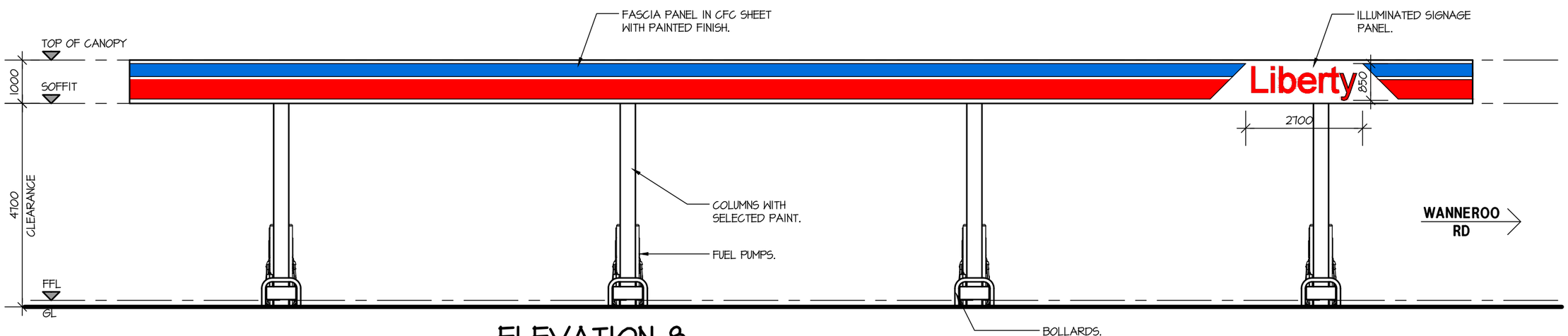
ELEVATION 6

SCALE 1:100



ELEVATION 7

SCALE 1:100



ELEVATION 8

SCALE 1:100

HINDLEY & ASSOCIATES P/L
AS TRUSTEE FOR
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ACN No. 088 989 904

BUILDING DESIGNERS ASSOCIATION OF WA INC.

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PRE	16.07.21	PRELIMINARY ISSUE	JJR	CPH
A	06.09.21	ISSUED FOR DA	JJR	CPH

A3 SHEET

HINDLEY & ASSOCIATES PTY LTD
BUILDING DESIGNERS

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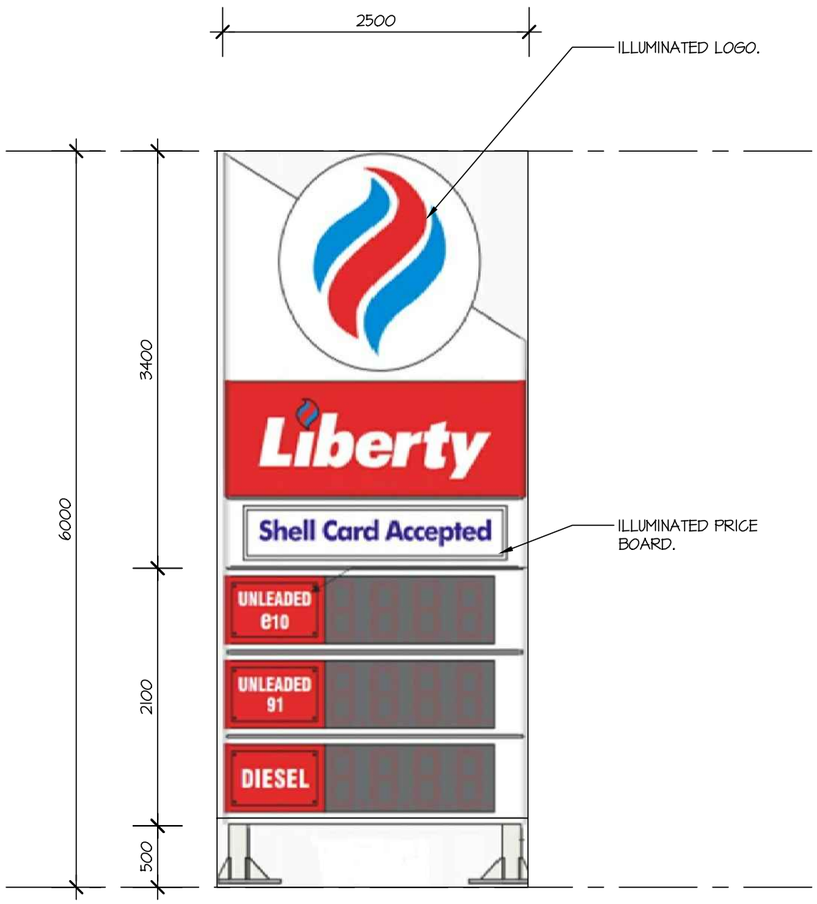
DEVELOPMENT APPLICATION

PROPOSED SERVICE STATION
LOT 1 (No. 1369), LOT 132 (No. 1351)
WANNEROO ROAD, WANNEROO
LP WA No6 Pty Ltd

Date	-	16.07.21
Design	-	CPH
Drawn	-	JJR
Checked	-	CPH
Scale	-	1:100
Job No.	-	0678
Dwg -		DA10
Rev -		A



PROPOSED 6m PYLON

SCALE 1:50

HINDLEY & ASSOCIATES PTY LTD
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DEVELOPMENT APPLICATION

HINDLEY & ASSOCIATES P/L
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ACN No. 088 989 904

BUILDING DESIGNERS ASSOCIATION OF WA INC.

NO:	DATE:	REVISION:	DRAWN:	CHECK:
A	06.09.21	ISSUED FOR DA	JJR	CPH

A3 SHEET

PROPOSED SERVICE STATION
LOT 1 (No. 1369), LOT 132 (No. 1351)
WANNEROO ROAD, WANNEROO
LP WA No6 Pty Ltd

Date	-	16.07.21
Design	-	CPH
Drawn	-	JJR
Checked	-	CPH
Scale	-	1:100
Job No.	-	0678
Dwg	-	DA11
Rev	-	A

LEGEND

- Drovers Place Central Precinct Boundaries
- Indicative Lot Boundaries
- Existing Lot Boundary
- Sewer Easement
- Indicative Building Envelope
- Existing Building
- Movement and Parking Areas
- 8m — Maximum Building Heights (metres) as measured from finished floor level to pitch of the roof.
- Mandatory Active Frontages
- Secondary Frontages
- Indicative Shared Path
- Compatible Use Wetland Buffer
- Reciprocal Rights of Access
- View Corridor
- Intersection Modification/ Upgrade
- F.F.L 22.00 Indicative Finished Floor Level
- Municipal Heritage Inventory Listed Properties

Municipal Heritage Inventory Listed Properties

① Charles Ashby House
② Henry Chitty House
③ Ernie Chitty House

ENDORSEMENT TABLE

This Detailed Area Plan is endorsed by the City of Wanneroo.

Manager Planning Implementation

29/11/13

Date

DETAILED AREA PLAN

0 40 80m

DROVERS PLACE CENTRAL PRECINCT, WANNEROO

Date: 4th July, 2013 Designer: MD
Scale: 1:2000 @ A3 Drawn: PR
Drawing No. 713-130 DAP2A 040713.dwg

tpg
TOWN PLANNING AND URBAN DESIGN

Level 7, 182 St Georges Terrace Perth Western Australia 6000
PO Box 7375 Cloisters Square Perth Western Australia 6850
Telephone +61 08 9289 8300 Facsimile +61 08 9321 4798 www.tpgwa.com.au
The Planning Group WA Pty Ltd ABN 38 097 273 222

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PRE	16.07.21	PRELIMINARY ISSUE	JJR	CPH
A	06.09.21	ISSUED FOR DA	JJR	CPH

A3 SHEET

DAP PLAN OVERLAY

NOT TO SCALE

PROPOSED SERVICE STATION
LOT 1 (No. 1369), LOT 132 (No. 1351)
WANNEROO ROAD, WANNEROO
LP WA No6 Pty Ltd

Date - 16.07.21
Design - CPH
Drawn - JJR
Checked - CPH
Scale - NTS
Job No. - 0678

Dwg - **DA12**
Rev - **A**

HINDLEY & ASSOCIATES PTY LTD
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BUILDING DESIGNERS ASSOCIATION OF WA INC.

NO:	DATE:	REVISION:	DRAWN:	CHECK:
A	08.09.21	ISSUED FOR DA	JJR	CPH

A3 SHEET

PERSPECTIVE VIEW - WANNEROO ROAD

NOT TO SCALE

PROPOSED SERVICE STATION
LOT 1 (No. 1369), LOT 132 (No. 1351)
WANNEROO ROAD, WANNEROO
LP WA No6 Pty Ltd

Date	-	16.07.21
Design	-	CPH
Drawn	-	JJR
Checked	-	CPH
Scale	-	NTS
Job No.	-	0678
Dwg	-	DA13
Rev	-	A

Appendix 4
Traffic Impact Assessment

transport planning
traffic engineering
modelling

Proposed Service Station

Lot 1 (1351) and Lot 132 (1369) Wanneroo Road, Wanneroo

Transport Impact Assessment

PREPARED FOR:
Leyton Property

September 2021

Document history and status

Author	Revision	Approved by	Date approved	Revision type
M Rasouli	r01	B Bordbar	06/09/2021	Draft
M Rasouli	r01a	B Bordbar	07/09/2021	Final

File name: t21.142.mr.r01

Author: Mohammad Rasouli

Project manager: Mohammad Rasouli

Client: Leyton Property

Project: Lot 1 (1351) and Lot 132 (1369) Wanneroo Road, Wanneroo

Document revision: r01a

Project number: t21.142

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REPORT TABLES

1 Introduction

This TIA has been prepared by Transcore on behalf of Leyton Property with regards to the proposed service station at Lot 1 (1351) and Lot 132 (1369) Wanneroo Road, Wanneroo.

Transcore was the traffic engineer for the previous BP service station project at this location (which has not been proceed based on our understanding). Accordingly, the proposed access/ egress and layout of the development has been developed in accordance with the City's requirements (as per our previous discussions with the City officers for the previous project) for this site. Further the same traffic modelling methodology and assumptions from the previous project, which has been accepted by approval authorities, has been adopted but updated for this project.

The subject site is currently vacant and is located at the south-west corner of the four-way signalised intersection of Wanneroo Road/ Clackson Avenue/ Mowatt Close as shown in **Figure 1**. This intersection serves the endorsed Detailed Development Plan (DAP) for Drovers Place Central Precinct to the west of Wanneroo Road, which Lot 1 (1351) and Lot 132 (1369) Wanneroo Road is part of this precinct. A copy of the endorsed DAP is provided in **Appendix A**.

Figure 1 illustrates the location of the Central Precinct and the subject site. Access and egress to/from the proposed development would be indirectly from Wanneroo Road via the existing signalised intersection of Wanneroo Road/ Clackson venue/Mowatt Close.

Figure 1: Location of the subject site

The key issues that will be addressed in this report include the traffic generation of the proposed development, capacity analysis of the proposed 4-way intersection on Mowatt Close (in line with the approved DAP) and the recently constructed 4-way signalised intersection of Wanneroo Road/Clarkson Avenue/ Mowatt Close.

For the assessment of the existing signalised intersection in 2031, the estimated traffic from the entire Central Precinct area, including the approved and constructed development at Lots 1 & 132 Wanneroo Road situated at the north side of Mowatt Close, will be considered. It should be noted that Transcore was the traffic engineers for the recently approved development and constructed service station on the northern side of Mowatt Close and the approved development and recently constructed McDonald's restaurant on the south east corner of the signalised intersection.

The location of the subject site within the *Metropolitan Region Scheme* context is illustrated in **Figure 2**. The subject site is zoned as *"Urban"* in the *MRS*. The MRS map also classified Wanneroo Road as a *"Primary Regional Road"*.

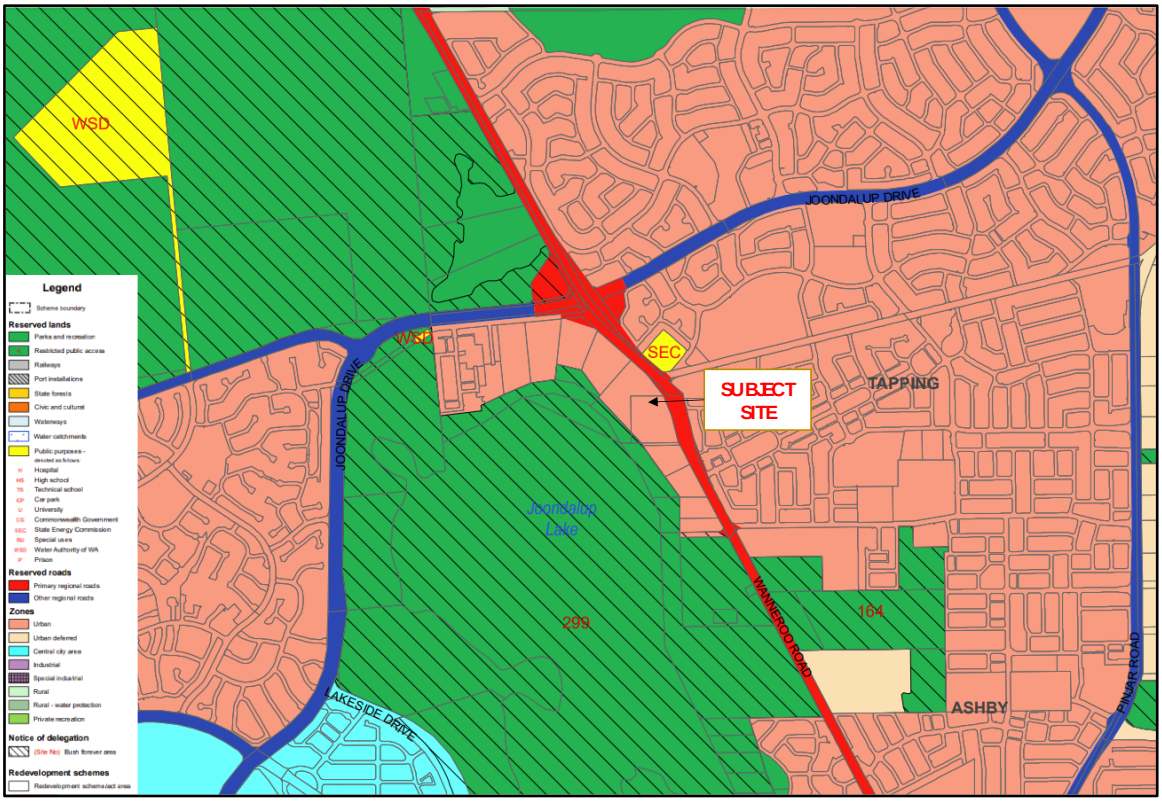


Figure 2. Site location within Metropolitan Region Scheme

2 Existing Situation

2.1 Existing Site Use, Access and Parking

Currently the site is vacant and does not generate any traffic. The land to the south of the site is also mainly vacant. There are existing retail and commercial land uses within the northern part of the Central Precinct.

The Central Precinct is accessed via the signalised intersection, the connection to the Northern Precinct and future connection to the Southern Precinct. The proposed service station will be accessed via the four-way intersection on Mowatt Close with its parking catered on-site.

2.2 Surrounding Road Network and Traffic Management on Frontage Roads

The existing road network and its classification in the Main Roads WA *Functional Road Hierarchy* is illustrated in **Figure 3**.

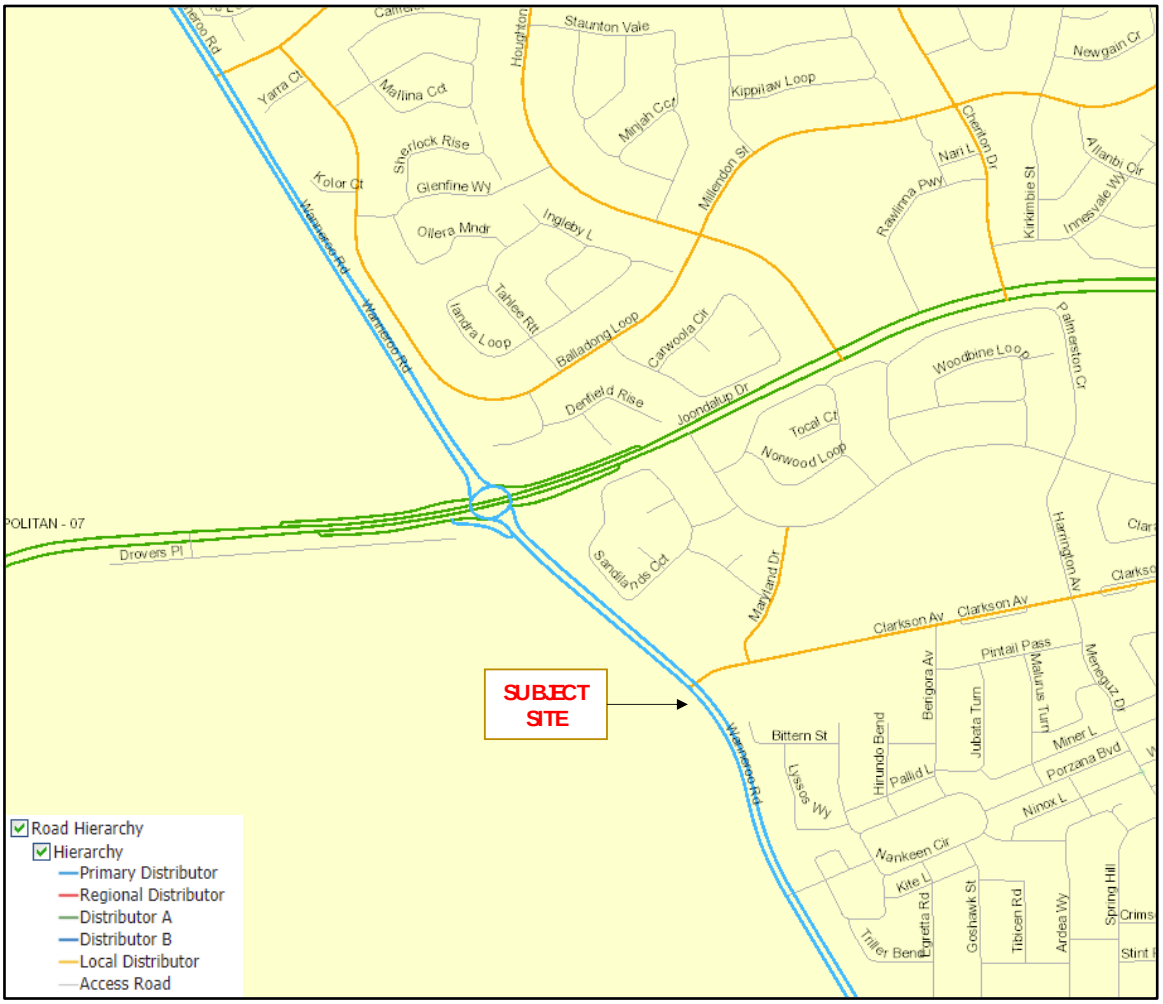


Figure 3. Existing Road Hierarchy

Wanneroo Road is a dual divided carriageway with a speed limit of 70km/h in the vicinity of the subject site. On street cycle lanes are provided on either side of the road. It is reserved as a Primary Regional Road in the Metropolitan Region Scheme and is classified as a Primary Distributor Road in the Main Roads WA Functional Road Hierarchy.

The intersection of Wanneroo Road/Clarkson Avenue/Mowatt Close has recently been constructed as a four-way signalised intersection with left turn and right turn pockets on all four legs of intersection. The intersection of Wanneroo Road and Joondalup Drive has recently been upgraded to a grade separated interchange.

There is an existing intersection on Wanneroo Road serving the existing retail/commercial complex located at lots 810 and 811. This intersection is located approximately 200m south of Wanneroo Road/Joondalup Drive interchange and operates as left-in/left-out/right-in, with a left-turn slip lane and right-turn pocket on Wanneroo Road.

Clarkson Avenue is a single undivided carriageway with pedestrian paths on both sides of the road. It is classified as a Local Distributor in Main Roads WA Functional Road Hierarchy and operates under the speed limit of 50km/h in the vicinity of the subject site.

Drovers Place provides access to properties along the northern frontage of the Drovers Place Precinct. It is constructed as a 6m-wide, kerbed single carriageway road. Drovers Place is subject to the 50 km/h speed limit.

Mowatt Close, in the vicinity of the subject site is recently constructed as a single divided carriageway road with pedestrian path on the northern side of the road.

2.3 Existing Traffic Volumes on Roads

According to the latest available traffic count data from Main Roads WA, Wanneroo Road (south of Joondalup Drive) carried an average weekday traffic volume of about 23,733vpd in 2020/21. The recorded heavy vehicle component of total traffic mix was approximately 8.2%.

According to the latest available traffic count data from Main Road WA, Clarkson Avenue (east of Wanneroo Road) carried an average weekday traffic volume of 3,384vpd in 2017/18. The recorded heavy vehicle component of total traffic mix was approximately 4.3%. Existing weekday AM and PM peak hour traffic flows from February 2021 SCATS data for the Wanneroo Road/Clarkson Avenue/Mowatt Close signalised intersection are shown in **Figure 4**.

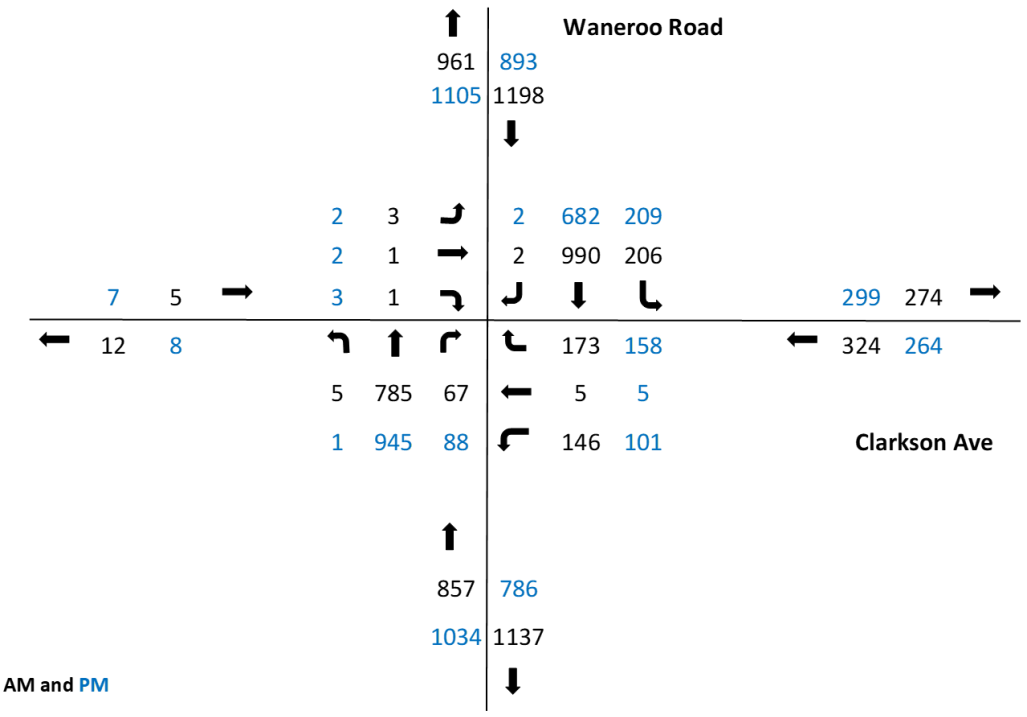


Figure 4: Existing traffic counts **AM** and **PM** hours

2.4 Heavy Vehicles

Restricted Access Vehicle (RAV) Network routes are designated for access by large heavy vehicle combinations, which is managed by Main Roads WA.

Wanneroo Road adjacent to the subject site forms part of RAV Tandem Drive Network 4 as shown in **Figure 5**. The RAV 4 Network classification permits a variety of prime mover and trailer combinations, up to a maximum length of 27.5m.

Figure 5. Existing heavy vehicle road network classification (RAV)

2.5 Public Transport Access

Nearby public transport services are illustrated in **Figure 6**. The closest existing bus route to the development area is Bus Route No. 468 which traverses along Wanneroo Road. This bus route provides service between Whitfords Station and Joondalup Station via Wanneroo Central Shopping Centre.

Other bus route in the vicinity of the subject site is Bus Route No. 390 which runs along Wanneroo Road but gets diverted to/from Clarkson Avenue.

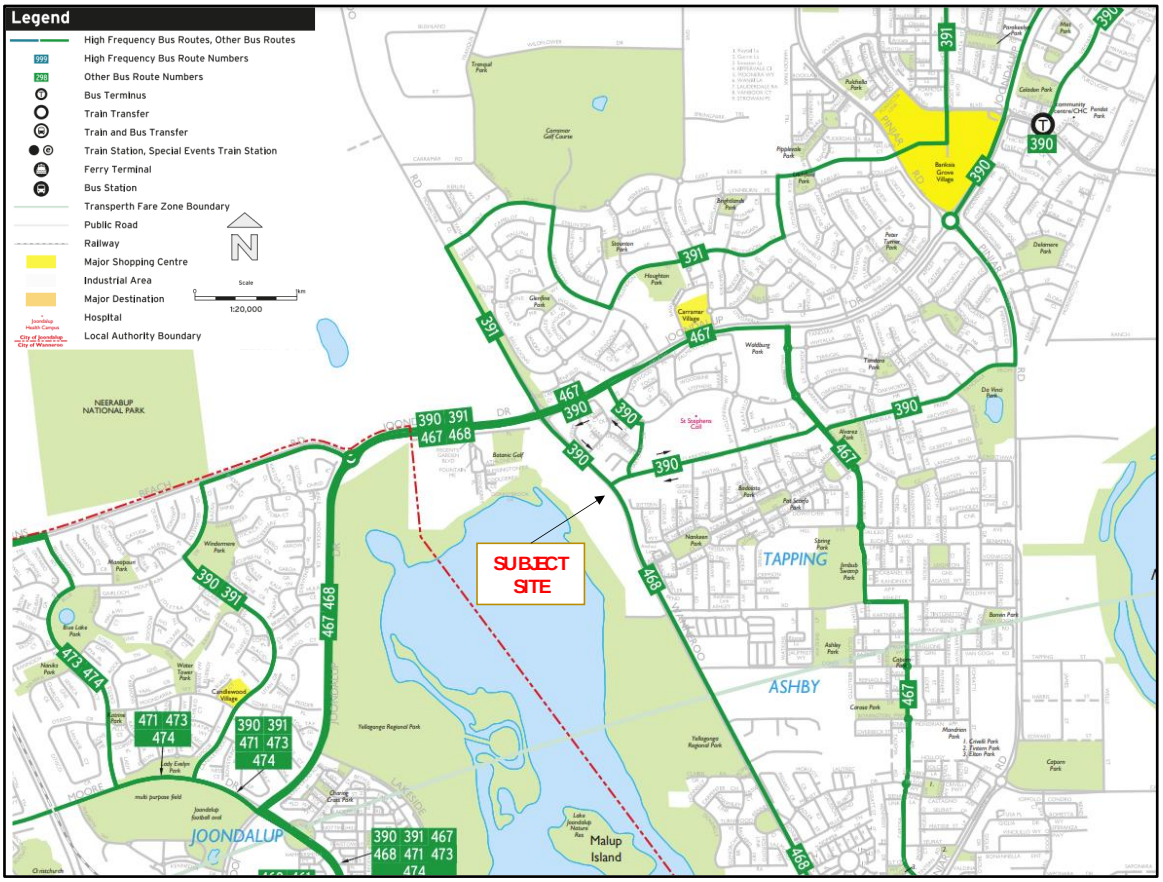


Figure 6: Existing bus routes (source: Transperth)

2.6 Pedestrian and Cyclist Facilities

Currently a concrete shared path exists along Wanneroo Road fronting the subject site. This shared path continues north and connects with Drovers Place. A shared path is also in place along the northern side of Mowatt Close. Pedestrian crossing facilities are provided at the signalised intersection on Wanneroo Road/ Clarkson Avenue/ Mowatt Close to facilitate the safe pedestrian/cyclist crossing at the intersection.

The Department of Transport's Perth Bike Map series (refer **Figure 7**) shows that Wanneroo Road also has a shared path on the eastern side which connects to the existing shared path on Clarkson Avenue and on the western side which connects to Dovers Place.

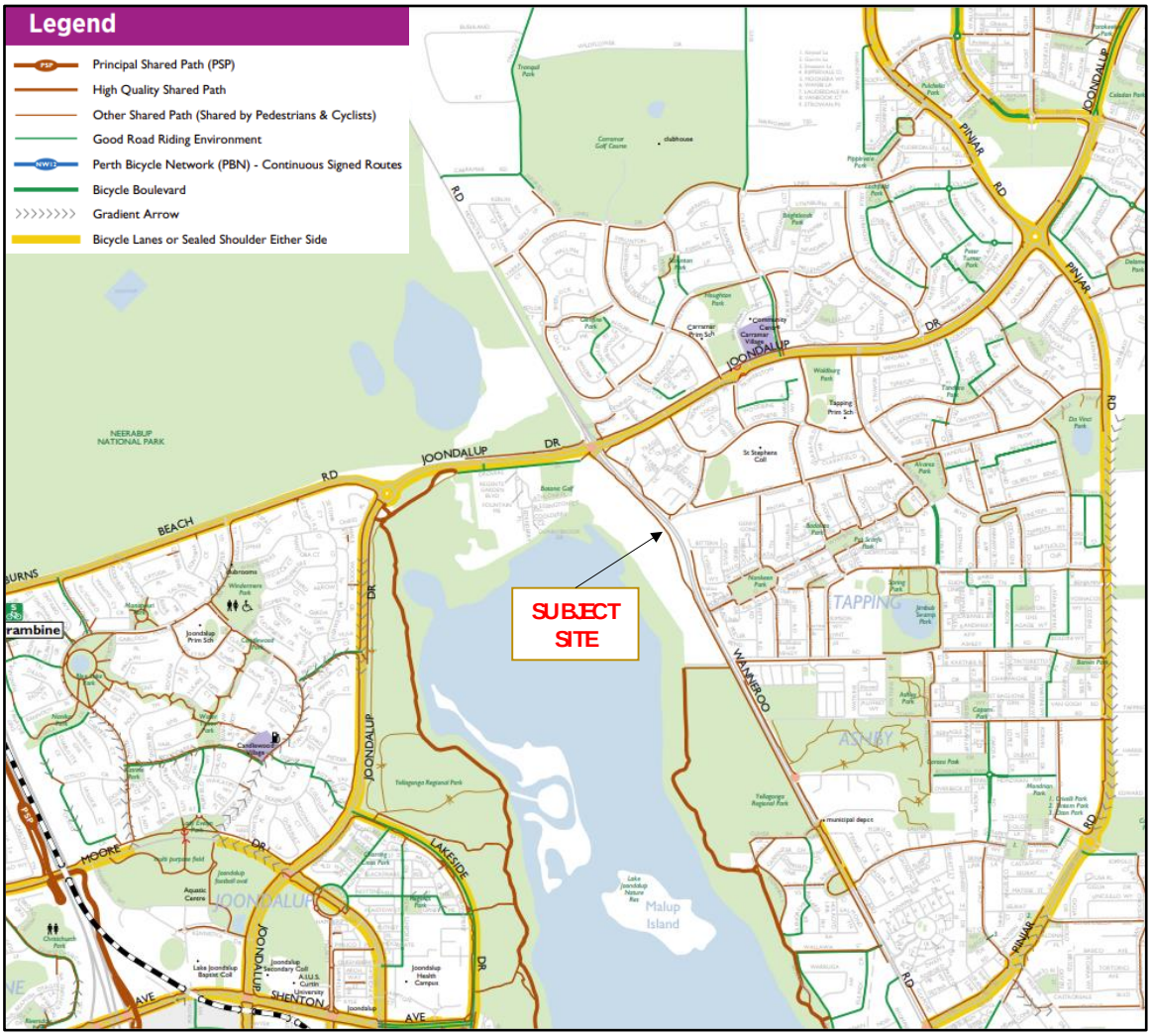


Figure 7: Existing bus routes (source: Transperth)

2.7 Public Transport Network Planning

The Department of Transport plan, Public Transport for ultimate network for city of 3.5 million population, envisages a combination of a future light rail and bus rapid transit route from Perth to Joondalup providing a cross-suburban link between these two areas. However, this is a long-term plan beyond 2031 (refer **Figure 8**).

Figure 8: Transperth Service Development Plan Map

2.8 Crash Data

Information available on Main Roads WA website provides crash statistics for Wanneroo Road/Clarkson Avenue intersection during the five-year period ending in December 2020 (mainly before signalisation of this intersection).

The crash records indicate that Wanneroo Road and Clarkson Avenue intersection recorded a total of 6 crashes with one casualty and no fatalities during the five-year period. Majority of crashes recorded were rear end types. More details on the crash records are provided in **Table 1.**

It should be noted that recent signalisation of the intersection of Wanneroo Road/Clarkson Avenue would improve safety and traffic operation of the intersection.

Table 1. Crash history for the Wanneroo Road/Clarkson Avenue intersection

Intersection				Total Crashes	Casualty
Wanneroo Road/Clarkson Avenue				6	1
Right Angle	Rear End	Rt Turn Thru	Pedestrian	Wet	Dry
1	2	0	0	1	5

3 Development Proposal

3.1 Proposed Site Use

The proposed development is for a service station with convenience store comprising:

- Light vehicle canopy with 16 fuelling positions (8 bowsers) for light vehicles;
- 8 car parking bays including 1 ACROD bay;
- One delivery bay; and,
- One air & water bay.

The layout of the proposed development is included in **Appendix C.** The proposed access/ egress and layout of the development has been developed in accordance with the City's requirements for the previous BP service station project at this location. The fuel tanker and service vehicle movements for the proposed development are the same as the previously approved BP service station at this location.

The proposed development provides 16 fuelling positions (8 bowsers) for light vehicles. It should be noted that the provision of 8 bowsers is in line with the business plan of the proposed operator that provides additional bowsers to ensure increased customer amenity and reduce wait times and reduce the risk of any internal congestion. Accordingly, this operator does not provide additional bowsers to increase patronage in proportion to the number of bowsers.

3.2 Proposed Access for all Modes

Access and egress to/from the proposed development is in line with the City's requirements as discussed and agreed for the previous BP service station project at this site. **Figure 9** illustrates the proposed development crossovers on continuation of Mowatt Close and the future access/ egress to the proposed developments to the south of the site. Crossover 1 is entry only and crossover 2 is entry and exit.

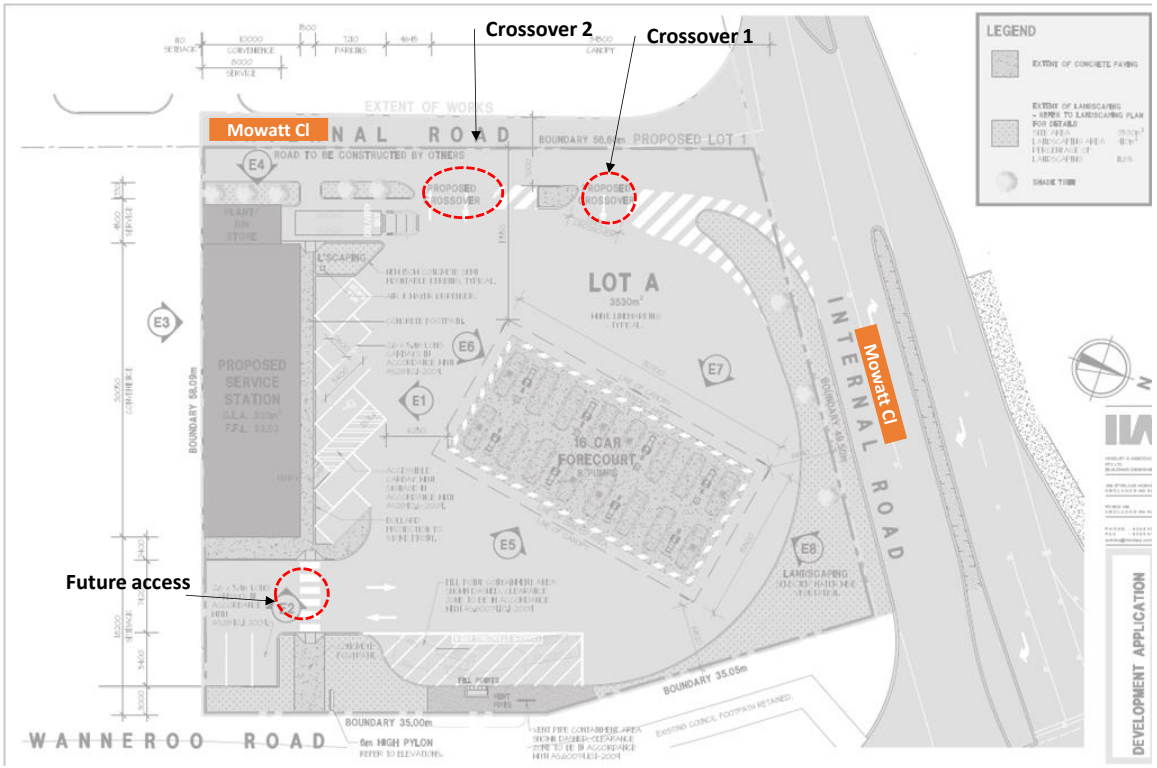


Figure 9: Proposed development access/ egress points

4 Changes to Surrounding Transport Networks

The recent changes to the surrounding road network include signalisation of the Wanneroo Road/ Clarkson Avenue/ Mowatt Close and construction of the grade separated interchange at Wanneroo Road and Joondalup Drive intersection.

According to the information obtained from Main Roads WA Wanneroo Road may be upgraded to six lanes in this vicinity in the longer term.

5 Integration with Surrounding Area

The proposed development land use is in line with existing and planned land uses in the locality. The proposed development promotes internal connectivity with other planned uses in the Central Precinct area.

Drovers Place connects with Mowatt Close via a connection through the approved development to the north of Mowatt Close.

6 Traffic Assessment

6.1 Assessment Years and Time Periods

The assessment years that have been adopted for this analysis are immediately post-development (assumed as 2021) and 2031 for the 10-year post development scenarios.

6.2 Trip Generation and Distribution

6.2.1 Proposed Development Traffic Generation

The traffic volumes that would be generated by the proposed development have been estimated using trip generation rates derived from:

- ITE Trip Generation Manual 10th Edition

The trip rates which were used to estimate the proposed development traffic generation are as following:

Gasoline/Service Station with Convenience Market (945) – Regular Fuelling Points

- AM Peak hour: 12.47 trips per fuelling point.
- PM Peak hour: 13.99 trips per fuelling point.
- Weekday: 206 trips per fuelling point.

The proposed development plan entails a convenience store with 16 light vehicle fuelling positions (8 bowsers). As outlined earlier the number of bowsers proposed by the current operator is to improved customer amenity, reduce wait times and reduce the risk of internal congestion. As such the trip generation won't be proportional with number of bowsers. As a result, the increased number of bowsers is not expected to increase the traffic generation of the development in any significant way, particularly considering that another service station is located immediately north of Mowatt Close. Accordingly, the estimation of the proposed development traffic generation was based on the typical service stations with 8 bowsers.

As detailed in **Table 2**, it is estimated that the proposed development would generate approximately 1,314 trips per day (both inbound and outbound) with approximately 100 and 90 trips during AM and PM peak hours respectively.

For this development conservatively 60% passing trade is assumed. Therefore, the net addition of traffic when accounting for passing trade is **+525vpd (daily), +40vph (AM peak hour) and +36vph (PM peak hour)** on the surrounding road.

The directional split of inbound and outbound trips for the proposed development is estimated to be about 50/50 for inbound/outbound trips during the peak hours.

The total proposed development traffic is outlined in **Figure 10**.

Table 2: Estimated proposed development traffic generation

Land use	Quantity	Daily Rate	AM Peak	PM Peak	Cross Trade	Daily Trips	AM Trips	PM Trips	AM		PM	
									IN	OUT	IN	OUT
Service Station + Convenience Strore	8	205.36	12.47	13.99	0.20	1314	100	90	50	50	45	45
TOTAL TRAFFIC						**1314**	**100**	**90**	**50**	**50**	**45**	**45**

Passing Trade Component

	AM		PM	
Daily Trips	IN	OUT	IN	OUT
789	30	30	27	27
789	**30**	**30**	**27**	**27**

Non Passing Trade Component

	AM		PM	
Daily Trips	IN	OUT	IN	OUT
525	20	20	18	18
525	**20**	**20**	**18**	**18**

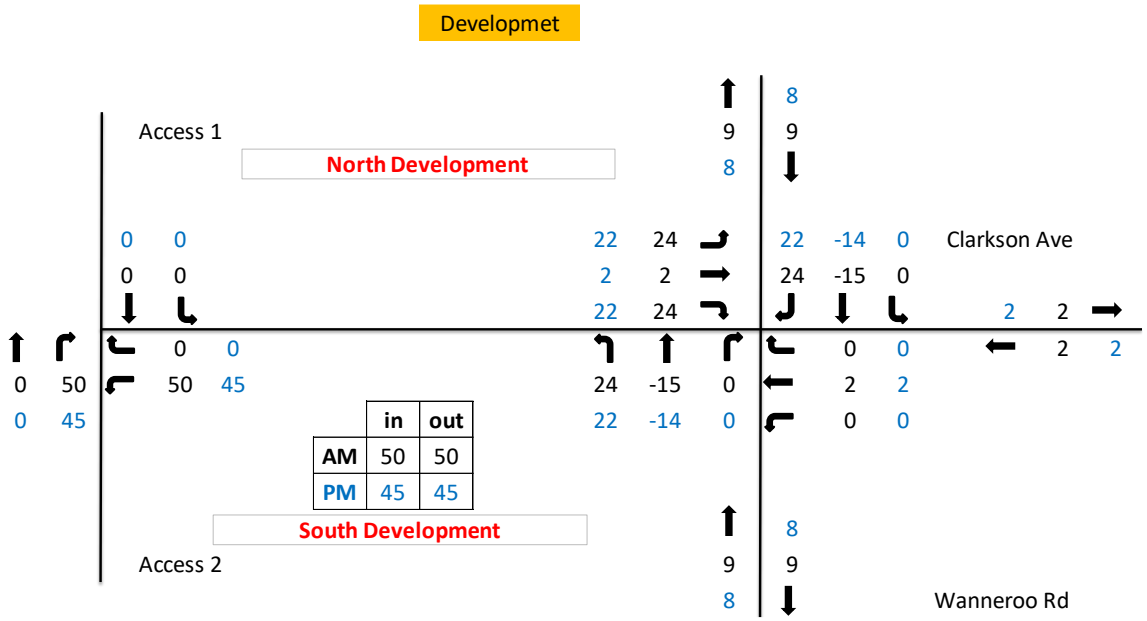


Figure 10: Total peak hour traffic generated by the proposed development –AM and PM peak hours

6.3 Traffic Flows

The existing traffic counts for the relevant roads were established from February 2021 SCATS data (refer **Figure 4**). The total post development traffic for the assessment year of 2021 is detailed in **Figure 11**. It should be noted that the post development traffic volumes include the traffic from the approved and under construction development on the northern side of Mowatt Close

To approximate the 10-year post development traffic, a conservative traffic growth of 20% was applied to the background traffic through the intersection of Wanneroo Road/ Clarkson Avenue/ Mowatt Close.

The total ten-year post-development traffic volumes are presented in **Figure 12.**

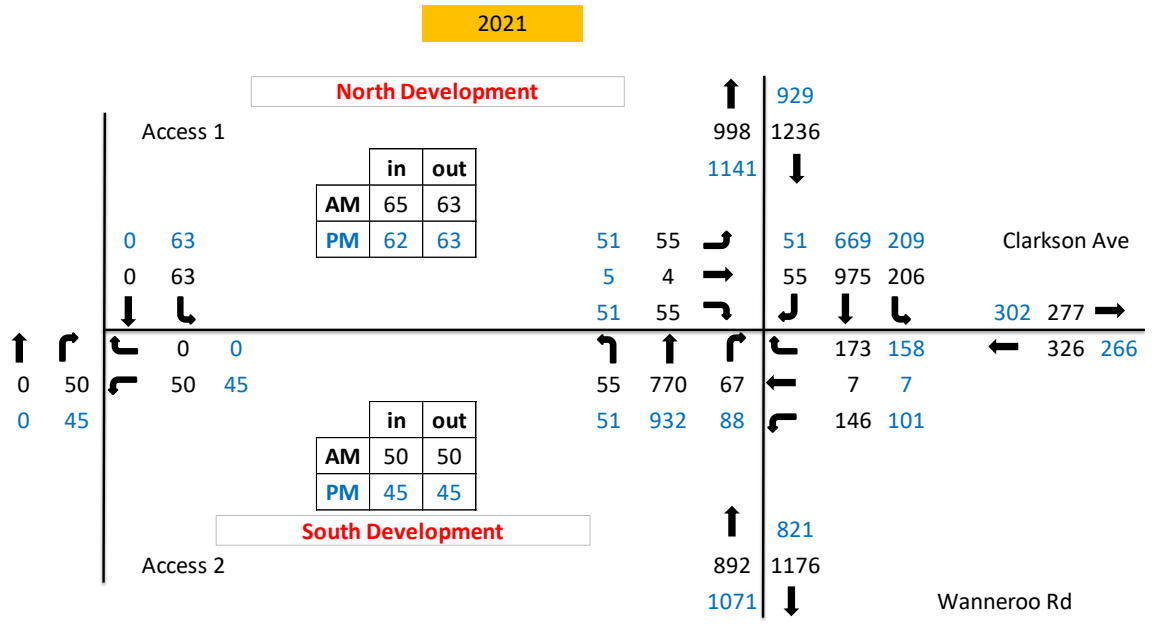


Figure 11: Post-development traffic flows–2021 AM and PM peak hours

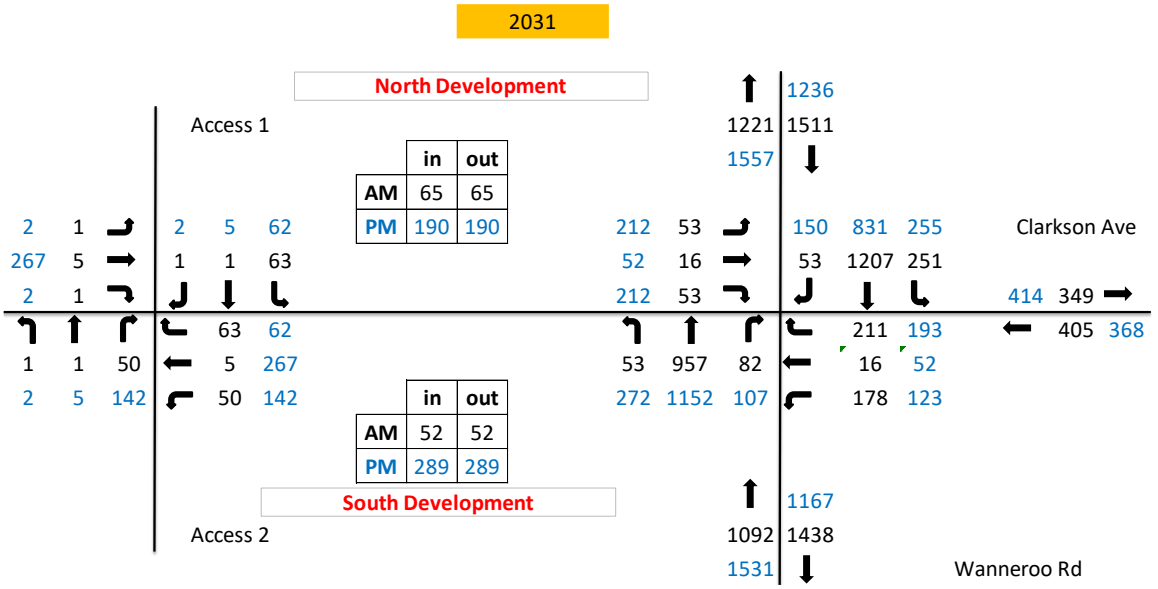


Figure 12: Estimated 10-year total post-development traffic flows – 2031 AM and PM peak hours

6.4 Analysis of Intersections and Development Accesses

The operation of the four-way intersection of Wanneroo Road/ Clackson Avenue/Mowatt Close and the development connection to Mowatt Close has been analysed for existing, post-development and 10-year post development scenarios for the weekday AM and PM peak hours.

Capacity analysis was undertaken using the SIDRA Network computer software package. SIDRA is an intersection modelling tool commonly used by traffic engineers for all types of intersections. SIDRA outputs are presented in the form of Degree of Saturation, Level of Service, Average Delay and 95% Queue. These characteristics are defined as follows:

- **Degree of Saturation (DoS)**: is the ratio of the arrival traffic flow to the capacity of the approach during the same period. The Degree of Saturation ranges from close to zero for varied traffic flow up to one for saturated flow or capacity.
- **Level of Service (LoS)**: is the qualitative measure describing operational conditions within a traffic stream and the perception by motorists and/or passengers. In general, there are 6 levels of service, designated from A to F, with Level of Service A representing the best operating condition (i.e. free flow) and Level of Service F the worst (i.e. forced or breakdown flow).
- **Average Delay**: is the average of all travel time delays for vehicles through the intersection.
- **95% Queue**: is the queue length below which 95% of all observed queue lengths fall.

The results of the SIDRA analysis are detailed in **Appendix D** and briefly explained in this section of the report.

A Network SIDRA model was prepared to assess the exiting intersection of Wanneroo Road/ Clackson Avenue/Mowatt Close and the connection to Mowatt Close. A conceptual diagram of the SIDRA model developed for analysis is shown in **Figure 13**.

The SIDRA model was coded with reference to the *Main Roads Operation Modelling Guidelines Version No. 1.1.* All relevant parameters such as heavy vehicle groups, PCU factors etc. were coded as per Main Roads Guidelines.

NETWORK LAYOUT

Network: N101 [(2019) - PM]

New Network
Network Category: (None)

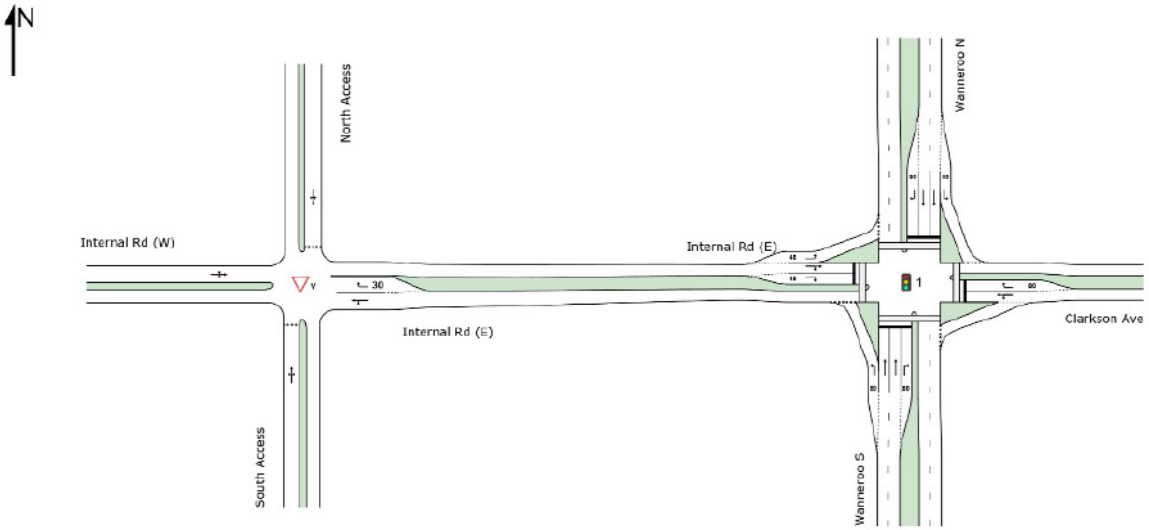


Figure 13: post development SIDRA Network Model

Wanneroo Road traffic lights

SIDRA analysis indicates that this intersection will operate satisfactorily with overall level of service C and D during the post development (2021) AM and PM scenarios respectively. The 95% queue back at the traffic lights on Mowatt Close is approximately 15m-17m for both AM and PM peak hours.

The 10-year post development analysis reported overall level of service of D for both AM and PM peak hours. Increased delays and queues are reported for the through traffic on Wanneroo Road. However, the anticipated delays will not result in excessive queuing and are within the range of what can reasonably be expected during the peak hours in 10 years' time. According to the information obtained from Main Roads WA Wanneroo Road may be upgraded to six lanes in this vicinity sometime in the future which will improve traffic operations at the intersection.

Internal 4-way intersection on Mowatt Close

SIDRA analysis indicates that the internal intersection on Mowatt Close will operate satisfactorily in the post development and 10 year post development scenarios during both AM and PM peak hours. All movements operate well with minimal delays and queuing.

6.5 Network Operation

Relevant SIDRA network outputs were reviewed for both AM and PM peak hours to assess the operation of the proposed internal intersection and the signalised intersection at Wanneroo Road as a network.

As detailed in **Figure 14** and **Figure 15**, no queue back from the traffic lights to the internal four-way intersection is reported during the 2031 AM peak hour. During the 2031 PM peak hour 95% queue back would extend to the internal intersection at Mowatt Close however due to the relatively low level of turn movements at this intersection, no internal queues (back to the shared access easement) are expected. The reported queue back on the internal road is occurring occasionally (5% of the time) during the PM peak hours only and on average the reported queue is about 40m which would not pass the internal intersection. The reported good level of service for all movements at the four-way intersection confirms satisfactory traffic operations during the 2031 AM and PM peak hours.

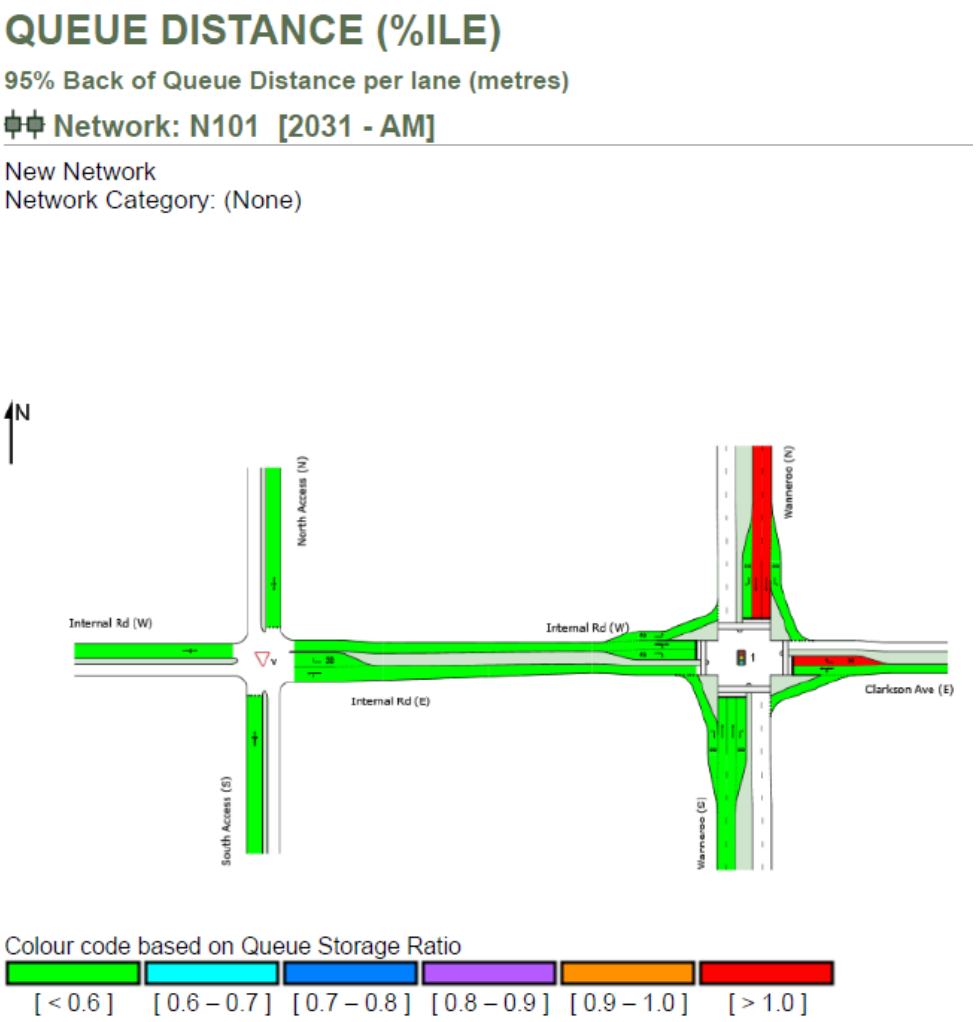


Figure 14: 10-year Post-development weekday AM peak hour network analysis – queue storage ratio

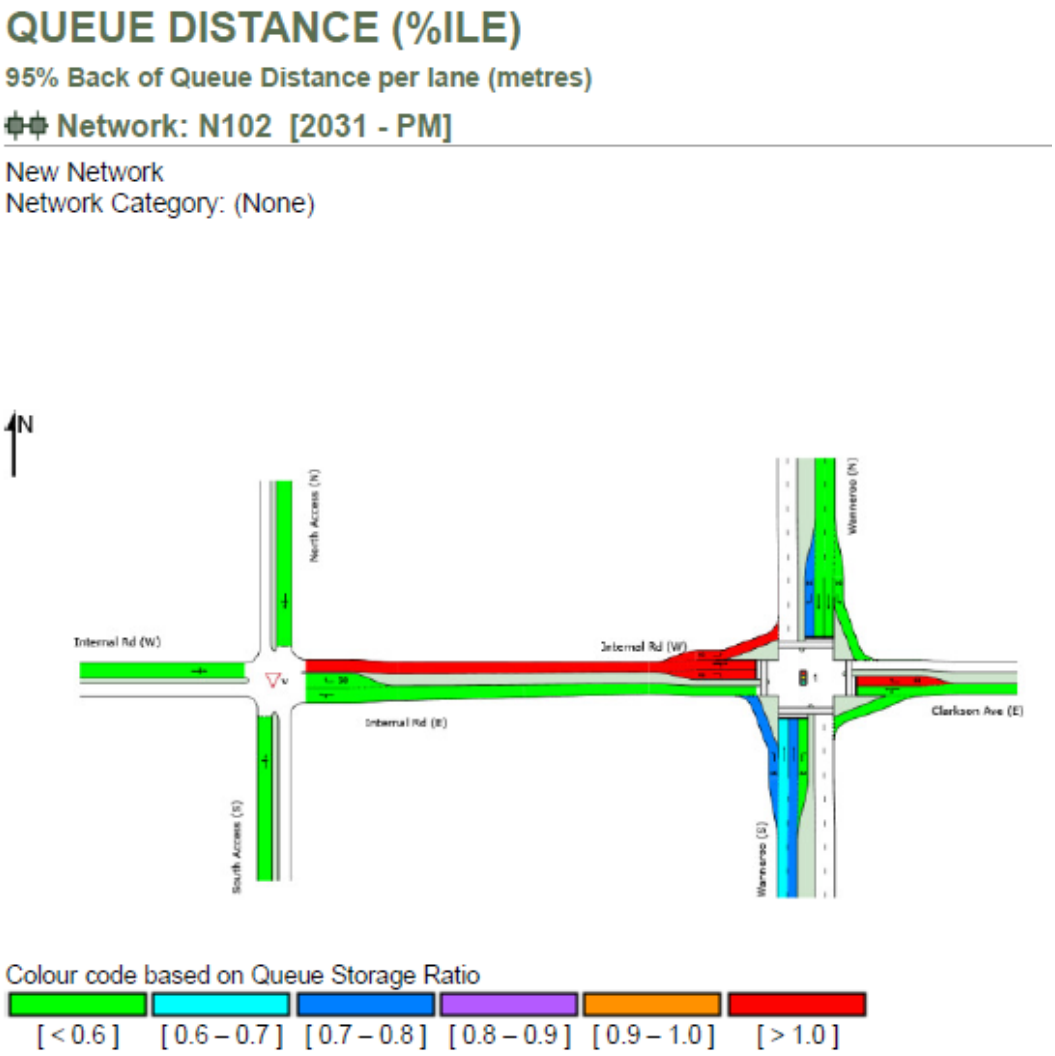


Figure 15: 10-year post-development weekday PM peak hour network analysis – queue storage ratio

As outlined earlier, the anticipated future upgrade of Wanneroo Road in this vicinity will improve traffic operations at the signalised intersection and will reduce the queue back on Mowatt Close.

6.6 Impact on Surrounding Roads

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

"As a general guide, an increase in traffic of less than 10 percent of capacity would not normally be likely to have a material impact on any particular section of road, but increases over 10 percent may. All sections of road with an increase greater than 10 percent 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 percent 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."

The proposed development will not increase traffic flows near the quoted WAPC threshold to warrant further detailed analysis. Accordingly, the impact on the surrounding road network will be insignificant.

6.7 Impact on Neighbouring Areas

The traffic generated by the proposed development is not expected to significantly affect surrounding areas and the road network has been designed to accommodate this type of development traffic.

6.8 Traffic Noise and Vibration

It generally requires a doubling of traffic volumes on a road to produce a perceptible 3dB (A) increase in road noise. The proposed development will not increase traffic volumes on surrounding roads anywhere near this level.

7 Parking

The proposed development will provide 9 car parking spaces including one ACROD bay and one air & water bay.

It is therefore considered that the proposed parking provision is sufficient to accommodate the needs of the proposed development.

8 Provision for Heavy Vehicles

The largest truck which is expected to use the service station would be 19.0m long fuel tanker which would enter and exit the site from the proposed development crossovers on Mowatt Close.

12.5m service vehicle will enter/exit the site in a similar manner to the 19.0m long fuel tanker. Service vehicles enter the site from the northern entry only crossover on Mowatt Close, pull up near the bin store and then turn around within the site and exit the site from the southern full movement crossover on Mowatt Close.

Turn path analysis undertaken for 19.0m fuel tanker and 12.5m service vehicle confirm satisfactory access, egress and circulation within the site. Turn path plans are included in **Appendix E**.

9 Public Transport Access

The existing public transport services within the vicinity of the site are outlined in sections 3.5 and 3.7 of this report.

10 Pedestrian Access

Details of the pedestrian and cyclist facilities in this locality are detailed in section 3.6 of the report.

11 Conclusions

This Transport Impact Assessment (TIA) is prepared by Transcore with respect to the proposed service station and convenience store development to be located on Lot 1 (No. 1351) Wanneroo Road, Tapping, in the City of Wanneroo.

Transcore was the traffic engineer for the previous BP service station project at this location (which has not been proceed based on our understanding). Accordingly, the proposed access/ egress and layout of the development has been developed in accordance with the City's requirements (as per our previous discussions with the City officers for the previous project) for this site. Further the same traffic modelling methodology and assumptions from the previous project, which has been accepted by approval authorities, has been adopted but updated for this project.

The proposed development layout has been assessed with respect to the movements of fuel tankers and service vehicles. Swept path analysis confirms that the proposed entry and egress arrangements and the site layout facilitate safe and efficient vehicle circulation.

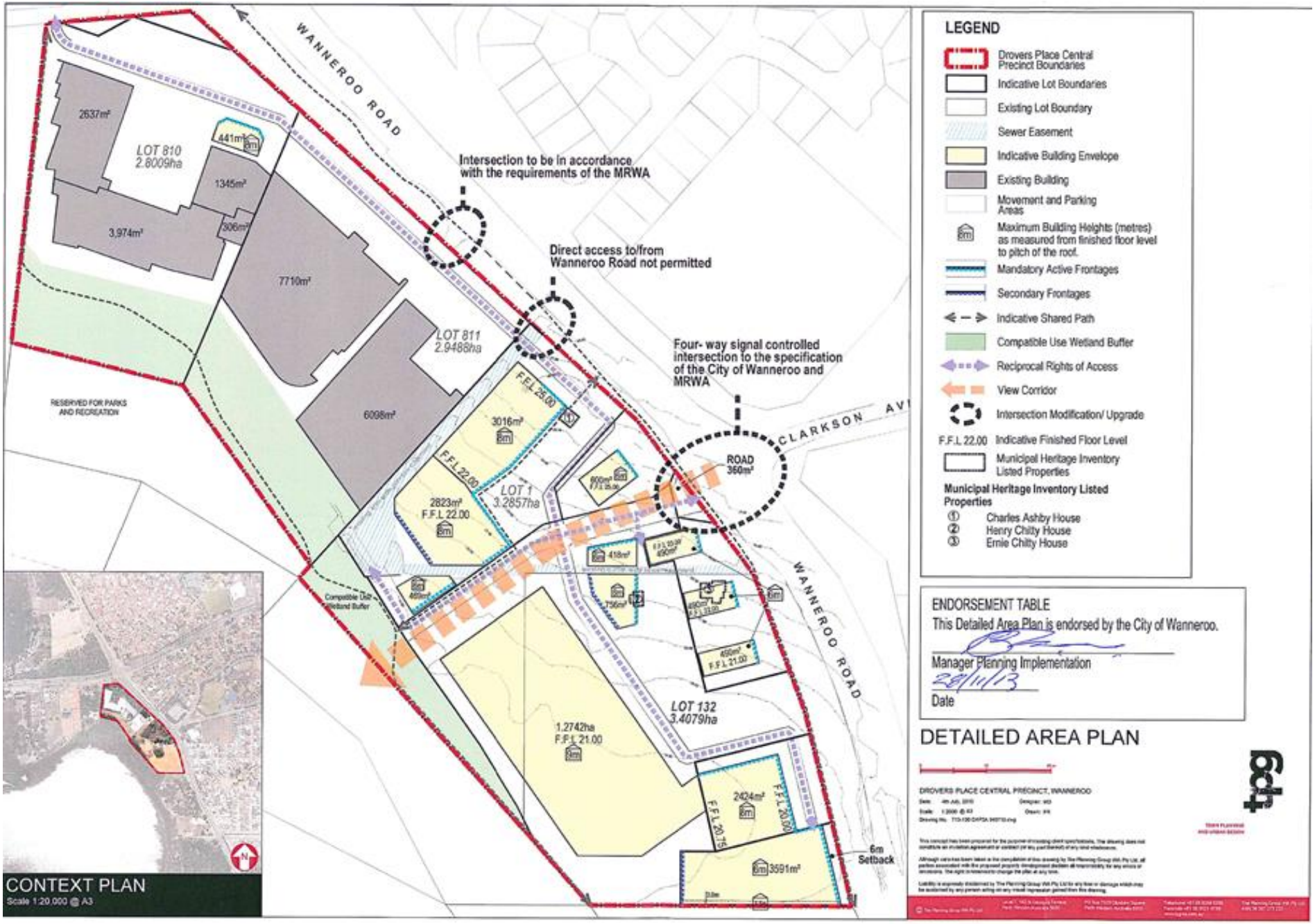
The SIDRA Network analysis undertaken as part of the Transport Impact Assessment allows for the approved development traffic to the north of Mowatt Close/subject site and confirms satisfactory operation of the 4-way intersection on Mowatt Close and the existing signalised intersection of Wanneroo Road/ Clarkson Avenue/Mowatt Close for post-development and 10 years post-development scenarios.

The proposed car parking is considered to satisfactorily meet the needs of the proposed development.

In conclusion, the findings of this Transport Impact Assessment are supportive of the proposed development.

Appendix A

ENDORSE DETAIL AREA PLAN


WANNEROO ROAD
Intersection to be in accordance with the requirements of the MRWA
Direct access to/from Wanneroo Road not permitted
Four- way signal controlled intersection to the specification of the City of Wanneroo and MRWA
CLARKSON AV
WANNEROO ROAD
LOT 810 2.8009ha
LOT 811 2.9486ha
LOT 1 3.2857ha
LOT 132 3.4079ha
2637m²
441m²
1345m²
3,974m²
806m²
7710m²
6098m²
3016m²
2823m²
F.F.L 22.00
F.F.L 25.00
ROAD 360m²
418m²
756m²
1.2742ha
F.F.L 21.00
2424m²
F.F.L 20.00
F.F.L 20.75
3591m²
6m Setback
RESERVED FOR PARKS AND RECREATION
Compatible Use Wetland Buffer
CONTEXT PLAN
Scale 1:20,000 @ A3
LEGEND
Drovers Place Central Precinct Boundaries
Indicative Lot Boundaries
Existing Lot Boundary
Sewer Easement
Indicative Building Envelope
Existing Building
Movement and Parking Areas
Maximum Building Heights (metres) as measured from finished floor level to pitch of the roof.
Mandatory Active Frontages
Secondary Frontages
Indicative Shared Path
Compatible Use Wetland Buffer
Reciprocal Rights of Access
View Corridor
Intersection Modification/ Upgrade
F.F.L 22.00 Indicative Finished Floor Level
Municipal Heritage Inventory Listed Properties
Municipal Heritage Inventory Listed Properties
① Charles Ashby House
② Henry Chilty House
③ Emie Chilty House
ENDORSEMENT TABLE
This Detailed Area Plan is endorsed by the City of Wanneroo.
Manager Planning Implementation
28/11/13
Date
DETAILED AREA PLAN
DROVERS PLACE CENTRAL PRECINCT, WANNEROO

Appendix B

PROPOSED ORIGINAL SITE PLAN

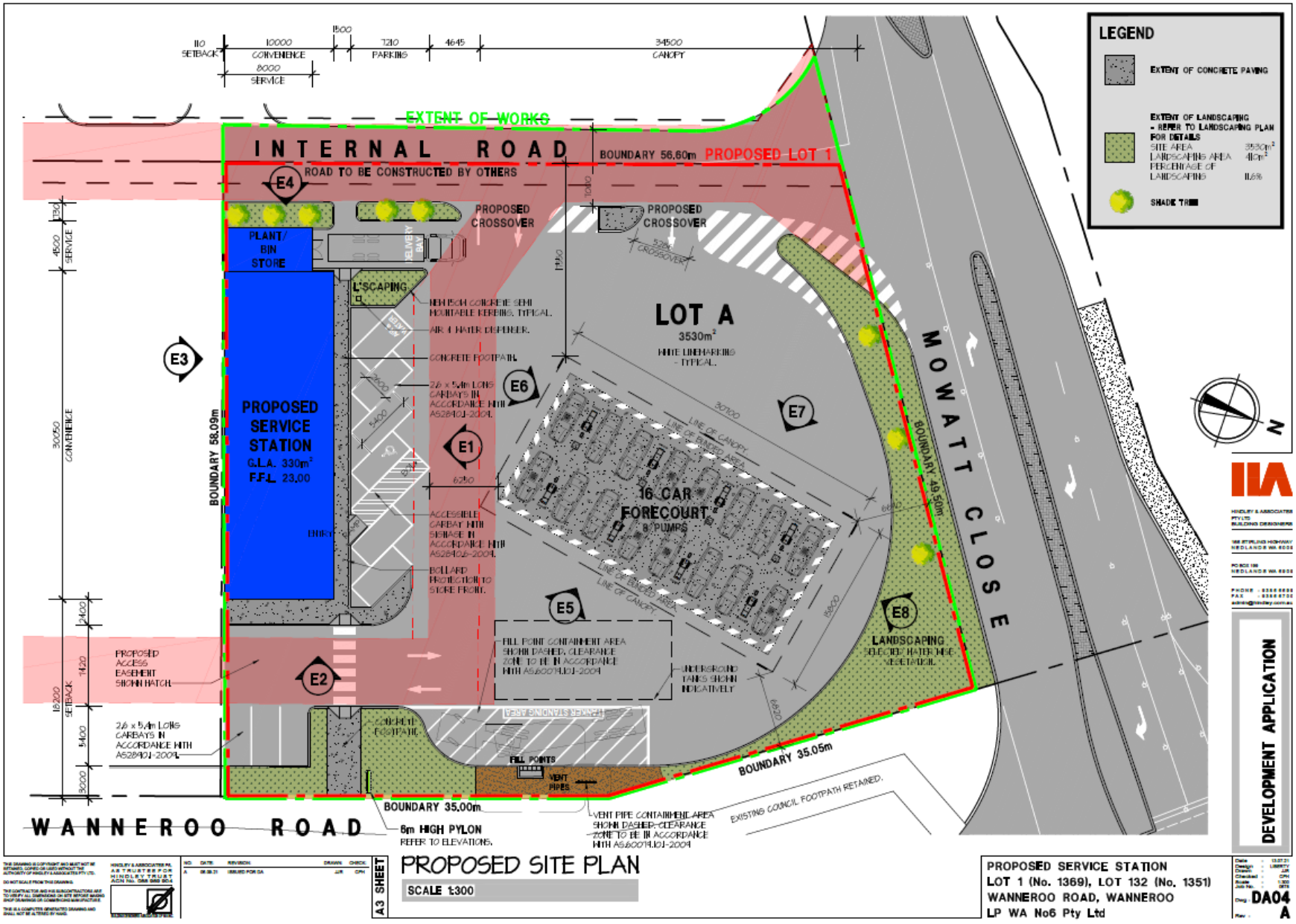
SITE & GROUND FLOOR PLAN

COMPOSITE SITE CRITERIA

1. Site Area		62,712m²		
2. Landscaping (8% of site required)		5,016m²		
a. Hard		5,040m²		
b. Soft		4,020m²		
Total		9,060m² (15.2% of site)		
3. Floor Areas				
a.	T1 - T3 Fast Foods	734m²	@ 1/15	30 cars
b.	T4,5,16-17 Mixed Use	3,644m²	@ 1/30	126.7 cars
c.	T6 - T27 Showroom	13,000m²	@ 1/30	433.3 cars
	Warehouse	2,000m²	@ 1/50	40.0 cars
d.	T9 Mixed Use	330m²		16 cars
e.	T11 Gym	600m²	40sqm @ 1/4sqm	10 cars
f.	T28 Mixed Use	750m²		40 cars
g.	T29 Mixed Use	2,561.5m²		33 cars
Total		23,609.5m²		742.8cars
4. Car Parking				
a. Cars Required		743 cars		
b. Cars Provided		809 cars		
i) On Grade		780 cars		
ii) Drive Thru		29 cars		

Appendix C

DEVELOPMENT SITE PLAN


LEGEND
EXTENT OF CONCRETE PAVING
EXTENT OF LANDSCAPING - REFER TO LANDSCAPING PLAN FOR DETAILS
SITE AREA 3530m²
LANDSCAPING AREA 410m²
PERCENTAGE OF LANDSCAPING 11.6%
SHADE TREE
EXTENT OF WORKS
INTERNAL ROAD
ROAD TO BE CONSTRUCTED BY OTHERS
BOUNDARY 56.60m
PROPOSED LOT 1
PROPOSED CROSSOVER
PROPOSED CROSSOVER
PLANT/ BIN STORE
L'SCAPING
LOT A
3530m²
WHITE LINEMARKING - TYPICAL.
PROPOSED SERVICE STATION
G.L.A. 330m²
F.F.L. 23.00
BOUNDARY 58.09m
16 CAR FORECOURT
8 PUMPS
MOWATT CLOSE
BOUNDARY 49.50m
LANDSCAPING
PROPOSED ACCESS EASEMENT SHOWN HATCH
2.6 x 5.4m LONG CARBAYS IN ACCORDANCE WITH AS2890.1-2004.
FILL POINT CONTAINMENT AREA SHOWN DASHED. CLEARANCE ZONE TO BE IN ACCORDANCE WITH AS3000.1.01-2004
UNDERGROUND TANKS SHOWN INDICATIVELY
FILL POINTS
VENT PIPES
BOUNDARY 35.05m
BOUNDARY 35.00m
WANNEROO ROAD
6m HIGH PYLON REFER TO ELEVATIONS.
VENT PIPE CONTAINMENT AREA SHOWN DASHED. CLEARANCE ZONE TO BE IN ACCORDANCE WITH AS3000.1.01-2004
EXISTING COUNCIL FOOTPATH RETAINED.
N
DEVELOPMENT APPLICATION
A3 SHEET
PROPOSED SITE PLAN
SCALE 1:300
PROPOSED SERVICE STATION
LOT 1 (No. 1369), LOT 132 (No. 1351)
WANNEROO ROAD, WANNEROO
LP WA No6 Pty Ltd
DA04
A

Appendix D

SIDRA OUTPUTS

MOVEMENT SUMMARY

Site: 1 [Clarkson Ave & Wanneroo Rd - 2021 - AM] **Network: N101 [2021 - AM]**

Wanneroo Rd/ Clarkson Ave
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Site Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Wanneroo (S)														
1	L2	58	3.9	58	3.9	0.050	11.8	LOS B	1.1	8.3	0.31	0.65	0.31	48.7
2	T1	811	9.7	811	9.7	0.603	25.8	LOS C	19.1	158.1	0.84	0.73	0.84	46.9
3	R2	71	4.1	71	4.1	0.289	39.4	LOS D	2.5	19.9	0.93	0.76	0.93	37.4
Approach		939	8.9	939	8.9	0.603	25.9	LOS C	19.1	158.1	0.81	0.73	0.81	46.0
East: Clarkson Ave (E)														
4	L2	154	4.1	154	4.1	0.148	14.4	LOS B	4.0	31.4	0.41	0.65	0.41	49.5
5	T1	7	6.1	7	6.1	0.148	8.8	LOS A	4.0	31.4	0.41	0.65	0.41	41.3
6	R2	182	3.9	182	3.9	0.742	75.6	LOS E	13.4	103.7	1.00	0.86	1.08	27.0
Approach		343	4.1	343	4.1	0.742	46.8	LOS D	13.4	103.7	0.72	0.76	0.76	34.2
North: Wanneroo (N)														
7	L2	217	4.3	217	4.3	0.145	6.8	LOS A	0.3	2.2	0.03	0.59	0.03	56.8
8	T1	1026	10.3	1026	10.3	0.876	48.9	LOS D	37.0	306.2	0.89	0.87	0.99	36.2
9	R2	58	4.1	58	4.1	0.414	46.0	LOS D	2.5	19.6	0.97	0.75	0.97	25.7
Approach		1301	9.1	1301	9.1	0.876	41.8	LOS D	37.0	306.2	0.75	0.82	0.83	38.2
West: Internal Rd (W)														
10	L2	58	4.1	58	4.1	0.067	13.4	LOS B	1.4	11.1	0.40	0.64	0.40	44.4
11	T1	4	3.7	4	3.7	0.126	61.2	LOS E	2.0	15.6	0.91	0.72	0.91	20.9
12	R2	58	3.8	58	3.8	0.126	65.6	LOS E	2.0	15.6	0.91	0.72	0.91	21.0
Approach		120	3.9	120	3.9	0.126	40.3	LOS D	2.0	15.6	0.67	0.68	0.67	28.2
All Vehicles		2703	8.2	2703	8.2	0.876	36.8	LOS D	37.0	306.2	0.76	0.77	0.81	39.6

MOVEMENT SUMMARY

Site: v [Internal Rd & Access 1 & Access 2 - 2021 - AM]

Network: N101 [2021 - AM]

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: South Access (S)														
1	L2	1	4.0	1	4.0	0.064	5.6	LOS A	0.3	2.0	0.19	0.57	0.19	52.5
2	T1	1	4.0	1	4.0	0.064	5.4	LOS A	0.3	2.0	0.19	0.57	0.19	53.0
3	R2	53	4.0	53	4.0	0.064	6.8	LOS A	0.3	2.0	0.19	0.57	0.19	49.4
Approach		55	4.0	55	4.0	0.064	6.8	LOS A	0.3	2.0	0.19	0.57	0.19	49.6
East: Internal Rd (E)														
4	L2	53	4.0	53	4.0	0.030	4.3	LOS A	0.0	0.0	0.00	0.52	0.00	51.1
5	T1	4	4.0	4	4.0	0.030	0.0	LOS A	0.0	0.0	0.00	0.52	0.00	53.8
6	R2	68	4.0	68	4.0	0.039	4.3	LOS A	0.2	1.2	0.03	0.55	0.03	50.2
Approach		125	4.0	125	4.0	0.039	4.2	NA	0.2	1.2	0.02	0.54	0.02	50.7
North: North Access (N)														
7	L2	66	4.0	66	4.0	0.044	5.6	LOS A	0.2	1.4	0.02	0.56	0.02	50.8
8	T1	1	4.0	1	4.0	0.044	5.5	LOS A	0.2	1.4	0.02	0.56	0.02	53.9
9	R2	1	4.0	1	4.0	0.044	6.1	LOS A	0.2	1.4	0.02	0.56	0.02	53.1
Approach		68	4.0	68	4.0	0.044	5.6	LOS A	0.2	1.4	0.02	0.56	0.02	50.9
West: Internal Rd (W)														
10	L2	1	4.0	1	4.0	0.003	5.7	LOS A	0.0	0.1	0.07	0.19	0.07	56.2
11	T1	4	4.0	4	4.0	0.003	0.0	LOS A	0.0	0.1	0.07	0.19	0.07	56.1
12	R2	1	4.0	1	4.0	0.003	5.7	LOS A	0.0	0.1	0.07	0.19	0.07	55.9
Approach		6	4.0	6	4.0	0.003	1.9	NA	0.0	0.1	0.07	0.19	0.07	56.1
All Vehicles		255	4.0	255	4.0	0.064	5.1	NA	0.3	2.0	0.06	0.54	0.06	50.7

MOVEMENT SUMMARY

Site: 1 [Clarkson Ave & Wanneroo Rd - 2021 - PM]

Network: N101 [2021 - PM]

Wanneroo Rd/ Clarkson Ave
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 140 seconds (Site Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Wanneroo (S)														
1	L2	54	3.9	54	3.9	0.048	11.8	LOS B	1.0	7.5	0.33	0.65	0.33	48.6
2	T1	981	9.7	981	9.7	0.815	33.2	LOS C	26.1	215.4	0.96	0.88	1.01	42.8
3	R2	93	4.1	93	4.1	0.354	37.0	LOS D	3.1	24.4	0.94	0.77	0.94	38.3
Approach		1127	9.0	1127	9.0	0.815	32.5	LOS C	26.1	215.4	0.93	0.86	0.97	42.5
East: Clarkson Ave (E)														
4	L2	106	4.1	106	4.1	0.093	9.3	LOS A	1.7	13.2	0.29	0.60	0.29	53.2
5	T1	7	6.1	7	6.1	0.093	3.6	LOS A	1.7	13.2	0.29	0.60	0.29	46.7
6	R2	166	3.9	166	3.9	0.632	67.0	LOS E	10.9	84.4	0.99	0.82	0.99	28.8
Approach		280	4.1	280	4.1	0.632	43.4	LOS D	10.9	84.4	0.71	0.73	0.71	35.2
North: Wanneroo (N)														
7	L2	220	4.3	220	4.3	0.151	6.8	LOS A	0.3	2.3	0.03	0.59	0.03	56.8
8	T1	704	10.3	704	10.3	0.647	39.9	LOS D	18.5	153.3	0.82	0.71	0.82	39.7
9	R2	54	4.1	54	4.1	0.358	44.2	LOS D	2.3	18.1	0.96	0.74	0.96	26.4
Approach		978	8.6	978	8.6	0.647	32.7	LOS C	18.5	153.3	0.65	0.69	0.65	42.0
West: Internal Rd (W)														
10	L2	54	4.1	54	4.1	0.064	16.1	LOS B	1.5	11.3	0.47	0.65	0.47	42.0
11	T1	5	3.7	5	3.7	0.112	55.7	LOS E	1.8	13.7	0.90	0.71	0.90	22.2
12	R2	54	3.8	54	3.8	0.112	60.1	LOS E	1.8	13.7	0.90	0.71	0.90	22.3
Approach		113	3.9	113	3.9	0.112	38.9	LOS D	1.8	13.7	0.69	0.68	0.69	28.7
All Vehicles		2498	8.1	2498	8.1	0.815	34.1	LOS C	26.1	215.4	0.78	0.77	0.80	40.8

MOVEMENT SUMMARY

Site: v [Internal Rd & Access 1 & Access 2 - 2021 - PM]

Network: N101 [2021 - PM]

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: South Access (S)														
1	L2	2	4.0	2	4.0	0.063	5.6	LOS A	0.3	2.0	0.09	0.56	0.09	52.6
2	T1	5	4.0	5	4.0	0.063	5.3	LOS A	0.3	2.0	0.09	0.56	0.09	53.1
3	R2	47	4.0	47	4.0	0.063	6.8	LOS A	0.3	2.0	0.09	0.56	0.09	49.5
Approach		55	4.0	55	4.0	0.063	6.6	LOS A	0.3	2.0	0.09	0.56	0.09	50.3
East: Internal Rd (E)														
4	L2	47	4.0	47	4.0	0.026	4.3	LOS A	0.0	0.0	0.00	0.54	0.00	50.9
5	T1	2	4.0	2	4.0	0.026	0.0	LOS A	0.0	0.0	0.00	0.54	0.00	53.6
6	R2	65	4.0	65	4.0	0.038	4.3	LOS A	0.1	1.1	0.03	0.55	0.03	50.2
Approach		115	4.0	115	4.0	0.038	4.2	NA	0.1	1.1	0.02	0.54	0.02	50.6
North: North Access (N)														
7	L2	66	4.0	66	4.0	0.048	5.6	LOS A	0.2	1.5	0.03	0.56	0.03	50.8
8	T1	5	4.0	5	4.0	0.048	5.5	LOS A	0.2	1.5	0.03	0.56	0.03	53.9
9	R2	1	4.0	1	4.0	0.048	6.1	LOS A	0.2	1.5	0.03	0.56	0.03	53.1
Approach		73	4.0	73	4.0	0.048	5.6	LOS A	0.2	1.5	0.03	0.56	0.03	51.3
West: Internal Rd (W)														
10	L2	1	4.0	1	4.0	0.004	5.7	LOS A	0.0	0.1	0.08	0.21	0.08	55.9
11	T1	5	4.0	5	4.0	0.004	0.1	LOS A	0.0	0.1	0.08	0.21	0.08	55.6
12	R2	2	4.0	2	4.0	0.004	5.7	LOS A	0.0	0.1	0.08	0.21	0.08	55.7
Approach		8	4.0	8	4.0	0.004	2.2	NA	0.0	0.1	0.08	0.21	0.08	55.7
All Vehicles		251	4.0	251	4.0	0.063	5.1	NA	0.3	2.0	0.04	0.54	0.04	50.9

MOVEMENT SUMMARY

Site: 1 [Clarkson Ave & Wanneroo Rd - 2031 - AM] **Network: N101 [2031 - AM]**

Wanneroo Rd/ Clarkson Ave
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Site Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Wanneroo (S)														
1	L2	56	3.9	56	3.9	0.048	11.8	LOS B	1.0	8.0	0.31	0.65	0.31	48.7
2	T1	1007	9.7	1007	9.7	0.755	27.8	LOS C	25.5	210.6	0.90	0.80	0.90	45.7
3	R2	86	4.1	86	4.1	0.354	39.8	LOS D	3.2	24.6	0.95	0.77	0.95	37.2
Approach		1149	9.0	1149	9.0	0.755	28.0	LOS C	25.5	210.6	0.88	0.79	0.88	45.0
East: Clarkson Ave (E)														
4	L2	187	4.1	187	4.1	0.263	24.0	LOS C	7.8	60.6	0.59	0.71	0.59	43.9
5	T1	17	6.1	17	6.1	0.263	18.3	LOS B	7.8	60.6	0.59	0.71	0.59	34.3
6	R2	222	3.9	222	3.9	0.904	89.7	LOS F	18.5	143.4	1.00	0.97	1.32	24.5
Approach		426	4.1	426	4.1	0.904	58.0	LOS E	18.5	143.4	0.80	0.85	0.97	30.8
North: Wanneroo (N)														
7	L2	264	4.3	264	4.3	0.180	6.8	LOS A	0.4	3.0	0.03	0.60	0.03	56.8
8	T1	1271	10.3	1271	10.3	1.099	161.9	LOS F	87.2	721.0	1.00	1.52	1.78	16.8
9	R2	56	4.1	56	4.1	0.399	45.9	LOS D	2.4	18.9	0.97	0.74	0.97	25.7
Approach		1591	9.1	1591	9.1	1.099	132.0	LOS F	87.2	721.0	0.84	1.34	1.46	19.2
West: Internal Rd (W)														
10	L2	56	4.1	56	4.1	0.071	18.8	LOS B	1.7	13.5	0.50	0.66	0.50	39.9
11	T1	17	3.7	17	3.7	0.146	61.4	LOS E	2.4	18.4	0.91	0.71	0.91	21.2
12	R2	56	3.8	56	3.8	0.146	65.8	LOS E	2.4	18.4	0.91	0.72	0.91	21.1
Approach		128	3.9	128	3.9	0.146	44.8	LOS D	2.4	18.4	0.73	0.69	0.73	26.6
All Vehicles		3295	8.2	3295	8.2	1.099	82.7	LOS F	87.2	721.0	0.84	1.06	1.17	25.9

MOVEMENT SUMMARY

Site: v [Internal Rd & Access 1 & Access 2 - 2031 - AM] **Network: N101 [2031 - AM]**

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: South Access (S)														
1	L2	1	4.0	1	4.0	0.064	5.6	LOS A	0.3	2.0	0.21	0.57	0.21	52.5
2	T1	1	4.0	1	4.0	0.064	5.4	LOS A	0.3	2.0	0.21	0.57	0.21	53.0
3	R2	53	4.0	53	4.0	0.064	6.8	LOS A	0.3	2.0	0.21	0.57	0.21	49.4
Approach		55	4.0	55	4.0	0.064	6.8	LOS A	0.3	2.0	0.21	0.57	0.21	49.6
East: Internal Rd (E)														
4	L2	53	4.0	53	4.0	0.030	4.3	LOS A	0.0	0.0	0.00	0.51	0.00	51.2
5	T1	5	4.0	5	4.0	0.030	0.0	LOS A	0.0	0.0	0.00	0.51	0.00	53.9
6	R2	66	4.0	66	4.0	0.038	4.3	LOS A	0.1	1.1	0.03	0.55	0.03	50.2
Approach		124	4.0	124	4.0	0.038	4.1	NA	0.1	1.1	0.02	0.53	0.02	50.8
North: North Access (N)														
7	L2	66	4.0	66	4.0	0.044	5.6	LOS A	0.2	1.4	0.03	0.56	0.03	50.7
8	T1	1	4.0	1	4.0	0.044	5.5	LOS A	0.2	1.4	0.03	0.56	0.03	53.8
9	R2	1	4.0	1	4.0	0.044	6.1	LOS A	0.2	1.4	0.03	0.56	0.03	53.1
Approach		68	4.0	68	4.0	0.044	5.6	LOS A	0.2	1.4	0.03	0.56	0.03	50.9
West: Internal Rd (W)														
10	L2	1	4.0	1	4.0	0.004	5.7	LOS A	0.0	0.1	0.06	0.16	0.06	56.4
11	T1	5	4.0	5	4.0	0.004	0.0	LOS A	0.0	0.1	0.06	0.16	0.06	56.6
12	R2	1	4.0	1	4.0	0.004	5.7	LOS A	0.0	0.1	0.06	0.16	0.06	56.2
Approach		7	4.0	7	4.0	0.004	1.7	NA	0.0	0.1	0.06	0.16	0.06	56.5
All Vehicles		255	4.0	255	4.0	0.064	5.0	NA	0.3	2.0	0.06	0.54	0.06	50.7

MOVEMENT SUMMARY

Site: 1 [Clarkson Ave & Wanneroo Rd - 2031 - PM] **Network: N102 [2031 - PM]**

Wanneroo Rd/ Clarkson Ave
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 165 seconds (Site Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Wanneroo (S)														
1	L2	288	3.9	288	3.9	0.236	14.2	LOS B	7.3	56.8	0.39	0.69	0.39	45.8
2	T1	1213	9.7	1213	9.7	0.930	52.7	LOS D	46.4	383.1	0.95	0.99	1.14	34.9
3	R2	113	4.1	113	4.1	0.444	43.4	LOS D	4.9	38.4	0.96	0.78	0.96	35.9
Approach		1614	8.3	1614	8.3	0.930	45.1	LOS D	46.4	383.1	0.85	0.92	0.99	35.8
East: Clarkson Ave (E)														
4	L2	129	4.1	129	4.1	0.311	26.8	LOS C	5.9	46.5	0.77	0.73	0.77	43.2
5	T1	55	6.1	55	6.1	0.311	21.1	LOS C	5.9	46.5	0.77	0.73	0.77	33.4
6	R2	203	3.9	203	3.9	0.910	98.9	LOS F	18.6	143.9	1.00	0.97	1.32	23.0
Approach		387	4.3	387	4.3	0.910	63.8	LOS E	18.6	143.9	0.89	0.86	1.06	28.5
North: Wanneroo (N)														
7	L2	268	4.3	268	4.3	0.189	6.9	LOS A	0.5	4.0	0.03	0.60	0.03	56.7
8	T1	875	10.3	875	10.3	0.736	35.1	LOS D	23.7	196.3	0.73	0.64	0.73	41.9
9	R2	158	4.1	158	4.1	0.877	56.5	LOS E	8.1	63.1	1.00	0.89	1.23	22.5
Approach		1301	8.3	1301	8.3	0.877	31.9	LOS C	23.7	196.3	0.62	0.66	0.65	41.9
West: Internal Rd (W)														
10	L2	223	4.1	223	4.1	0.306	28.6	LOS C	10.1	78.9	0.65	0.74	0.65	33.6
11	T1	55	3.7	55	3.7	0.617	74.7	LOS E	10.9	84.5	1.00	0.81	1.00	18.6
12	R2	223	3.8	223	3.8	0.617	79.2	LOS E	10.9	84.5	1.00	0.81	1.00	18.6
Approach		501	3.9	501	3.9	0.617	56.1	LOS E	10.9	84.5	0.84	0.78	0.84	23.2
All Vehicles		3803	7.3	3803	7.3	0.930	44.0	LOS D	46.4	383.1	0.77	0.81	0.86	35.1

MOVEMENT SUMMARY

Site: v [Internal Rd & Access 1 & Access 2 - 2031 - PM]

Network: N102 [2031 - PM]

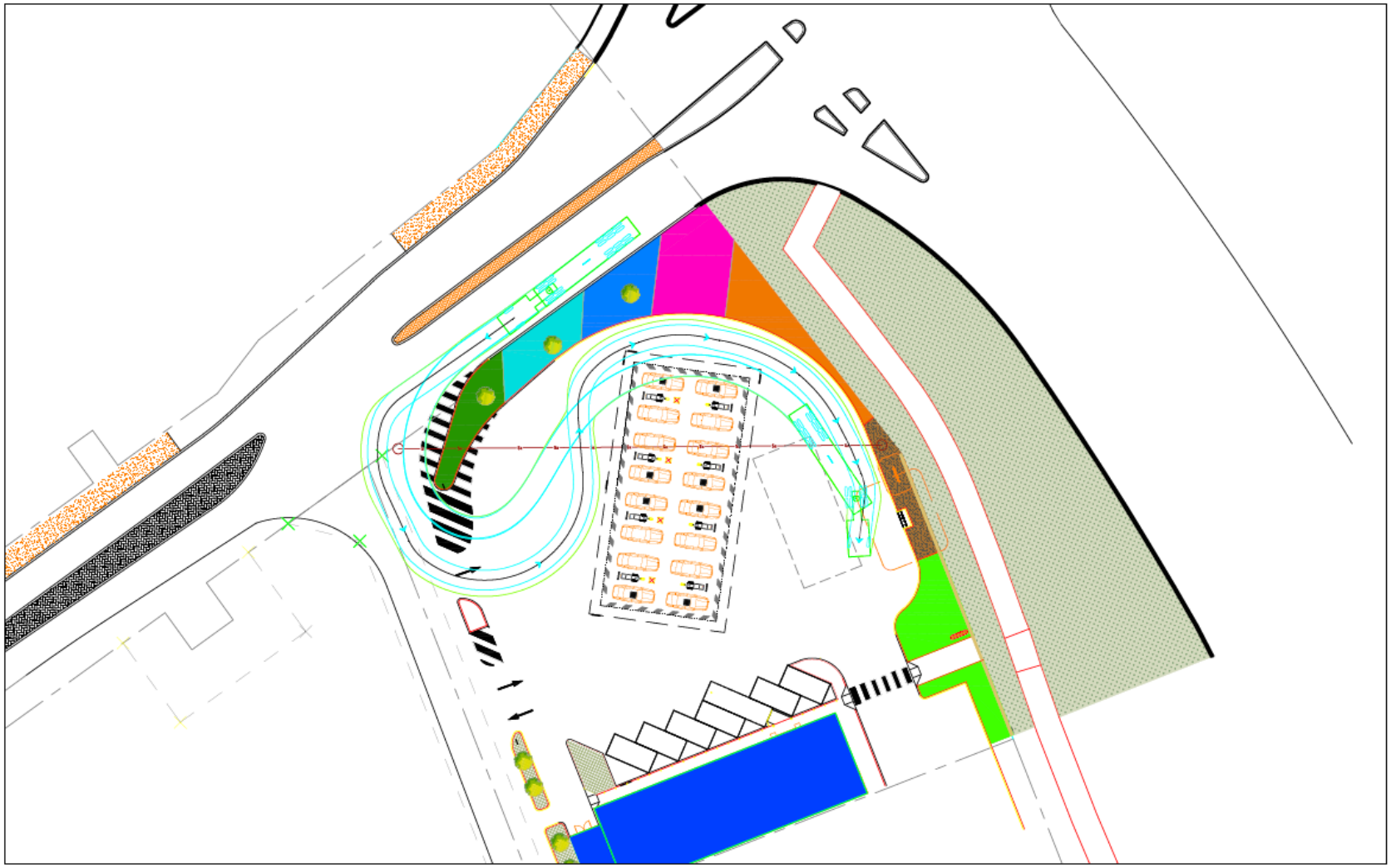
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: South Access (S)														
1	L2	2	4.0	2	4.0	0.678	15.5	LOS C	2.8	21.4	0.77	1.11	1.47	41.8
2	T1	5	4.0	5	4.0	0.678	20.7	LOS C	2.8	21.4	0.77	1.11	1.47	42.1
3	R2	149	4.0	149	4.0	0.678	24.9	LOS C	2.8	21.4	0.77	1.11	1.47	33.5
Approach		157	4.0	157	4.0	0.678	24.7	LOS C	2.8	21.4	0.77	1.11	1.47	34.1
East: Internal Rd (E)														
4	L2	149	4.0	149	4.0	0.220	4.3	LOS A	0.0	0.0	0.00	0.20	0.00	54.4
5	T1	281	4.0	281	4.0	0.220	0.0	LOS A	0.0	0.0	0.00	0.20	0.00	57.4
6	R2	65	4.0	65	4.0	0.049	5.3	LOS A	0.2	1.4	0.30	0.58	0.30	49.1
Approach		496	4.0	496	4.0	0.220	2.0	NA	0.2	1.4	0.04	0.25	0.04	55.3
North: North Access (N)														
7	L2	65	4.0	65	4.0	0.107	6.6	LOS A	0.3	2.2	0.40	0.62	0.40	48.7
8	T1	5	4.0	5	4.0	0.107	12.2	LOS B	0.3	2.2	0.40	0.62	0.40	52.7
9	R2	2	4.0	2	4.0	0.107	12.1	LOS B	0.3	2.2	0.40	0.62	0.40	51.9
Approach		73	4.0	73	4.0	0.107	7.2	LOS A	0.3	2.2	0.40	0.62	0.40	49.4
West: Internal Rd (W)														
10	L2	2	4.0	2	4.0	0.224	6.9	LOS A	0.0	0.3	0.01	0.01	0.01	57.9
11	T1	281	4.0	281	4.0	0.224	0.0	LOS A	0.0	0.3	0.01	0.01	0.01	59.7
12	R2	2	4.0	2	4.0	0.224	7.6	LOS A	0.0	0.3	0.01	0.01	0.01	57.7
Approach		285	4.0	285	4.0	0.224	0.1	NA	0.0	0.3	0.01	0.01	0.01	59.7
All Vehicles		1011	4.0	1011	4.0	0.678	5.4	NA	2.8	21.4	0.17	0.34	0.28	51.0

Appendix E

TURN PATH ANALYSIS



Lot 1 (No. 1351) Wanneroo Road, Tapping
Austroads 2013: 19.0m Semi-Trailer
Fuel tanker entry

LEGEND
Vehicle Body
Wheel Path

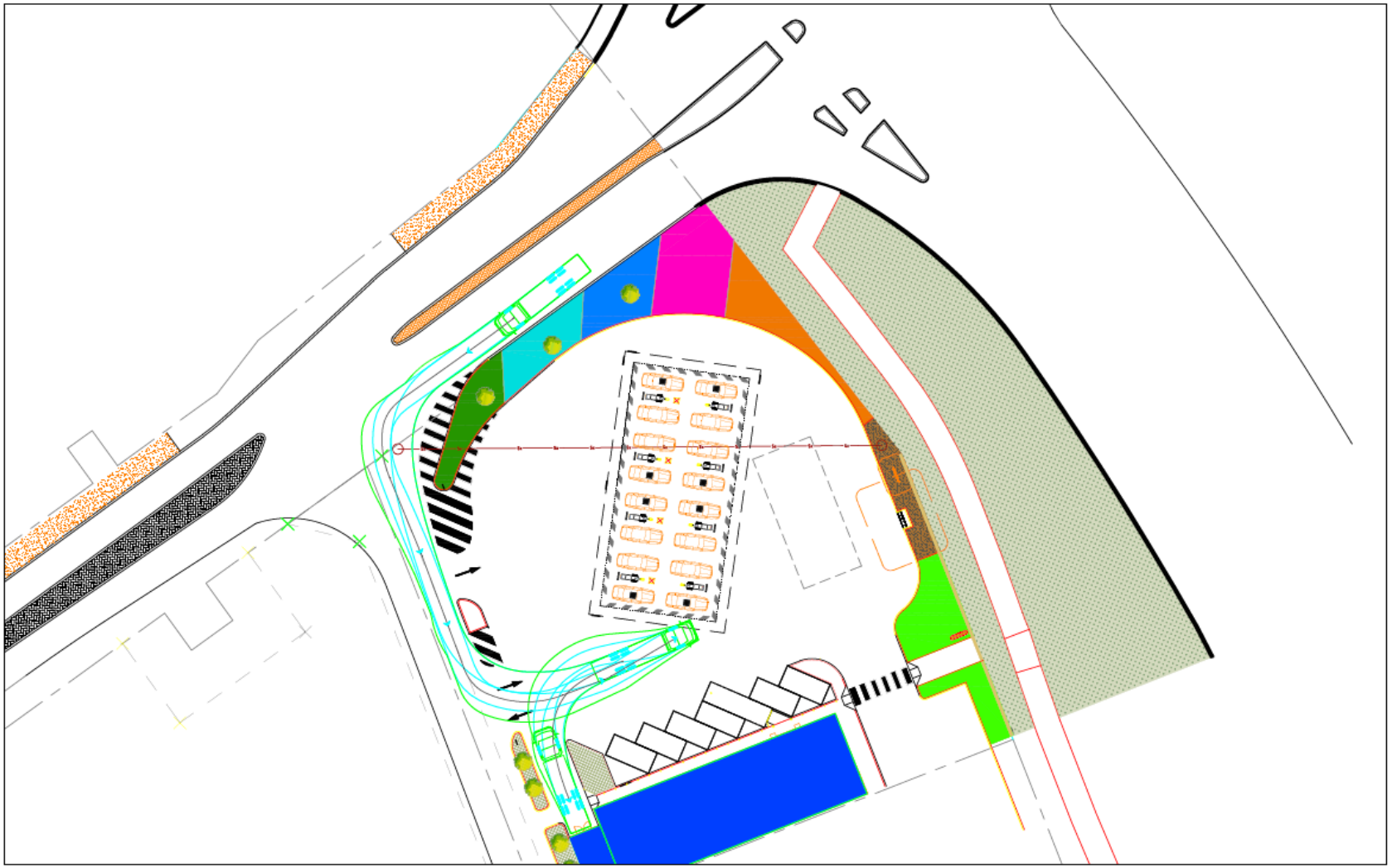
t21.142.sk01a
6/09/2021
Scale: 1:400 @ A3

transcore

Lot 1 (No. 1351) Wanneroo Road, Tapping
Austroads 2013: 19.0m Semi-Trailer
Fuel tanker exit

LEGEND
Vehicle Body
Wheel Path

t21.142.sk02a
6/09/2021
Scale: 1:400 @ A3

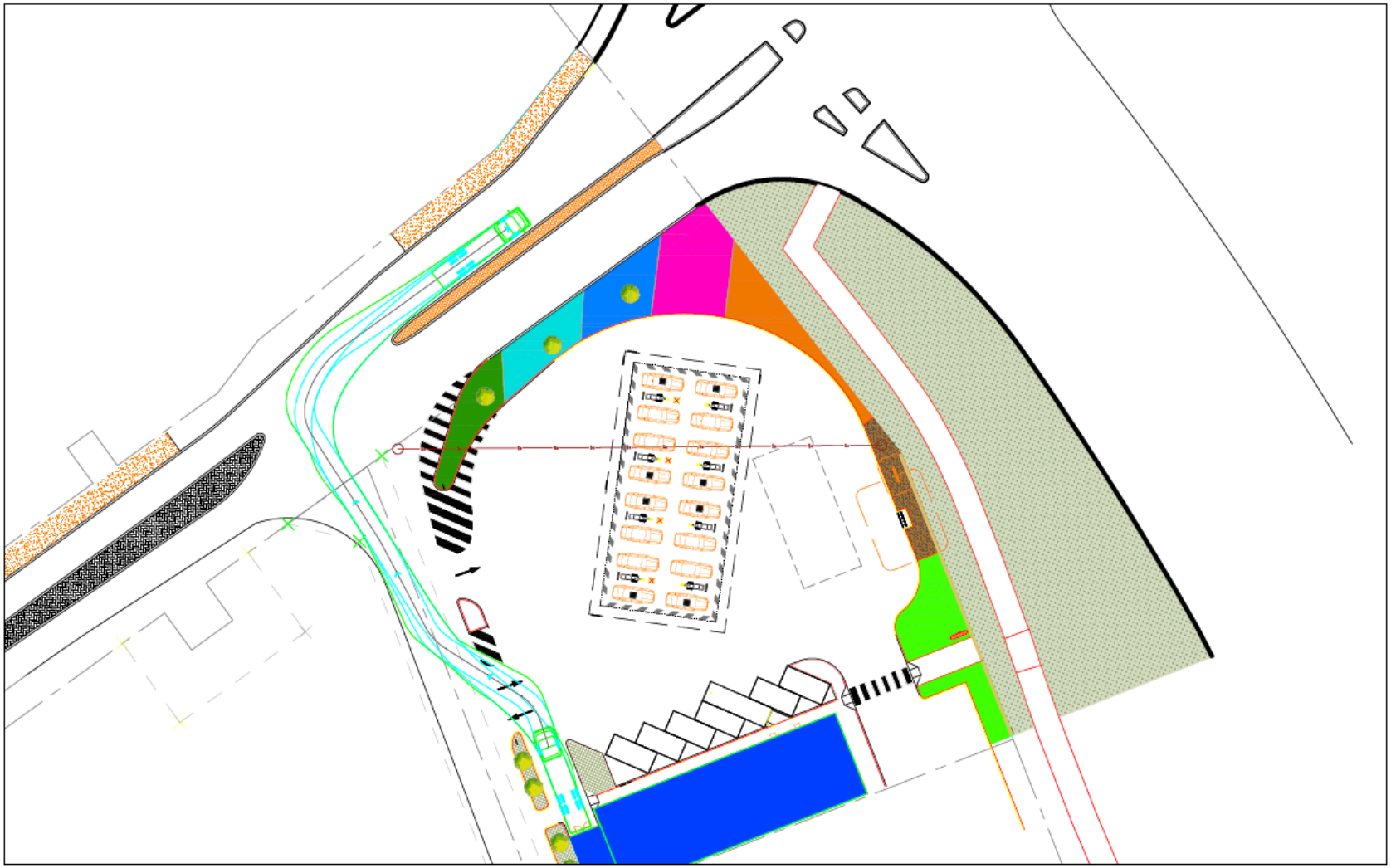


Lot 1 (No. 1351) Wanneroo Road, Tapping
Austroads 2013: 12.5m SU Truck
Service truck entry

LEGEND
Vehicle Body
Wheel Path

t21.142.sk03a
6/09/2021
Scale: 1:400 @ A3

transcore



Lot 1 (No. 1351) Wanneroo Road, Tapping
Austroads 2013: 12.5m SU Truck
Service truck exit

LEGEND
Vehicle Body
Wheel Path

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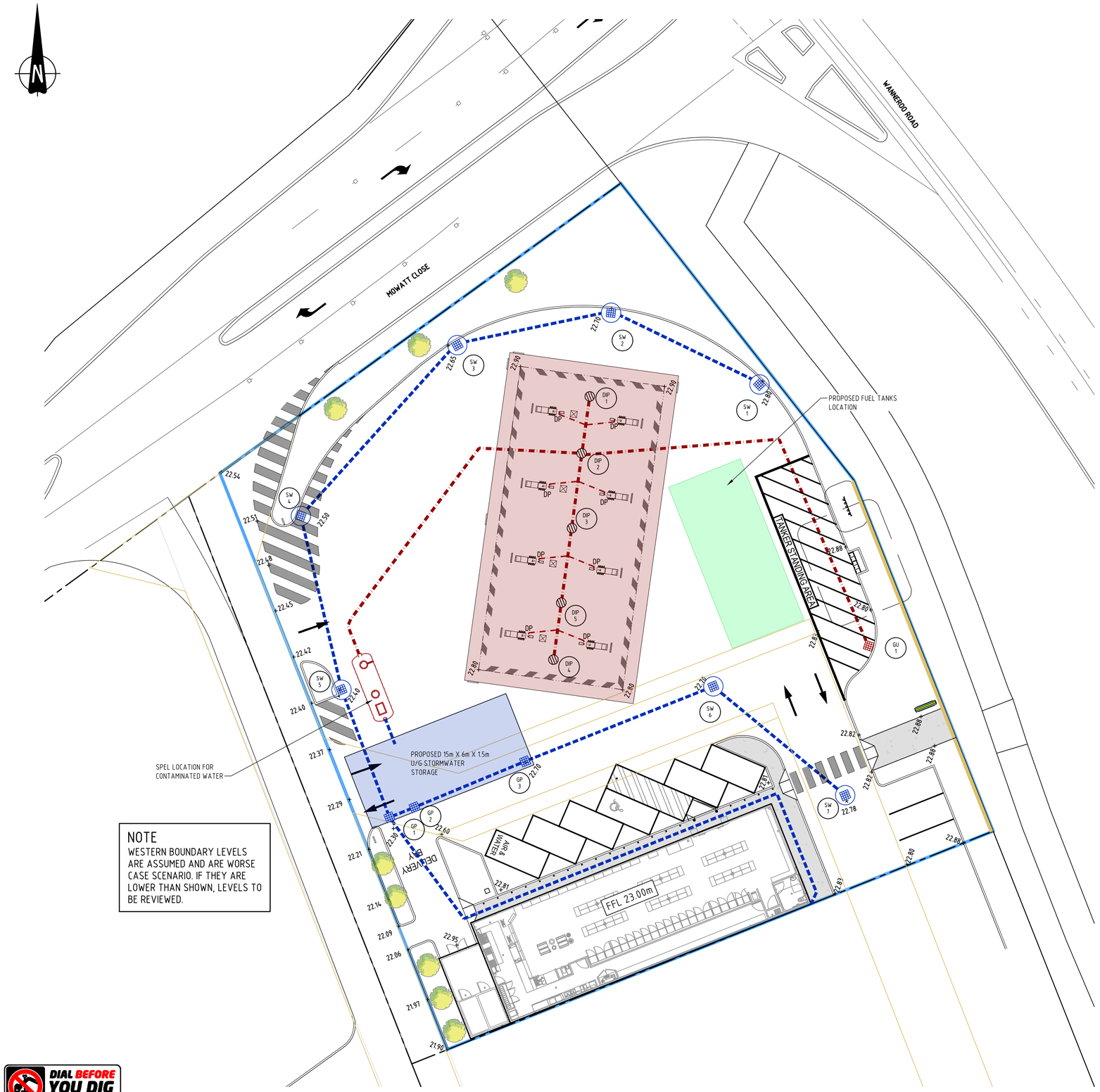
6/09/2021
Scale: 1:400 @ A3

transcore

Appendix 5
Drainage Management Plan



LEGEND

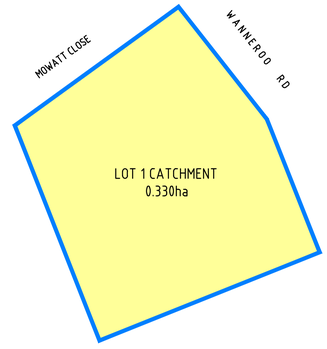
- PROPOSED DRAINAGE STRUCTURE NUMBER (SEP 2-95)
- PROPOSED KERB
- PROPOSED FINISHED FLOOR LEVEL (FFL) (FFL 23.00)
- PROPOSED DRAINAGE PIPE (SN8 uPVC MIN GRADE 1 in 100 OR STEEPER)
- PROPOSED DRAINAGE PIPE (LINED HDPE AKATHERM OR SIMILAR)
- EXISTING RETAINING WALL (BY OTHERS)
- EXISTING SEWER (Sx)
- PROPOSED SPOT HEIGHT (+2.10)
- 1.8Ø SOAKWELL (1.8m DEEP) WITH HEEL SAFE GRATE
- 450 x 450 INLET GULLY GRATE TO PIPED DRAINAGE NETWORK
- 450 X 450 INLET GULLY GRATE TO HUMES STORMTRAP DRAINAGE
- DRAINAGE INLET PIT (DIP) 450x450 UNDER CANOPY
- HUMES STORMTRAP DRAINAGE STORAGE AREA
- UNDER CANOPY CATCHMENT AREA RUNNOFF DIRECTED TO SPEL
- DRAINAGE CATCHEMENT BOUNDARY
- PLANNING EASEMENT BOUNDARY
- PROPOSED FUEL TANKS
- DP — ASSUMED DOWNPIPE LOCATION

NOTES

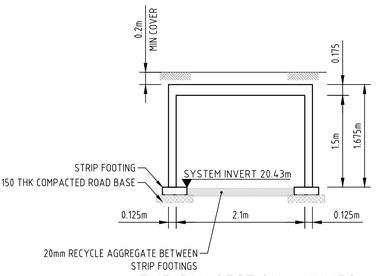
1. MAXIMUM GROUNDWATER LEVEL IS APPROX 20mAHD
2. ALL KERBING TO BE 150mm HIGH EXCEPT 100mm HIGH INFRONT OF STORE

NOTE

WESTERN BOUNDARY LEVELS ARE ASSUMED AND ARE WORSE CASE SCENARIO. IF THEY ARE LOWER THAN SHOWN, LEVELS TO BE REVIEWED.



CATCHMENT PLAN
SCALE: DIAGRAMMATIC



TYPICAL SECTION - HUMES STANDARD STORM TRAP
SCALE: DIAGRAMMATIC

Design Parameters

Runoff Coefficent	0.9	
Permeabilty	4m/day	

		1% AEP Detention volume provided on site		
Catchment	Area (ha)	Soakwells (7 off 1.8m dia X 1.8m deep)	Hume Stormtarp Underground Structure (1.5m internal Hieght)	Total Volume
LIBERTY TAPPING	0.33	32.1m³	153.4m³	185m³

1:200 0 2 4 8 12
Half Size 1:400 - SCALE (m)

DIAL BEFORE YOU DIG www.1100.com.au

PROJECT:
LIBERTY SERVICE STATION
WANNEROO ROAD, TAPPING

No.	DATE	REVISION	BY
B	7-9-2021	UPDATED SITE PLAN	MEG
A	23-8-2021	ISSUED FOR APPROVAL	MEG

Porter Consulting Engineers
Level 2 Kishorn Court
58 Kishorn Road
Mt Pleasant 6153 WA
PO Box 1036
Canning Bridge 6153 WA
Tel (08) 9315 9955
Email office@porterceng.com.au
www.porterceng.com.au
PJSMD Pty Ltd ACN 070 097 148 as trustee for the Consulting Engineering Unit Trust trading as Porter Consulting Engineers ABN 78 636 396 385

CLIENT:
LPWA NO6 PTY LTD

DRAWING:
SITE STORMWATER PLAN

STATUS: **FOR APPROVAL**

SCALE	1:200
DATE	AUG 2021
DESIGN	MC
DRAWN	MEG
CHECK	
APP'D	

DRAWING No. 21-8-107/401
REV No. B
ORIGINAL DRAWING SIZE A1
FILE NAME S:\ACTIVE PROJECTS\21-08-107\ACAD\218107-401.dwg

Appendix 6
Bushfire Management Plan and Bushfire Risk Management Plan

Bushfire Management Plan:
Development Application: Service Station, Lot 1 (1369) and Lot 1 (1351) Wanneroo Road, Wanneroo

LP WA No6 Pty Ltd

ecological AUSTRALIA
A TETRA TECH COMPANY

BPAD Bushfire Planning & Design Accredited Practitioner Level 3

1300 646 131
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DOCUMENT TRACKING

Project Name	Bushfire Management Plan: Development Application: Service Station, Lot 1 (1369) and Lot 1 (1351) Wanneroo Road, Wanneroo
Project Number	21PER-19332
Project Manager	Alex Aitken
Prepared by	Alex Aitken (BPAD Level 2 – 37739)
Reviewed by	Daniel Panickar (BPAD Level 3 – 37802)
Approved by	Daniel Panickar (BPAD Level 3 – 37802)
Status	Final
Version Number	v2
Last saved on	9 September 2021

This report should be cited as 'Eco Logical Australia 2021. *Bushfire Management Plan: Development Application: Service Station, Lot 1 (1369) and Lot 1 (1351) Wanneroo Road, Wanneroo*. Prepared for LP WA No6 P/L.

ACKNOWLEDGEMENTS

This document has been prepared by Eco Logical Australia Pty Ltd with support from LP WA No6 P/L (the client).

Template 2.8.1

Version control	
Version	**Purpose**
v1	Draft – Submission to client
v2	Final – Submission for development assessment

Contents

List of Figures

List of Tables

1. Introduction

1.1 Proposal details

Eco Logical Australia (ELA) was commissioned by LP WA No6 P/L (Liberty) to prepare a Bushfire Management Plan (BMP) to support a development application for Lot 1 (1369) and Lot 1 (1351) Wanneroo Road, Wanneroo (hereafter referred to as the subject site, Figure 1). The proposed development will result in an intensification of land use and involves the development of a service station.

The subject site is within a designated bushfire prone area as per the *Western Australia State Map of Bush Fire Prone Areas* (DFES 2019; 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 1.3* (the Guidelines; WAPC 2017).

The subject site is located in the City of Wanneroo and is currently zoned as Urban under the Metro Regional Scheme and lies within the Drover Place Central Precinct. The site is currently undergoing staged development with the subject site and surrounding land cleared and partially developed ready for the construction of new development.

This assessment has been prepared by ELA Senior Bushfire Consultant Alex Aitken (FPAA BPAD Level 2 Certified Practitioner No. BPAD37739) with quality assurance undertaken by Principal Bushfire Consultants 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.

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 jointly endorsed by the local government and the Department of Fire and Emergency Services. In most instance the requirement of the bushfire risk management plan should be incorporated into the proposed site management plans.

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 subject site has been previously cleared, resulting in no existing native vegetation on site.

No revegetation is proposed within the development and landscaping will be maintained in a low-threat state.

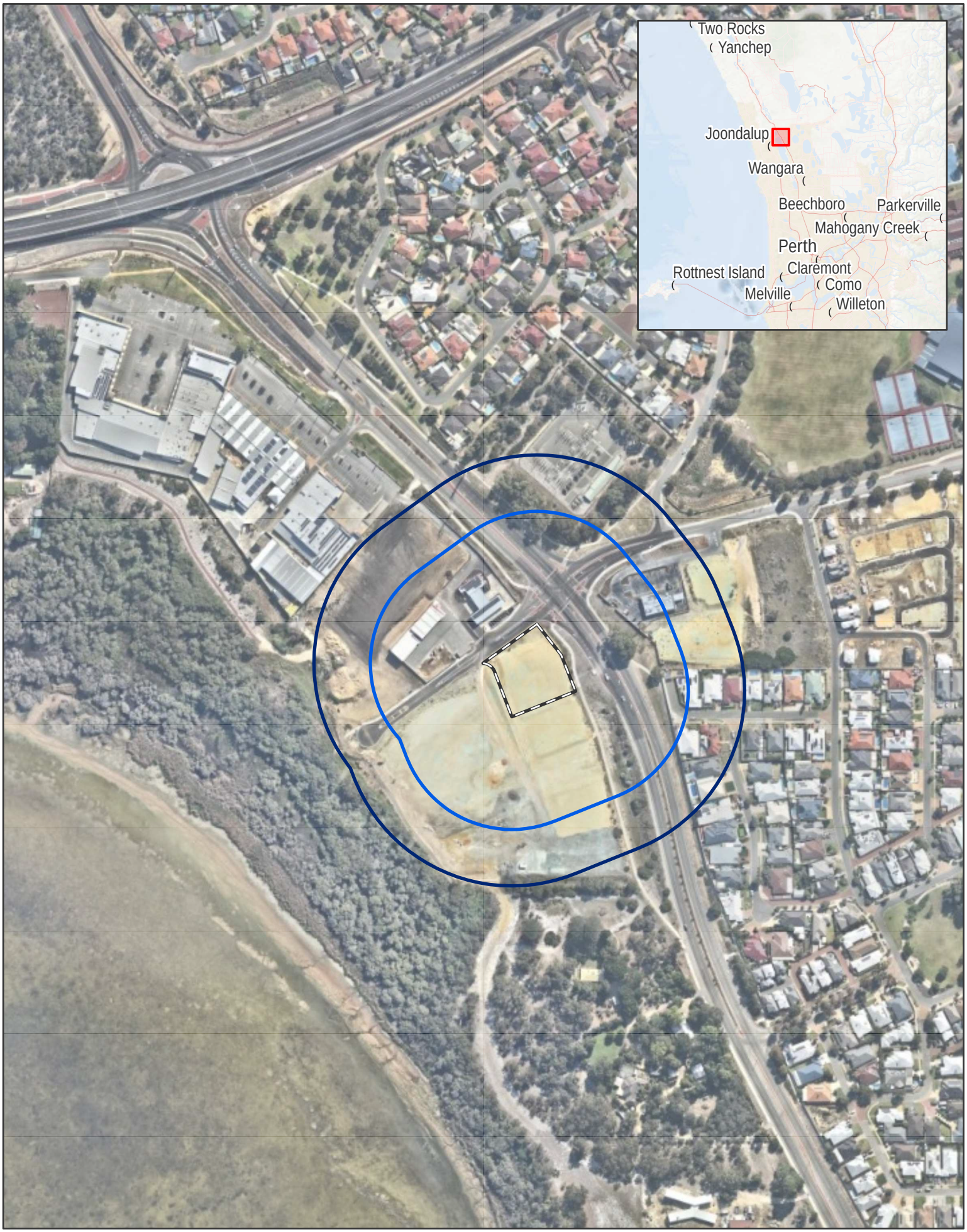

Figure 1: Site Overview

Subject site
100m site assessment
150m site assessment

2

0 37.5 75 150
Metres

Datum/Projection:
GDA 1994 MGA Zone 50

Project: 1933-DD Date: 9/09/2021

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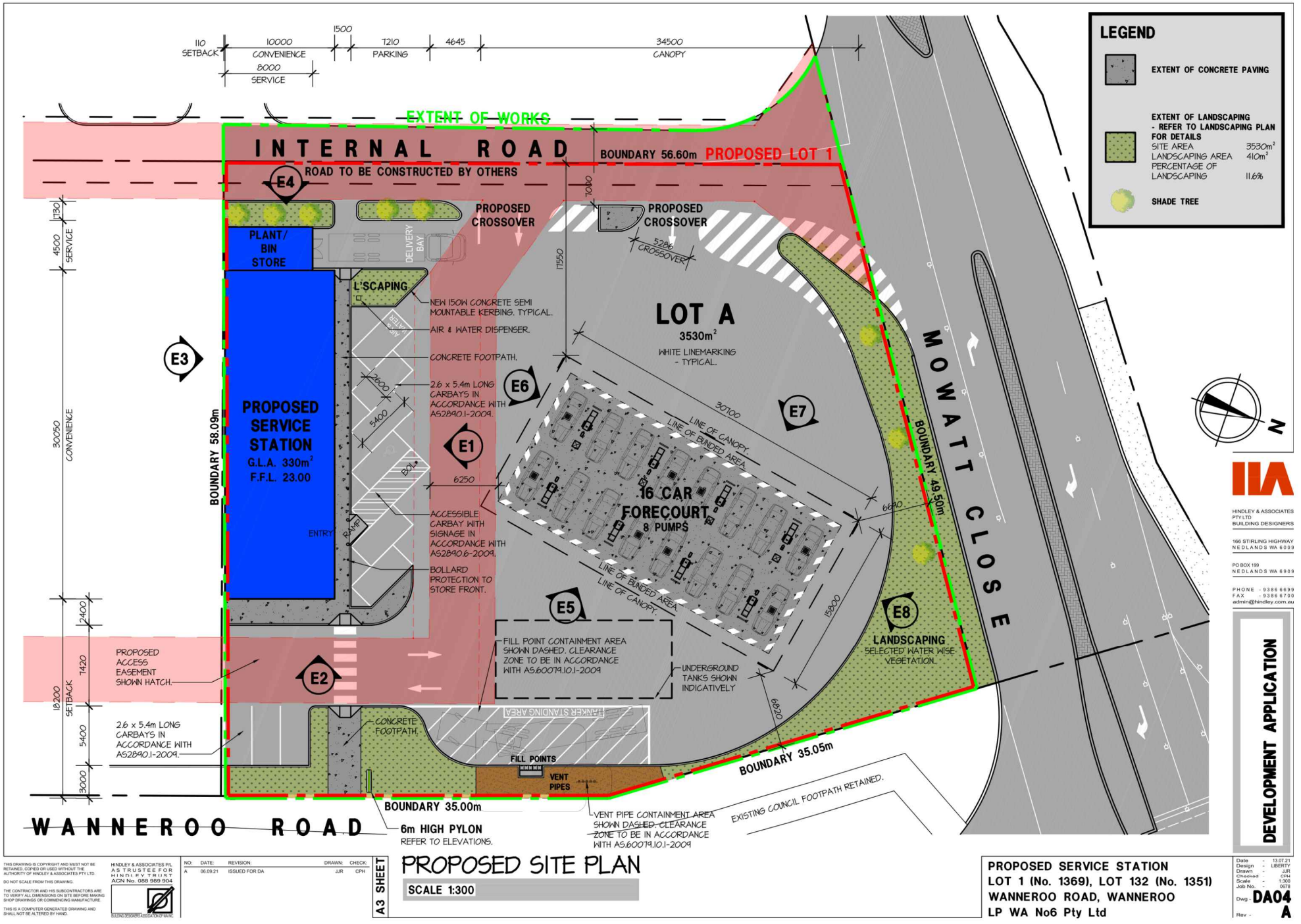

Figure 2: Site Plan

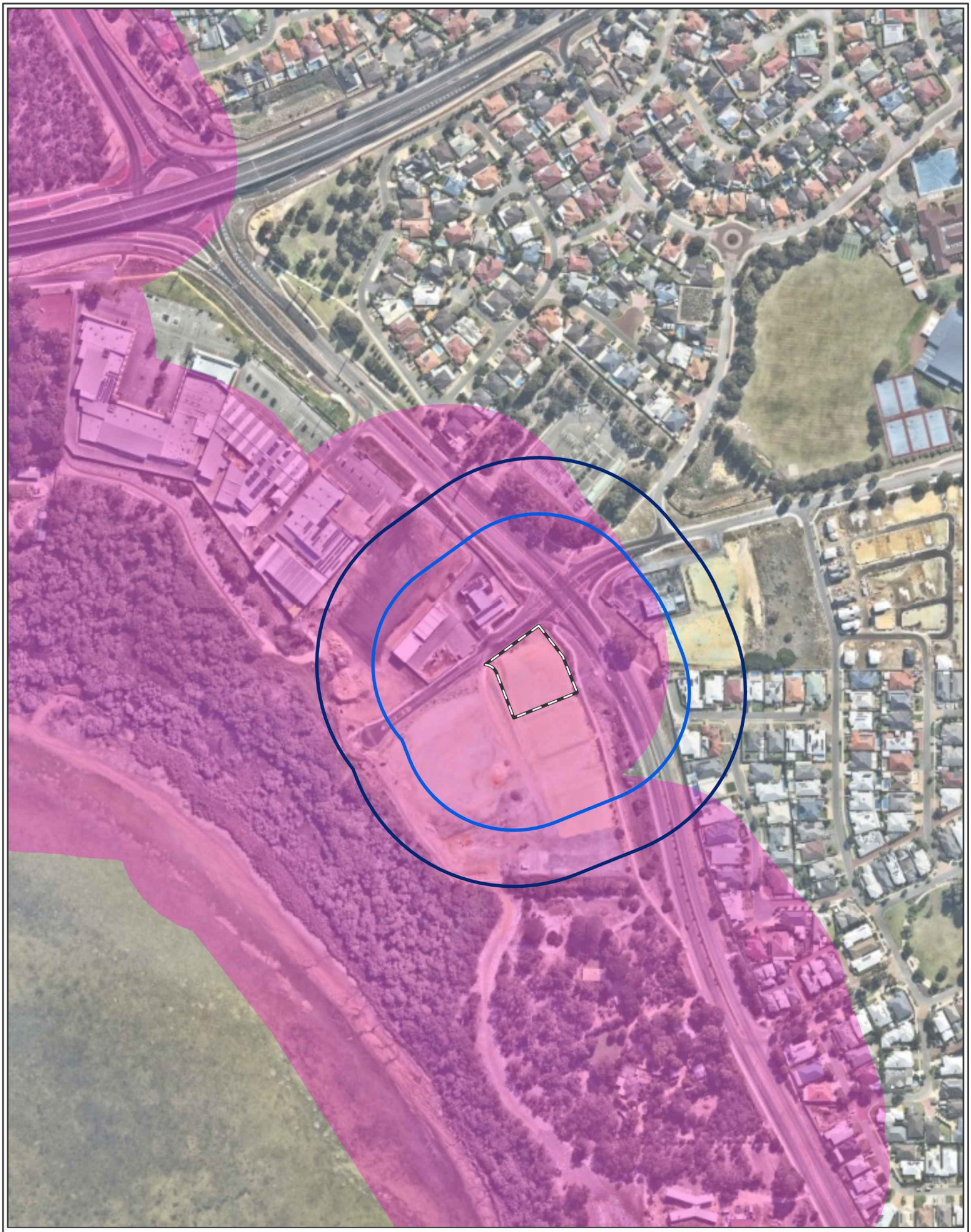

Figure 3: Bushfire Prone Areas

Subject site
100m site assessment
150m site assessment
Bushfire Prone Mapping (DFES 2019)

N

0 37.5 75 150
Metres

Datum/Projection:
GDA 1994 MGA Zone 50

Project: 19332-DD Date: 9/09/2021

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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 23 August 2021.

The classified vegetation and effective slope for the proposed development 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	Effective Slope
1	Class A Forest	All upslopes and flat land (0 degrees)
2	Class A Forest	Downslope >0 to 5 degrees
3	Class G Grassland	All upslopes and flat land (0 degrees)
4	Excluded AS 3959: 2018 2.2.3.2 (e)	-

Photographs relating to each area and vegetation type are included in Appendix A.

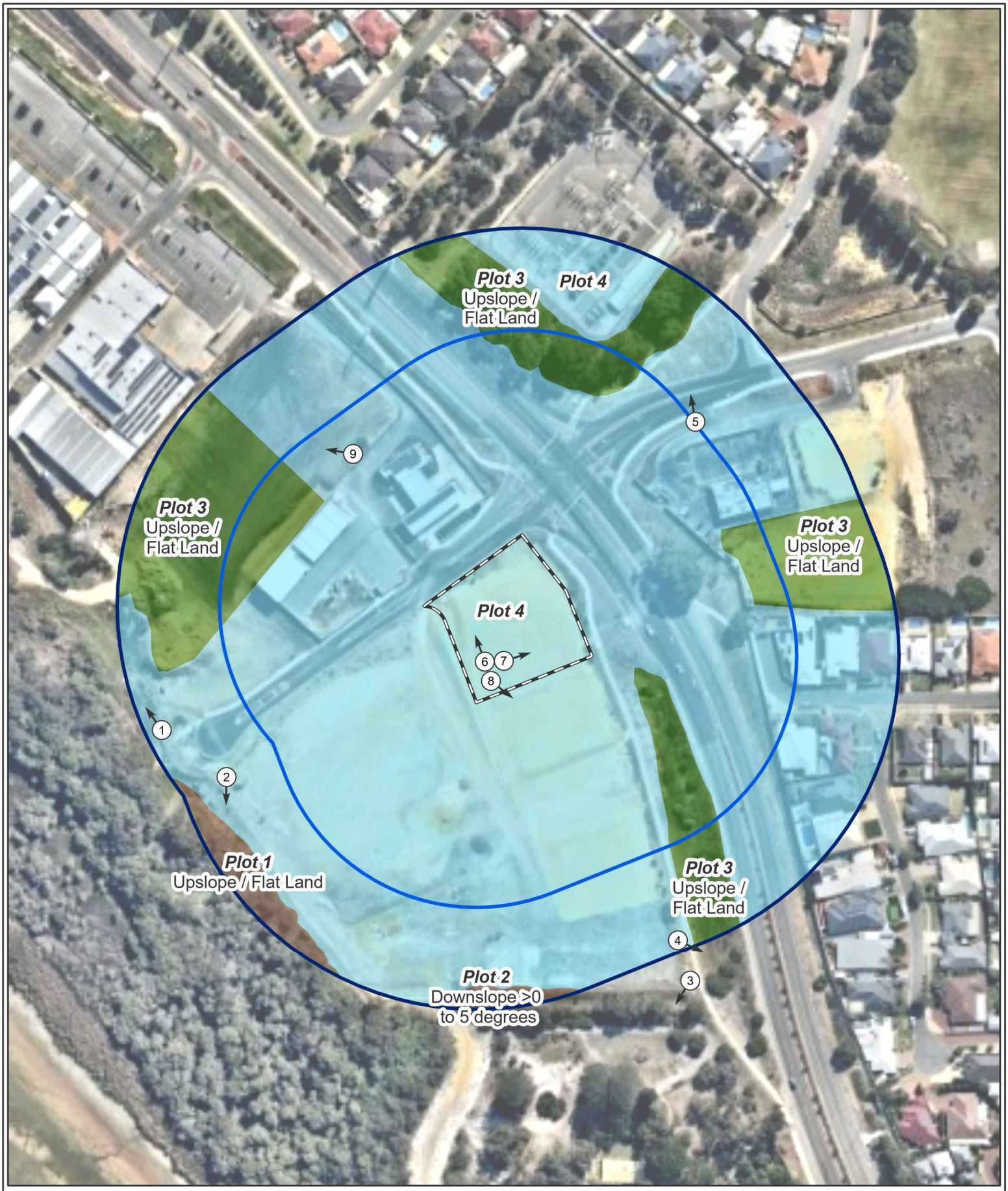

Figure 4: Vegetation Classification

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

Vegetation classification

Class A forest
Class G grassland
Excluded as per clause 2.2.3.2 (e) and (f)

0 20 40 80
Metres

Datum/Projection:
GDA 1994 MGA Zone 50

Project: 19332-DD Date: 9/09/2021

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 proposed development area 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 and vegetation classification	Effective slope	Hazard separation distance	BAL rating	Comment
Plot 1 Class A Forest	All upslopes and flat land (0 degrees)	0-<16	BAL-FZ	No development proposed in this area
		16-<21	BAL-40	No development proposed in this area
		21-<31	BAL-29	No development proposed in this area
		31-<42	BAL-19	No development proposed in this area
		42-<100	BAL-12.5	No development proposed in this area
Plot 2 Class A Forest	Downslope >0 to 5 degrees	0-<20	BAL-FZ	No development proposed in this area
		20-<27	BAL-40	No development proposed in this area
		27-<37	BAL-29	No development proposed in this area
		37-<50	BAL-19	No development proposed in this area
		50-<100	BAL-12.5	No development proposed in this area
Plot 3 Class G Grassland	All upslopes and flat land (0 degrees)	0-<6	BAL-FZ	No development proposed in this area
		6-<8	BAL-40	No development proposed in this area
		8-<12	BAL-29	No development proposed in this area
		12-<17	BAL-19	No development proposed in this area
		17-<50	BAL-12.5	Development proposed in this area

Plot and vegetation classification	Effective slope	Hazard separation distance	BAL rating	Comment
Plot 4 Excluded as per clause 2.2.3.2 (e) and (f) of AS3959: 2018		N/A		

*PLOT LOCATED >100 M FROM SUBJECT SITE

Based on the site assessment inputs and BAL assessment, the proposed service station within the subject site has a BAL rating of BAL-12.5.

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.

The general fire safety construction provisions within the National Construction Code (NCC) are considered suitable for bushfire construction measures, however ember protection measures in sections 3 and 5 of AS 3959: 2018 are recommended to be incorporated where applicable.

Table 3: BAL rating for proposed building within the subject site

Proposed building	Plot most affecting BAL rating	BAL Rating
Service Station	3	BAL-12.5
Bowsers & Annexure	3	BAL-LOW

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.

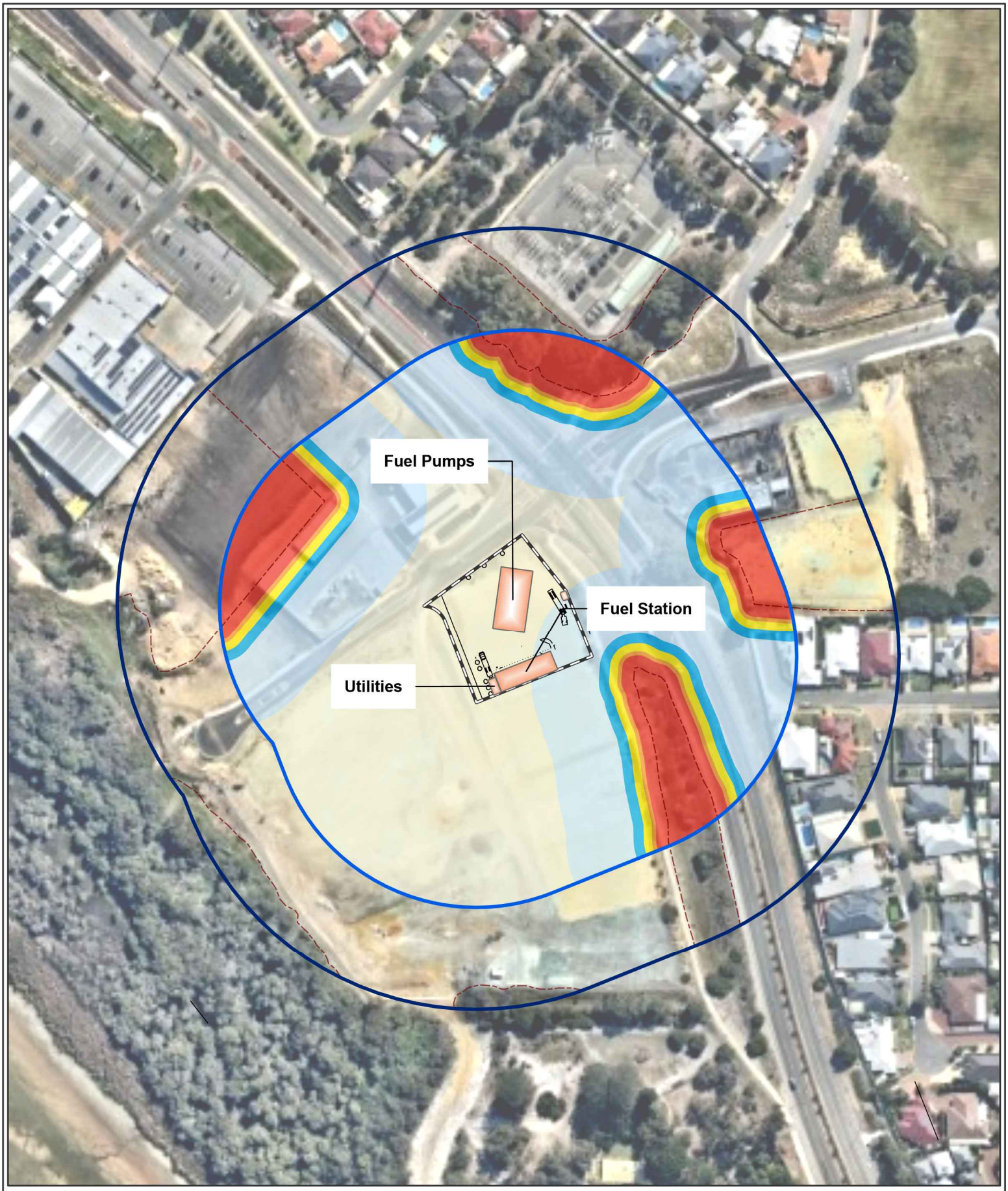

Figure 5: Bushfire Attack Level (BAL) Contours

Subject site
Lot boundary
100m site assessment
150m site assessment
Bushfire hazard interface
Buildings

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

Project: 19332-DD Date: 9/09/2021

N

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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 summaries 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	☒	☐	☐	The proposed development within the subject site will be located in an area 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 2017; Appendix B). The APZ can be contained within the boundaries of the lot or 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 Two access routes	☒	☐	☐	The subject site is serviced by a 100 m long cul-de-sac that provides access onto Wanneroo Road (a main road allowing travel in two directions). Until future development within the subdivision takes place, the road network will be limited to this cul-de-sac (Figure 6) A secondary access point onto Wanneroo Avenue is not possible due to WAPC conditions of approval (i.e. Condition 4 of Subdivision Approval 156082), however as Wanneroo Road provides access in two directions, two access routes are available. The proposed development is considered to be compliant with A3.1.
A3.2 Public road	☐	☐	☒	No public roads are proposed as part of this development.

Bushfire Protection Criteria	AS	PS	N/A	Comment
A3.3 Cul-de-sac	☒	☐	☐	As detailed in A3.1, the subject site is serviced by a temporary cul-de-sac which will be connected to other roads in line with future development. This cul-de-sac is approximately 100 m long and a turning area with a minimum diameter of 17.5 m is provided within the subject site, thereby complying with the requirements for cul-de-sacs in the Guidelines. The proposed development is considered to be compliant with A3.3.
A3.4 Battle-axe	☐	☐	☒	No battle axe lots are proposed.
A3.5 Private Driveway longer than 50 m	☐	☐	☒	No private driveways longer than 50 m are proposed.
A3.6 Emergency Access way	☐	☐	☒	No emergency access way is required.
A3.7 Fire-service access routes	☐	☐	☒	No fire service access routes are required or proposed.
A3.8 Firebreak width	☐	☐	☒	No fire breaks are required or proposed as per the City of Wanneroo Firebreak Notice
Element 4: Water A4.1 Reticulated areas	☒	☐	☐	The subject site will be connected to a reticulated water supply. The proposed development is considered to be compliant with A4.1. A4.2 and A4.3 are not applicable to this proposed development.
A4.2 Non-Reticulated areas	☐	☐	☒	Reticulated water is present within the area.
A4.3 Individual Lots within non-reticulated areas	☐	☐	☒	Reticulated water is present within the area.

NOTE – AS- ACCEPTABLE SOLUTION, PS- PERFORMANCE SOLUTION, N/A- NOT APPLICABLE

3.2 Additional Bushfire Requirements

All landscaping areas within the subject site will be maintained in accordance with Standards for Asset Protection Zones (Appendix B).

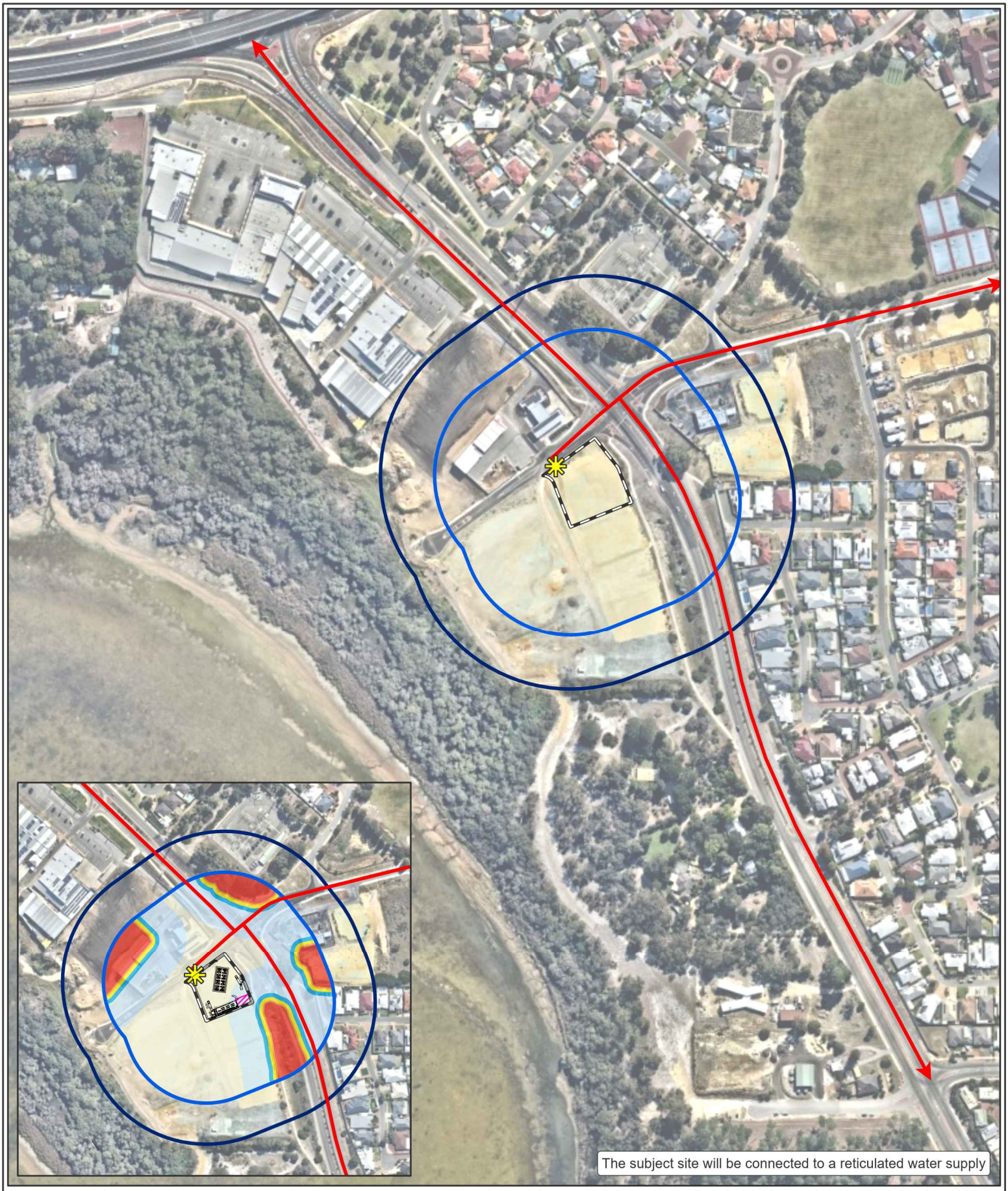

Figure 6: Spatial representation of the bushfire management strategies

- Subject site
- Lot boundary
- 100m site assessment
- 150m site assessment
- Asset Protection Zone (APZ)
- Access point
- Access / egress route
- Hydrant

Bushfire Attack Level (BAL)

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

0 40 80 160

Metres

Datum/Projection:
GDA 1994 MGA Zone 50

Project: 19332-DD Date: 9/09/2021

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 proposed building is located outside of areas subject to BAL-FZ and BAL-40 as per the design in Figure 6.	Developer
2	Connect reticulated water supply to the subject site.	Developer
3	Ensure all APZs are implemented and maintained.	Developer
4	Construct proposed building to relevant construction standard in the NCC and if considered relevant, AS 3959: 2018.	Developer
Ongoing management		
5	Maintain APZs to the standard in the Guidelines.	Owners

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 development. As such, the proposed development is consistent with the aim and objectives of SPP 3.7 and associated guidelines and is recommended for approval.

6. References

Department of Fire and Emergency Services (DFES), 2019, *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.

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), 2017, *Guidelines for Planning in Bushfire Prone Areas Version 1.3 (including appendices),* WAPC, Perth.

Western Australian Planning Commission (WAPC), 2019, *A guide to developing a Bushfire Emergency Evacuation Plan, October 2019*.

Appendix A – Classified Vegetation Photos

Plot	1	Classification or Exclusion Clause	Class A Forest

Photo Point 1

Classified vegetation is offsite melaleuca wetland with shrub understorey, trees up to 6m tall and ~40-50% canopy cover.

Effective slope under vegetation is flat

Plot	1	Classification or Exclusion Clause	Class A Forest

Photo Point 2

Classified vegetation is offsite melaleuca wetland with shrub understorey, trees up to 6m tall.

Effective slope under vegetation is flat

Plot	2	Classification or Exclusion Clause	Class A Forest

Photo Point 3

Classified vegetation within this plot is comprised of trees between 8-10 m tall with approximately 15% foliage cover. Planted and young regrowth eucalypt trees with shrub revegetation along drainage line and grass understorey.

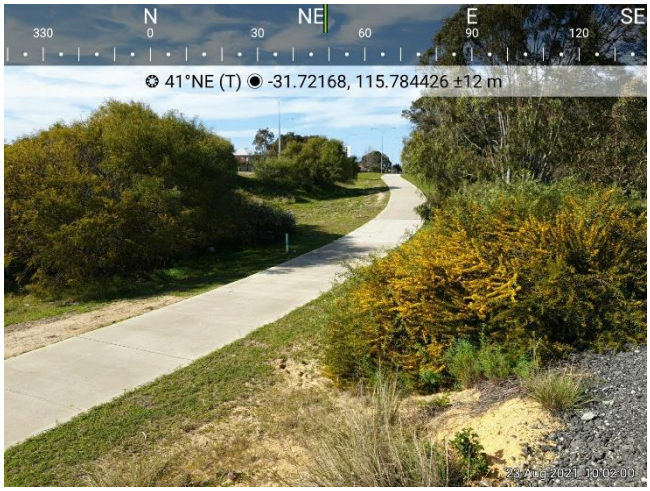
Effective slope is downslope 0-5 degrees

Plot 3	Classification or Exclusion Clause	Class G Grassland

Photo Point 4

Classified vegetation is offsite unmanaged grassland with sedges within drainage swale and minor isolated scrub

Effective slope is up slope/flat from development

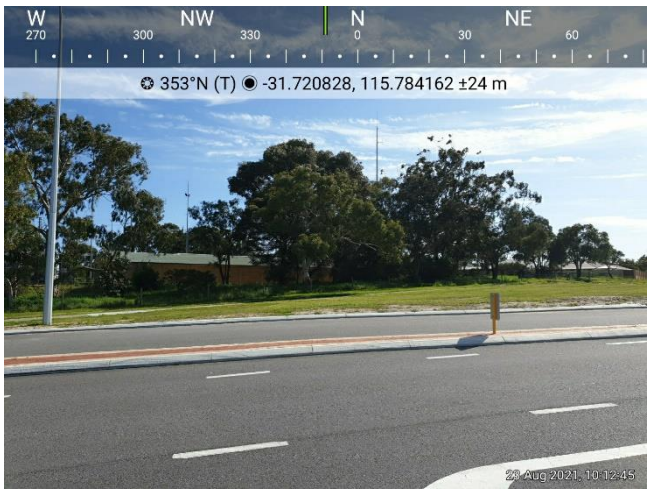


Plot 3	Classification or Exclusion Clause	Class G Grassland

Photo Point 5

Classified vegetation is offsite unmanaged grassland with within utilities compound

Effective slope is up slope from development



Plot 4	Classification or Exclusion Clause	Excluded AS 3959: 2018 2.2.3.2 (f)

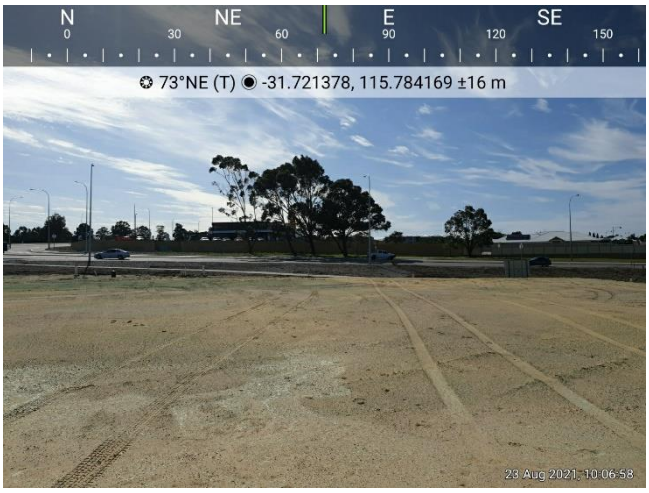
Photo Point 6

Cleared and developed areas onsite and offsite.

Plot	4	Classification or Exclusion Clause	Excluded AS 3959: 2018 2.2.3.2 (f)

Photo Point 7

Cleared and developed areas onsite and offsite.



Plot	4	Classification or Exclusion Clause	Excluded AS 3959: 2018 2.2.3.2 (f)

Photo Point 8

Cleared and developed areas onsite and offsite.

Plot	4	Classification or Exclusion Clause	Excluded AS 3959: 2018 2.2.3.2 (f)

Photo Point 9

Cleared and developed areas onsite and offsite.

Appendix B – Standards for Asset Protection Zones

The following standards have been extracted from the *Guidelines for Planning in Bushfire Prone Areas v 1.3* (WAPC 2017).

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 are constructed from non-combustible materials (e.g. iron, brick, limestone, metal post and wire). It is recommended that solid or slatted non-combustible perimeter fences are used
- Objects: within 10 metres of a building, combustible objects must not be located close to the vulnerable parts of the building i.e. windows and doors
- Fine Fuel load: combustible dead vegetation matter less than 6 millimetres in thickness reduced to and maintained at an average of two tonnes per hectare
- Trees (> 5 metres in height): trunks at maturity should be a minimum distance of 6 metres from all elevations of the building, branches at maturity should not touch or overhang the building, lower branches should be removed to a height of 2 metres above the ground and or surface vegetation, canopy cover should be less than 15% with tree canopies at maturity well spread to at least 5 metres apart as to not form a continuous canopy (Figure 7).

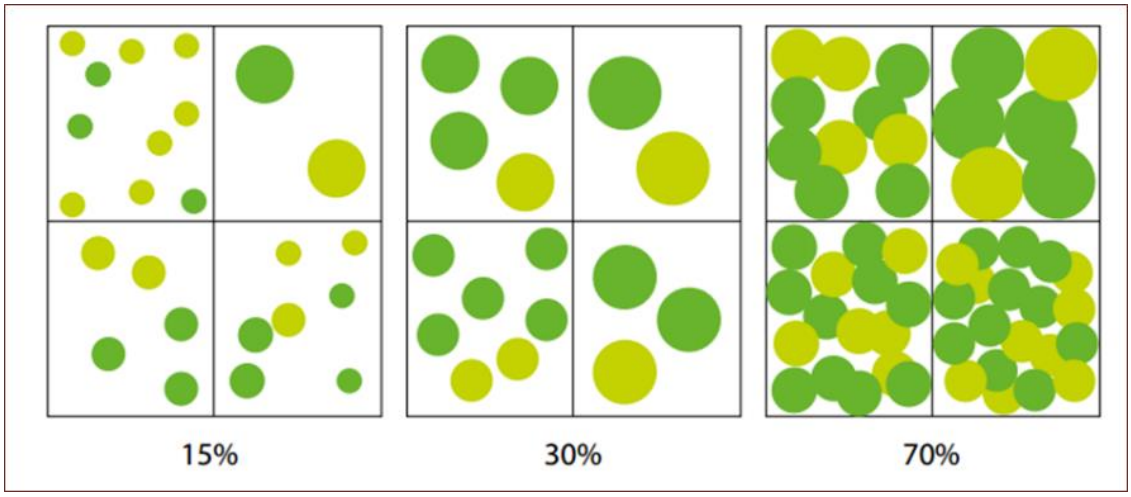


Figure 7: Illustrated tree canopy cover projection (WAPC 2017)

- **Shrubs (0.5 metres to 5 metres in height):** should not be located under trees or within 3 metres of buildings, should not be planted in clumps greater than 5m^2 in area, clumps of shrubs should be separated from each other and any exposed window or door by at least 10 metres. Shrubs greater than 5 metres in height are to be treated as trees
- **Ground covers (<0.5 metres in height):** can be planted under trees but must be properly maintained to remove dead plant material and any parts within 2 metres of a structure, but 3 metres from windows or doors if greater than 100 millimetres in height. Ground covers greater than 0.5 metres in height are to be treated as shrubs
- **Grass:** should be managed to maintain a height of 100 millimetres or less.

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.

Appendix C - Vehicular access technical requirements (WAPC 2017)

Technical requirements	Public road	Cul-de-sac	Private driveway	Emergency access way	Fire service access route
Minimum trafficable surface (m)	6*	6	4	6*	6*
Horizontal distance (m)	6	6	6	6	6
Vertical clearance (m)	4.5	N/A	4.5	4.5	4.5
Maximum grade <50 m	1 in 10	1 in 10	1 in 10	1 in 10	1 in 10
Minimum weight capacity (t)	15	15	15	15	15
Maximum crossfall	1 in 33	1 in 33	1 in 33	1 in 33	1 in 33
Curves minimum inner radius	8.5	8.5	8.5	8.5	8.5
* Refer to E3.2 Public roads: Trafficable surface					

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Bushfire Risk Management Plan:
Development Application: Service Station, Lot 1 (1369) and Lot 1 (1351) Wanneroo Road, Wanneroo

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DOCUMENT TRACKING

Project Name	Bushfire Risk Management Plan: Development Application: Service Station, Lot 1 (1369) and Lot 1 (1351) Wanneroo Road, Wanneroo
Project Number	21PER-19332
Project Manager	Daniel Panickar
Prepared by	Alex Aitken (BPAD level 2- 37739
Reviewed by	Daniel Panickar (BPAD Level 3 – 37802)
Approved by	Daniel Panickar (BPAD Level 3 – 37802)
Status	**Draft**
Version Number	**v1**
Last saved on	**9 September 2021**

This report should be cited as 'Eco Logical Australia 2021. *Bushfire Risk Management Plan: Development Application: Service Station, Lot 1 (1369) and Lot 1 (1351) Wanneroo Road, Wanneroo*. Prepared for LP WA No6 P/L.'

ACKNOWLEDGEMENTS

This document has been prepared by Eco Logical Australia Pty Ltd with support from LP WA No6 P/L . (the client) and Planning Solutions

Template 2.8.1

Version control	
Version	**Purpose**
v1	Draft – Submission to client
v2	Final – Submission for development assessment

Contents

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List of Tables

1. Introduction

1.1 Project overview

Eco Logical Australia (ELA) was commissioned by LP WA P/L (Liberty) to prepare a Bushfire Risk Management Plan (BRMP) to support a development application (DA) being prepared for the development of a service station located at Lot 1 (1369) and Lot 1 (1351) Wanneroo Road, Wanneroo (hereafter referred to as the subject site; Figure 1 and Figure 2).

The proposed development will include (Figure 2):

- Construction of:
  - Service Station building;
  - A fuel canopy and bowsers; and
  - Parking areas, underground tanks, associated infrastructure and landscaping.

The proposed development will result in an intensification of land use.

The subject site is located within a designated bushfire prone area as per the *Western Australia State Map of Bush Fire Prone Areas* (DFES 2019), 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 1.3* (the Guidelines; WAPC 2017).

This assessment has been prepared by ELA Senior Bushfire Consultant Alex Aitken (FPAA BPAD Level 2 Certified Practitioner No. BPAD37739) 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 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 2021).

SPP 3.7 (Policy Measure 6.6) requires development applications for high-risk land uses (such as petrol stations) 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 2021) identifies all new proposed structures within the subject site as being located within areas subject to a BAL rating of BAL-29 or lower.

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.

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 petrol stations. 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.

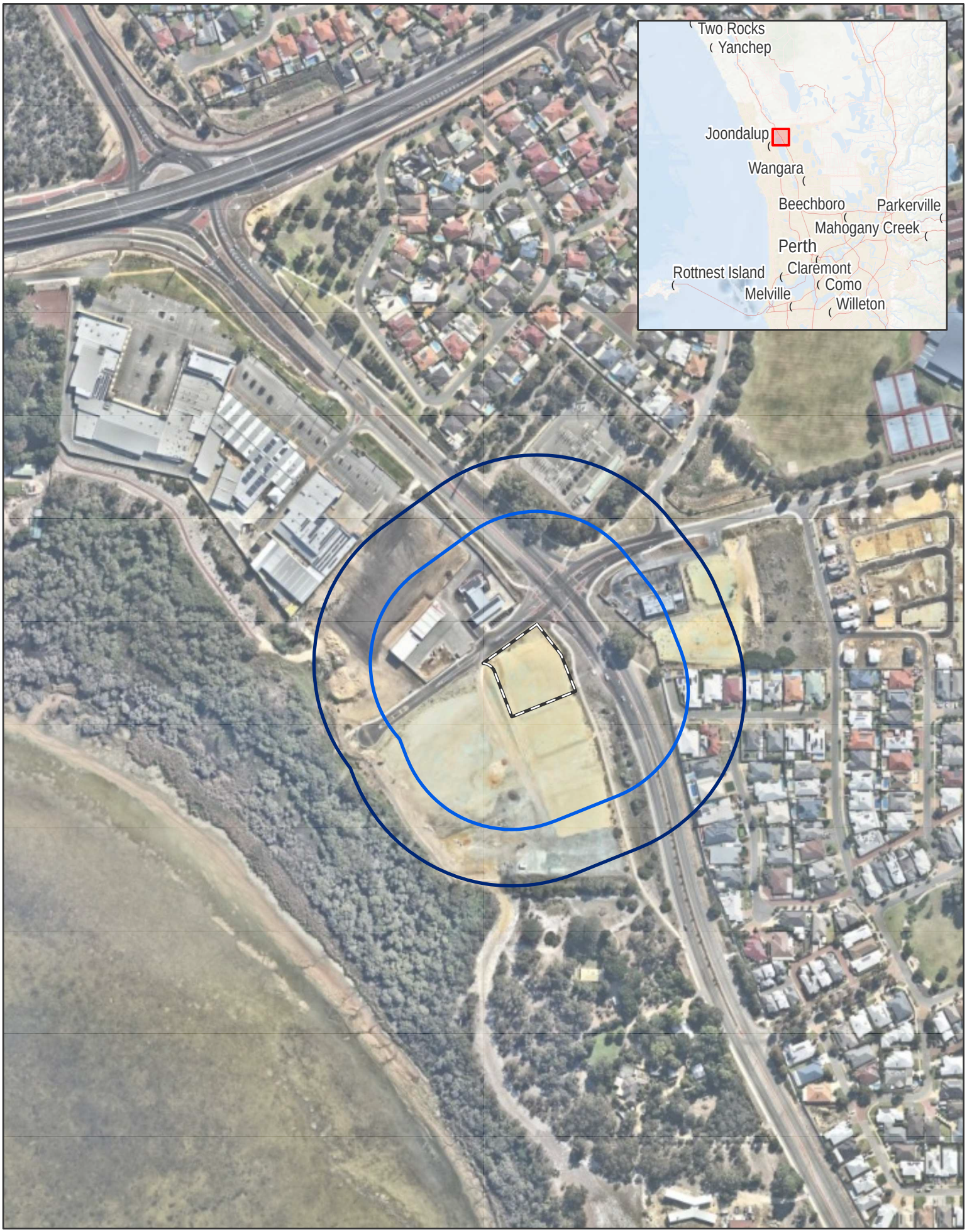

Figure 1: Site Overview

Subject site
100m site assessment
150m site assessment

2

0 37.5 75 150
Metres

Datum/Projection:
GDA 1994 MGA Zone 50

Project: 1933-DD Date: 9/09/2021

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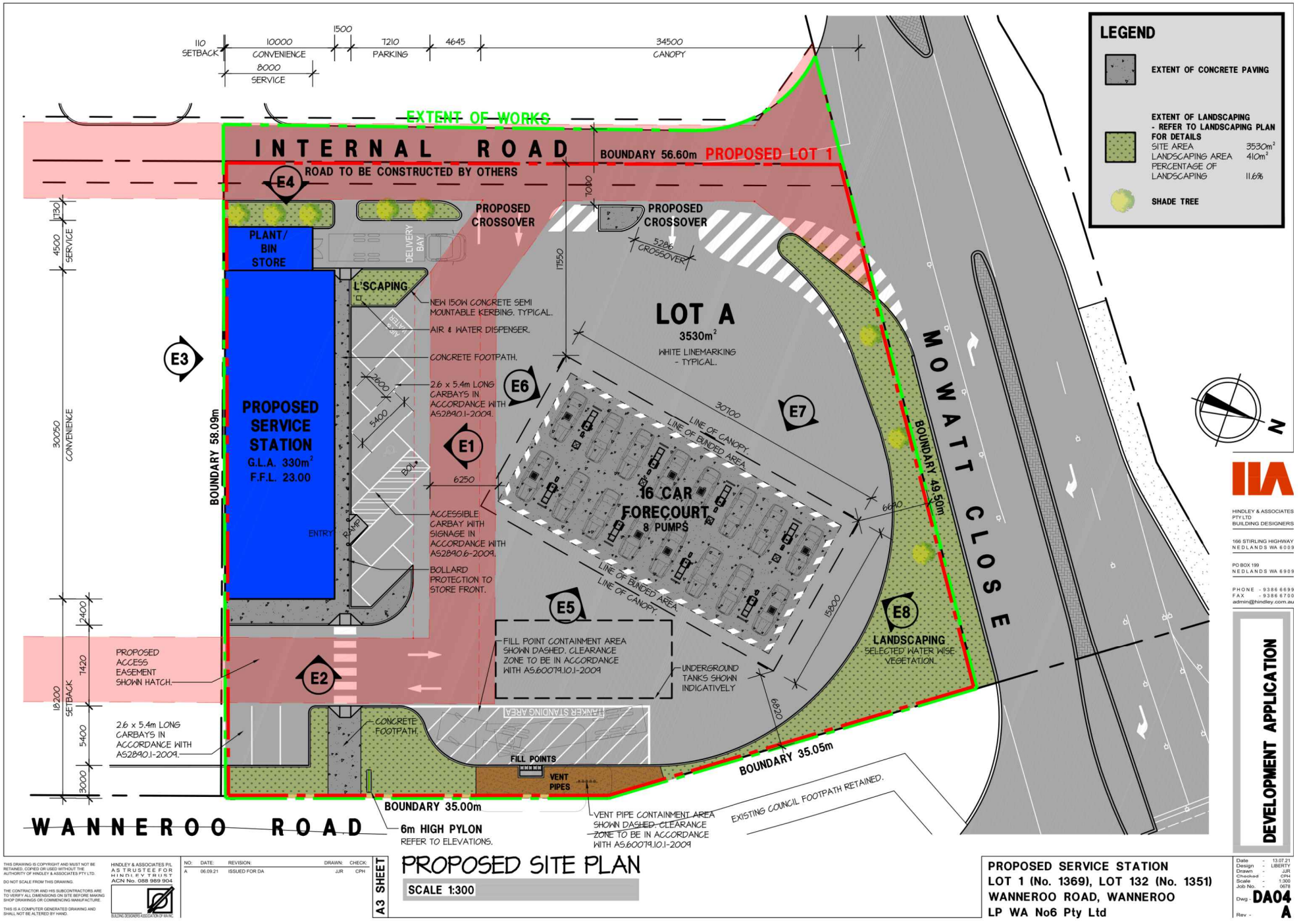

Figure 2: Site Plan

2. Bushfire risk assessment methodology

Australian and New Zealand Standard *AS/NZS ISO 31000:2009 Risk Management–Principles and Guidelines* (SA & SNZ 2009) provides an internationally recognised approach to risk management. Methodology for this process is further described in *Risk Management Guidelines: Companion to AS/NZS 4360/2004* (SA & SNZ 2004), which defines the risk assessment process as outlined in Figure 3.

AS/NZS ISO 31000:2009 is adopted by the Department of Fire and Emergency Services (DFES), as documented in the agency's Bushfire Risk Management Framework (DFES 2015).

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.

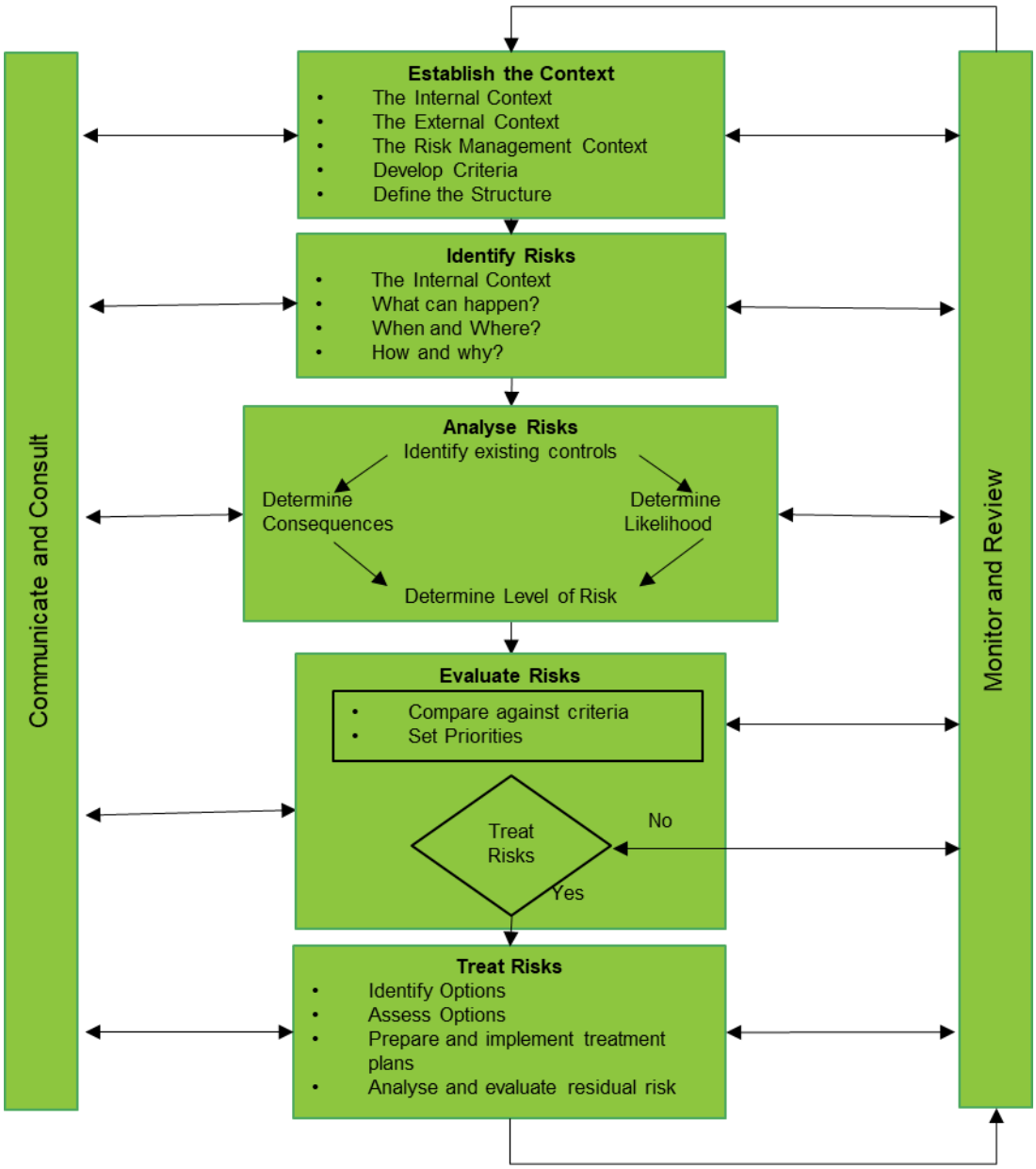

Figure 3: Risk assessment process as per AS/NZS ISO 31000:2009

3. Identified bushfire scenarios

The BMP (ELA 2021) 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). Whilst there is classified vegetation in multiple directions from the subject site, ELA considers that bushfire approaching the subject site from the west or south is the only risk scenario worth considering in this BRMP. Vegetation to the north and east is not substantial and is unlikely to pose a significant bushfire risk to the site.

A description of the potential bushfire scenario is provided in the following subsections and November-February wind roses for Perth Airport Weather Station (Station No. 9021, approximately 30 km from the subject site) used to identify potential directions of bushfire attack are provided in Appendix A (BoM 2021).

3.1 Scenario - Bushfire approaching subject site from the west or south

A bushfire may approach the subject site from the west or south through forest and grassland fuel. Predominant wind directions from the east early in the day during the bushfire season (BoM 2021) would push the direction of fire spread away from the subject site however south-westerly winds in the afternoon (BoM 2021) would alter the direction of fire spread towards the subject site.

The vegetation posing a bushfire risk in this scenario is a thin strip between the western boundary of the subject site and Lake Joondalup. Whilst this area could facilitate a bushfire occurrence, its limited size would be unlikely to support a fully-developed bushfire and consequently may pose a lower risk to the subject. It should be noted that the vegetation surrounding Lake Joondalup is classified as wetland vegetation, surrounding an area that has water all year around. The risk assessment has been undertaken based upon the assumption wetland areas contain water even in the height of summer.

The cleared land to the south along the southern border of the subject site, 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.

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 scenario 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.

Table 4: Bushfire risk assessment

Bushfire risk	Comments	Likelihood	Consequence	Inherent risk	Mitigation	Likelihood	Consequence	Residual risk
Scenario: Bushfire impacting subject site from the west or south.	**Safety risk** Forest and grassland fuels, adjacent to Lake Joondalup, classified as a wetland (including the surrounding vegetation meaning that the vegetation is inundated with water), short fire run, network of informal sandy tracks throughout the vegetation to limit rate of spread, easily accessible for suppression response. Greatest level of impact would occur under adverse fire weather conditions with a south-westerly wind. 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

5. Bushfire mitigation measures

Results of the bushfire risk assessment indicate that the assessed bushfire scenario poses a medium level of inherent risk to life and property.

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 service station will be fitted with a monitored alarm system, which when activated triggers an automatic response to the nominated security company.

Fire extinguishers will be located within the subject site at each fuel dispenser. There will be emergency stop buttons for the fuel system at the Point of Sale and externally on the front of the retail building. Only personnel trained in the use of extinguishers should be utilising this equipment and only if safe to do so.

A Spill Response Kit will be maintained on the subject site at the front apron of the retail building, accessible to the forecourt. Fire services are to be called in the event of a spill that covers more than 2 m^2 and cannot be cleaned with a spill kit at site or it is not considered safe to do so.

5.2 Evacuation plan and assembly points

Liberty 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 annually. All occupants working on the site are required to participate.

5.4 Bushfire suppression

The Joondalup Fire & Rescue Service is located approximately 1.1 km from the subject site and is expected to provide a conservative emergency suppression response time of 10 minutes in the event of an emergency.

5.5 Landscaping

All landscaping areas within the subject site will be maintained in accordance with *Standards for Asset Protection Zones* (WAPC 2017).

5.6 Additional measures

5.6.1.1 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 inside the retail building. 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.

5.6.1.2 Ignition sources

Operators of dangerous goods sites are required to manage potential ignition sources, such as hot works and electrical equipment, within any on-site hazardous areas.

5.6.1.3 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.

7. References

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Appendix A November to February wind roses for Perth Airport (Station No. 9021; BoM 2021)

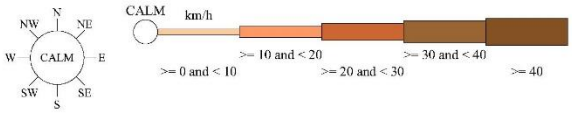
Rose of Wind direction versus Wind speed in km/h (01 May 1944 to 13 Aug 2021)

Custom times selected, refer to attached note for details

PERTH AIRPORT

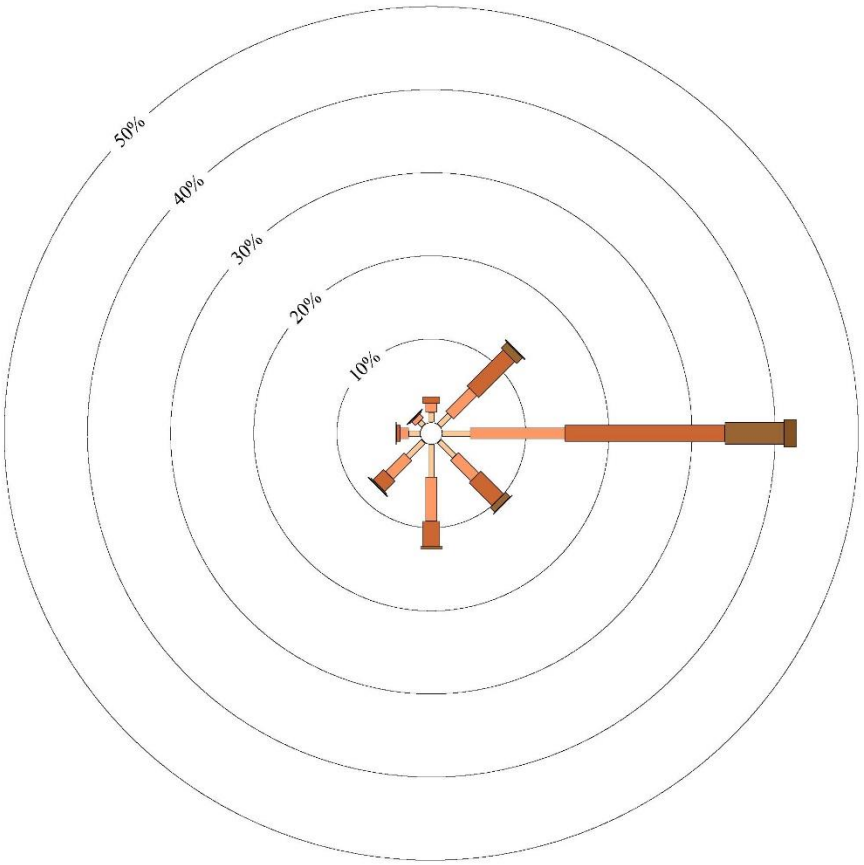
Site No: 009021 • Opened Jan 1944 • Still Open • Latitude: -31.9275° • Longitude: 115.9764° • Elevation 15.m

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
2174 Total Observations

Calm 7%



Australian Government
Bureau of Meteorology

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Rose of Wind direction versus Wind speed in km/h (01 May 1944 to 13 Aug 2021)

Custom times selected, refer to attached note for details

PERTH AIRPORT

Site No: 009021 • Opened Jan 1944 • Still Open • Latitude: -31.9275° • Longitude: 115.9764° • Elevation 15.m

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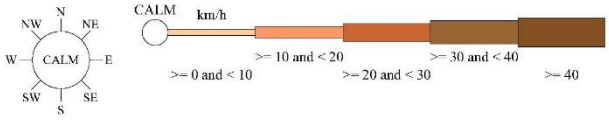
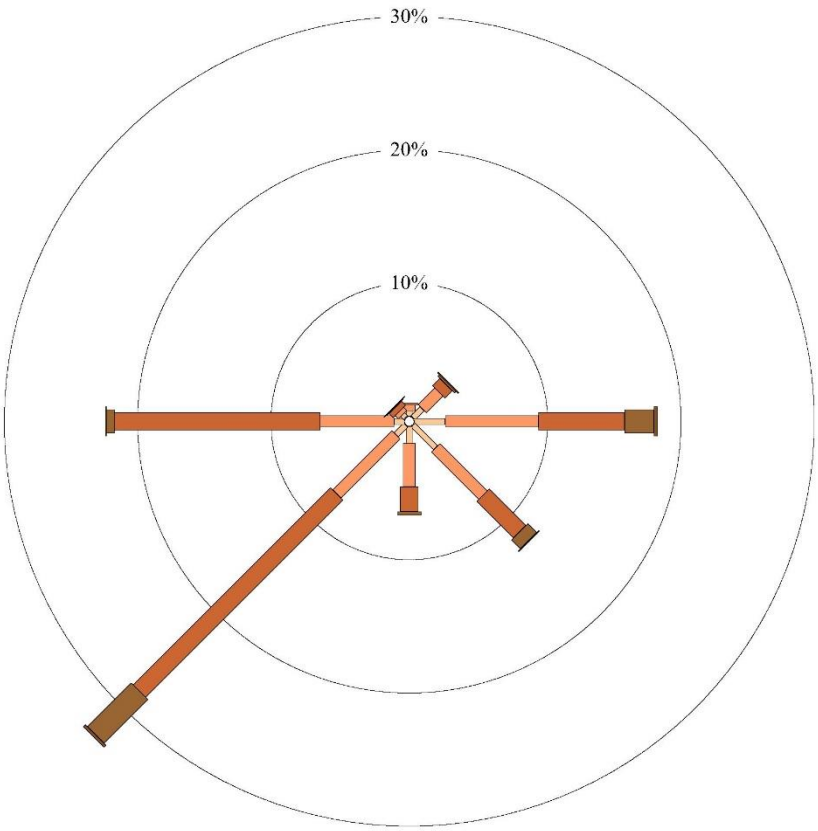


3 pm Feb
2172 Total Observations

Calm 2%



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Rose of Wind direction versus Wind speed in km/h (01 May 1944 to 13 Aug 2021)

Custom times selected, refer to attached note for details

PERTH AIRPORT

Site No: 009021 • Opened Jan 1944 • Still Open • Latitude: -31.9275° • Longitude: 115.9764° • Elevation 15.m

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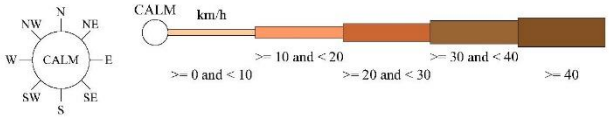
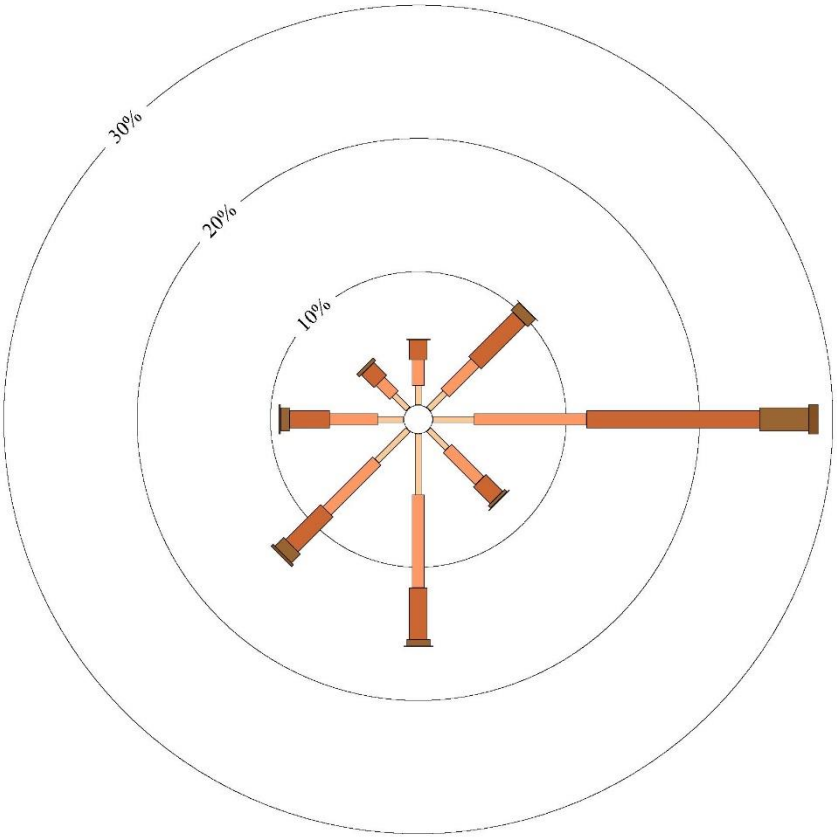


9 am Nov
2309 Total Observations

Calm 5%



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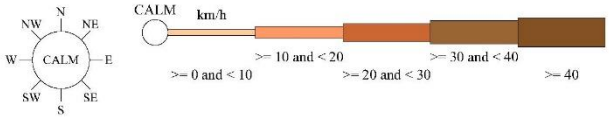
Rose of Wind direction versus Wind speed in km/h (01 May 1944 to 13 Aug 2021)

Custom times selected, refer to attached note for details

PERTH AIRPORT

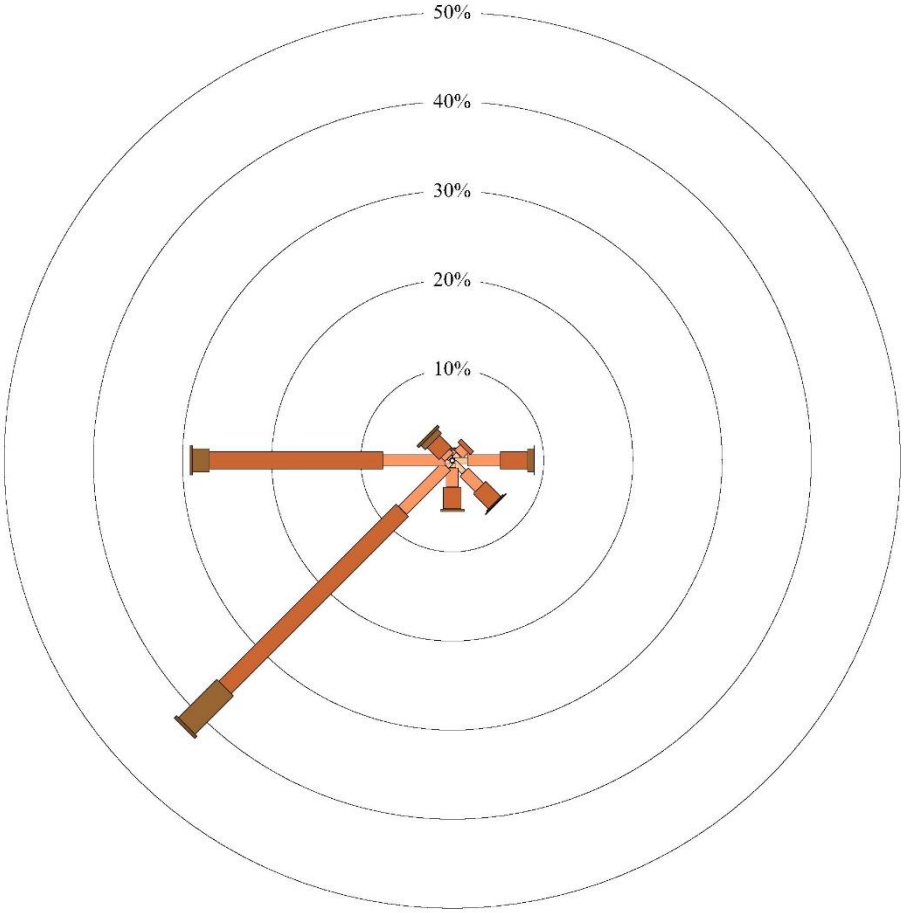
Site No: 009021 • Opened Jan 1944 • Still Open • Latitude: -31.9275° • Longitude: 115.9764° • Elevation 15.m

An asterisk (*) indicates that calm is less than 0.5%.
Other important info about this analysis is available in the accompanying notes.



3 pm Nov
2306 Total Observations

Calm 1%



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