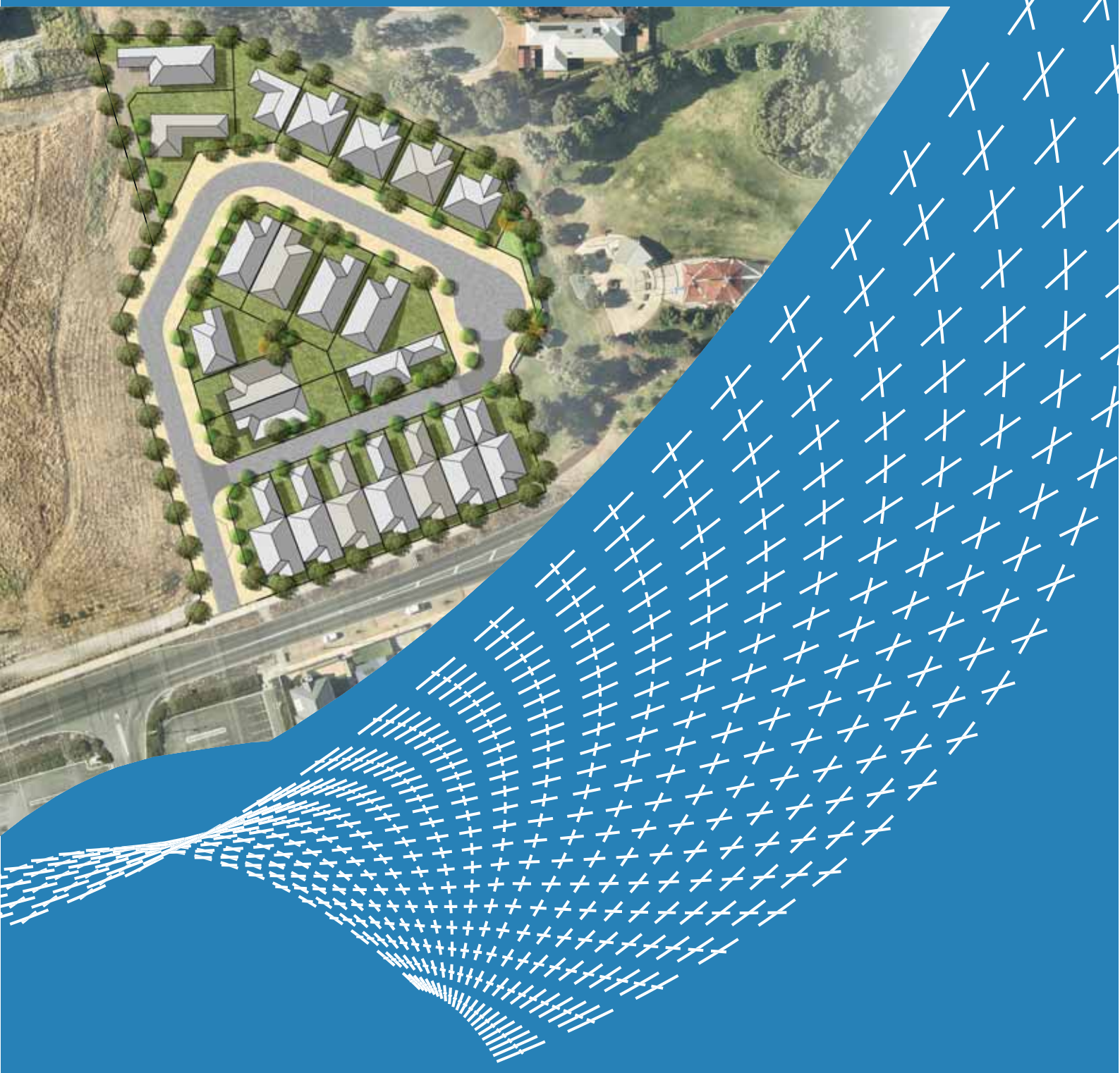
LOT 559 & LOT 9073
WENTWORTH PARADE, SUCCESS
STRUCTURE PLAN

APRIL 2025



Prepared for Richard Noble Pty Ltd.

WAPC ref: SPN/2389

HATCH

Document Control

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Revision	Comment	Author	Approved by	Date Issued
A	Draft for client review	TT	TT	April 2024
B	Draft for client review	TT	TT	July 2024
C	City of Cockburn updates for advertising			July 2024

CITATION

This document should be cited as follows:
Lot 559 and Lot 9073 Wentworth Parade, Success Structure Plan Amendment No.1 prepared by Hatch.

hatch.com

TABLE OF AMENDMENTS

Amendment No.	Summary of amendment	Amendment Type	Date approved by WAPC
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TABLE OF DENSITY CODE PLANS

Amendment No.	Summary of amendment	Amendment Type	Date approved by WAPC
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ENDORSEMENT PAGE

This Structure Plan is prepared under the provisions of the City of Cockburn Local Planning Scheme No. 3.

IT IS CERTIFIED THAT THIS STRUCTURE PLAN WAS APPROVED BY RESOLUTION OF THE WESTERN AUSTRALIAN PLANNING COMMISSION ON:

12 May 2025

Signed for and on behalf of the Western Australian Planning Commission

An officer of the Commission duty authorised by the Commission pursuant to section 24 of the *Planning and Development Act 2005* for that purpose, in the presence of:

Anne Woodin

Witness

14 May 2025

Date

14 May 2035

Date of Expiry

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Executive Summary

This Structure Plan has been prepared to guide the development of Lot 559 and a portion of Lot 9073 Wentworth Parade, a 1.2167ha hectare site located within the City of Cockburn.

The Lot 559 and Lot 9073 Wentworth Parade, Success Structure Plan provides an overarching planning framework for the subject site. Implementation of a Structure Plan over the site will ensure compliance with the current statutory framework established by the Planning and Development (Local Planning Schemes) Regulations 2015 and allow for the provision of additional guidance which will ensure that future development is of a high quality and appropriately responds to surrounding development.

The Structure Plan supersedes the approved Lot 559 Wentworth Place Structure Plan endorsed on 11 April 2017, which superseded the previously endorsed Magnolia Gardens Phase One Structure Plan. The currently endorsed Structure Plan otherwise continues to coordinate development of the surrounding locality.

This Structure Plan been prepared in support of the designation of the subject site to Residential at a density of R30. This rezoning will enable a residential development of 22 lots, facilitating the development of dwellings in proximity to the Aubin Grove Train Station, an area of public open space and a new road reserve. This outcome supports state and local strategic planning objectives which seek to increase the number of dwellings in close proximity to public transportation.

It is anticipated that the Structure Plan area will accommodate 22 dwellings in a variety of sizes and shapes including compact lots, rear loaded lots and irregular lots, an area of public open space and a new road reserve within a section of the neighbouring site. An overview of the Structure Plan and its key elements is provided in the Executive Summary Table.

Executive Summary Table

Item	Data	Structure Plan Ref.
Total area covered by the Structure Plan	1.2167 ha	1.2.3
Area of each land use proposed: • Residential • Public Open Space • Local Roads	 8,236m^2 82m^2 3,849m^2	4.5
Estimated lot yield	22 lots	4.1
Estimated number of dwellings	22 dwellings	4.1
Estimated residential density (Nett)	26 dw/ha	4.1
Estimated population (Based on 2.8 persons per dwelling)	61 people	4.3
Estimated percentage of public open space (Urban Zone)	(82m2) (0.67%)	4.5
Estimated commercial floor space	-	
Number of high schools and primary schools	-	

PART ONE
IMPLEMENTATION

01 Structure Plan Area

This Structure Plan applies to Lot 559 and Lot 9073 Wentworth Parade, Success, being the land contained within the inner edge of the line denoting the structure plan boundary on the Structure Plan Map (refer Plan 1).

02 Structure Plan Content

This Structure Plan comprises the:

- Implementation section (Part 1)
- Explanatory section (Part 2)
- Technical appendices (Part 3)

03 Interpretations and Use Class Permissibility

Land use permissibility within the Structure Plan area shall be in accordance with the Structure Plan Map and corresponding Zones and Reserves under the City of Cockburn Town Planning Scheme No.3.

04 Operation Date

The Structure Plan is in effect from the date stated on the cover and for a period of 10 years or for any other period approved by the WAPC, in accordance with the *Planning and Development (Local Planning Schemes) Regulations 2015 Schedule 2 - Deemed Provisions.*

The Structure Plan is to be given due regard when making decisions on the subdivision and development of land within the structure plan area.

05 Residential Density

Plan 1 defines the residential density, in accordance with the Residential Design Codes, that applies to specific areas within the Structure Plan area.

06 General Subdivision and Development Requirements

6.1 Notifications on Title

In respect of an application to develop or subdivide the land, a condition shall be imposed or recommended to be imposed on the grant of approval advising that a notification is to be placed on the Certificate(s) of Title(s):

i. To advise of the increased risk of mosquito borne diseases due to the proximity of Thomson's Lake and Harry Waring Marsupial Reserve;

ii. The following notification is to be placed on Certificate(s) of Title(s) of all lots located within an area declared bushfire prone and subject to a bushfire attack risk level of 12.5 or more:

"This land is within a bushfire prone area as designated by an Order made by the Fire and Emergency Services Commissioner and is subject to a bushfire management plan. Additional planning and building requirements may apply."

iii. The following notification is to be placed on the Certificate(s) of Title(s) of all lots within an area declared bushfire prone and is subject to a bushfire attack risk level of BAL-40 or BAL-Flame Zone:

"No habitable buildings are to be built within areas of BAL-40 or BAL-Flame Zone."

6.2 Local Development Plans

1. Local Development Plans (LDPs) are required for lots comprising one or more of the following site attributes:

i. Lots with rear-loaded vehicle access;

ii. Lots with direct boundary frontage (primary or secondary) to an area of Public Open Space;

iii. Lots abutting the existing drainage reserve.

6.3 Infrastructure Requirements

Replacement crossing points and footpaths are to be in place prior to removal of the existing facilities to ensure continued access is provided to public transport facilities for existing residents.

6.4 Other provisions / standards / requirements

i. Proportional contributions being made towards DCA 13 (Community Infrastructure) in accordance with clause 6.3 of the City of Cockburn Town Planning Scheme No. 3

ii. Public Open Space (POS) contributions being met primarily via cash-in-lieu;

iii. The site adjoining the SP site to the east contains a powerline easement and is zoned Special Use Zone No.23 (SU23). A portion of the proposed road reserve will be located on this site.

Plan 1: SP559.1 Local Structure Plan Map

PART TWO
EXPLANATORY

01 PLANNING BACKGROUND

1.1 Introduction and purpose

This report has been prepared on behalf of Richard Noble Pty Ltd, in support of a Structure Plan for Lot 559 and Lot 9073, Wentworth Parade, Success (Structure Plan area). The Structure Plan will provide for residential development, an area of public open space and new road reserves. The project team responsible for the preparation of the Structure Plan are:

- Hatch - Town planning, design and landscape concept;
- The Civil Group – Drainage Management Strategy; and
- Transcore - Traffic Impact Assessment.
- JBS&G- Bushfire Managament Plan

1.2 Land description

1.2.1 Location

The Structure Plan area is in the locality of Success which is approximately 21.5 kilometres south of the Perth Central Business District and 2.5 kilometres south of the Cockburn Central Activity Centre within the municipal boundaries of the City of Cockburn. The Structure Plan area is bounded by a vacant lot in Special Use Zone – Schedule 23 with a powerline easement to the west, Wentworth Parade to the south, an area of parkland to the east and a drainage reserve to the north.

The Structure Plan area is located in close proximity to transport infrastructure, being approximately 600 metres north of the Aubin Grove Train Station, and 600 metres north of the Russell Road Kwinana Freeway interchange. As above, the site is also located in close proximity to Public Open Space, directly adjoining Wentworth Parade park at two frontages and being located approximately 200 metres east of the Success Regional Sporting Facility. The site is also well-serviced by commercial facilities, being located approximately 800m north of Harvest Lakes Shopping Centre, and educational facilities, with Success Primary School located approximately 200 metres west of the site.

Figure 1: Regional Context Plan

Figure 2: Local Context Plan

1.2.2 Area and land use

Success is typically characterised by low-density single detached residential dwellings constructed within the last two decades. Some examples of grouped dwelling developments, including duplexes and villas, are distributed throughout the locality.

The Structure Plan area has a total area of 1.2167 hectares and is currently vacant and cleared of vegetation.

Figure 3: Site Plan

1.2.3 Legal description and ownership

The legal description of the subject land is provided in Table 1. Aerial photograph plan depicts the lots and their land use (Figure 3).

Table 1: Property Details

Lot No.	Street Address	Volume/Folio	Plan	1.2167haArea	Registered Proprietor
559	332 Wentworth Pde, Success	2781/783	71906	1.0942 ha	Richard Noble Pty Ltd
9073	Wentworth Pde, Success	2849/2	76373	1,225 m^2	Richard Noble Pty Ltd
Total Site Area				**1.2167 ha**	

1.3 Planning framework

1.3.1 Zoning and reservations

1.3.1.1 Metropolitan Region Scheme

The Structure Plan area is zoned 'Urban' under the provisions of the Metropolitan Region Scheme (MRS).

1.3.1.2 City of Cockburn Town Planning Scheme No. 3

Lot 559 is zoned 'Development' (Development Area 8) under the provisions of the City of Cockburn Town Planning Scheme No.3 (TPS 3). Cl 3.2.1 provides the following objectives for the 'Development' zone:

i. Development Zone

To provide for future residential, industrial or commercial development to be guided by a comprehensive Structure Plan prepared under the Scheme

As a requirement for land zoned 'Development' in TPS 3, a Structure Plan has to be prepared prior to Council providing comment on subdivision applications and determining development applications.

Lot 9073 is zoned 'Special Use 23' under the provisions of the City of Cockburn Town Planning Scheme No.3 (TPS3). Cl. 3.2.1 provides the following objectives for 'Special Use' zones:

ii. Special Use Zone

To provide for uses which have unique development requirements that cannot be easily accommodated by the objectives of any of the other zones included in the Scheme

As a requirement for land Zoned 'Special Use' in TPS3, development must comply with any conditions set out in Table 8 with respect to that land.

This Structure Plan report has been prepared in accordance with requirements of Part 4 of the Deemed Provisions, as guided by Cl. 5.2 and Table 9 (Development Area 8- Success Lakes Special Provisions) and Table 8 (SU23) of TPS3.

Figure 4: Metropolitan Region Scheme Zoning

1.3.2 Applicable Structure Plans

1.3.2.1 District Structure Plan

The Structure Plan area was subject to the provisions of the Southern Suburbs District Structure Plan (1999), prepared by the City of Cockburn. The District Structure Plan designates the subject site as Residential.

1.3.2.2 Structure Plan Background

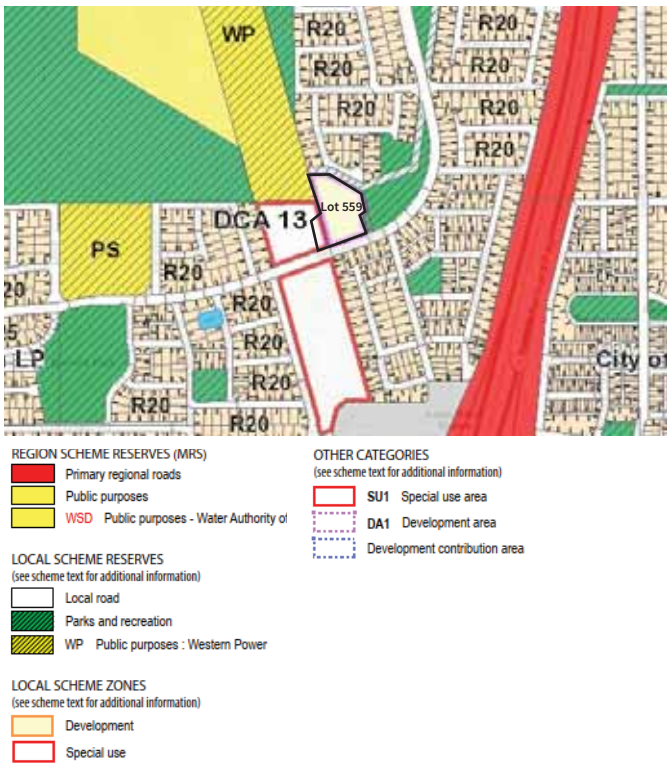
The Structure Plan area was subject to the Lot 559, Wentworth Parade Success Structure Plan approved by the Western Australian Planning Commission on 11th April 2017 which designated the site for a mixed-use development which was viewed as a scale best to enable transit-oriented development.

Prior to the approval of the Lot 559, Wentworth Parade Success Structure Plan, the Structure Plan area was subject to Magnolia Gardens Phase One Structure Plan (SP8A), which was approved by the City of Cockburn on 17 January 2004. SP8A identifies the SP area for Residential (R40) and Local Centre use.

Prior to the endorsement of the Magnolia Gardens Structure Plan, the site was subject to the Success Lakes Estate Structure Plan, prepared in August 2001.

This Structure Plan has been prepared to supersede the 2017 Lot 559 Wentworth Parade, Success Structure Plan and enable development at a scale which respects the surrounding residential character and built form.

Figure 5: Town Planning Scheme No.3 Zoning



1.3.3 State Strategies

1.3.3.1 State Sustainability Strategy

The State Sustainability Strategy provides an overarching framework for the State Government to respond to the sustainability agenda. The Strategy identifies the following six broad goals and 42 strategy areas intended to fulfil these goals and to guide Government action towards achieving its vision for a sustainable Western Australia:

- Sustainability and governance;
- Contributing to global sustainability;
- Sustainable natural resource management;
- Sustainability and settlements;
- Sustainability and community; and
- Sustainability and business.

The policy objectives of the State Sustainability Strategy are incorporated into the planning system through State and Local Government policy and formally applied through planning decisions. The role of sustainability - economic, environmental and social - is fundamental to the planning of the site and is implicitly embodied in the content of this Structure Plan.

1.3.3.2 State Planning Strategy

The State Planning Strategy (2050) was prepared by the WAPC as a whole of Government Approach to build strategic planning capacity and capability around a planning vision for the state up until 2050. The Strategy is based on a framework of planning principles, strategic goals and State strategic directions that respond to the future land-use planning and development of Western Australia. This includes planning for the State's land availability, physical and social infrastructure, environment, economic development and security. The Structure Plan is consistent with the goals and objectives of the State Planning Strategy.

1.3.4 State Planning Policies

1.3.4.1 Perth and Peel @ 3.5million

Peel and Perth @ 3.5million provide high-level land use planning and infrastructure frameworks that aims to accommodate 3.5 million people by 2050.

The frameworks define the urban form for the next 30 years, limit unsustainable urban sprawl and encourage greater housing diversity to meet changing community needs. The frameworks determine where new homes and jobs will be located, make best use of existing and proposed infrastructure, and protect importance environmental assets.

They encoruage significiantly greater infill development with almost half

Perth and Peel @3.5million is supported by the Central, North-West, North-East and South Metropolitan Peel frameworks, which collectively guide the future growth of the Perth and Peel regions as a compact, consolidated and connected city that has the potential to accomodate 800,000 new homes for the projected population growth of 3.5 million people by 2050. This aims to be delievered through a mix of infill and greenfield development with targets of 47 per cent and 53 per cent respectively.

The structure plan is involved in South Metroplitan Peel Sub-regional planning framework. This framework sets out the minimum infill dwelling targets to 2050. The City of Cockburn aims to provide 14,680 dwellings by 2050, with an estimated population of 32,300.

1.3.4.2 Liveable Neighbourhoods

Liveable Neighbourhoods, Edition 3 (LN 3) is a Western Australian Planning Commission (WAPC) policy used to guide the design and assessment of structure plans (regional, district and local) and subdivision and development applications for new urban areas. Its aims include promoting the design of walkable neighbourhoods; places that support community and a sense of place; mixed uses and active streets; accessible and sustainable parks; energy efficient design; and housing choice. The key initiatives of LN 3 are covered under eight design elements.

The implementation of each of these elements and the fulfilment of the overall principles of LN 3 will be fundamental to ensuring that development of the structure plan area and the wider metropolitan region occurs in a thoughtful and sustainable manner. Application of the LN 3 principles is therefore relevant to all levels of planning for the site from the proposed Structure Plan through to detailed lot and building design. By providing for a diverse range of housing within a connected and walkable neighbourhood, configured around a range of accessible open space areas, the Structure Plan reflects the requirements of LN 3.

1.3.4.3 State Planning Policy No.1: State Planning Framework

State Planning Policy No.1: State Planning Framework (SPP1) unites existing state and regional policies, strategies and statements under a central framework to provide a context for decision-making on land use planning and development matters in Western Australia.

The Structure Plan is consistent with the primary aim of this overarching policy, which can be summarised as "…to provide for the sustainable use and development of land." The WAPC and local government will refer to the relevant planning instruments referred to under SPP1 for all planning decisions, including those concerning the Structure Plan and subsequent planning proposals presented for the site.

1.3.4.4 State Planning Policy No.3 Urban Growth and Settlement

State Planning Policy No.3: Urban Growth and Settlement (SPP3) applies to the whole of the State in promoting sustainable and well-planned settlement patterns that have regard to community needs and are responsive to environmental conditions. The objectives and principles of Perth and Peel @ 3.5 million and Liveable Neighbourhoods are enshrined in this Policy.

SPP3 recognises that a majority of new development in metropolitan Perth has been in the form of low-density suburban growth. This form of development intensifies pressure on valuable land and water resources; imposes costs in the provision of infrastructure and services; increases the dependence on private cars; and creates potential inequalities for those living in the outer suburbs where job opportunities and services are limited.

To promote growth that is sustainable, equitable and liveable, SPP3 encourages a more consolidated urban form. In general terms the proposal for the site is consistent with the high-level principles of SPP3. This Structure Plan will facilitate:

- access to public transport (bus and rail);
- suitable access to areas of high quality POS;
- the creation of cohesive and walkable communities through the application of traditional neighbourhood design principles; and
- a diversity of housing types and lot sizes.

1.3.4.5 State Planning Policy 3.7 Bushfire

State Planning Policy 3.7 Bushfire (SPP3.7) provides guidelines that prioritise bushfire requirements to ensure that future housing devliery appropriately balances bushfire risk mitigation and environment conservation measures.

SPP 3.7 became operational from 18 November 2024, along with the Planning for Bushfire Guidelines. Lot 559 and Lot 9073 are located within a Bush Fire Prone Area.

1.3.4.6 Residential Desgin Codes Volume 1, 2024

The R-Codes provide planning and design provisions for residential development across Western Australia. Lot 559 is designated with an R30 coding which will provide the primary controls for the single residential housing to be constructed on the lots.

1.3.4.7 Development Control Policy 1.6 Planning to Support Transit Use and Development.

DCP 1.6 seeks to maximise the opportunities for land use and public transport integration. Lot 559 is located in close proximity to the Aubin Grove train station. The R30 residential code provides for the delivery of residential housing in Lot 559 within the walkable catchment of the Aubin Grove train station (5-10 minute walk)

1.3.5 City of Cockburn Strategies and Policies

1.3.5.1 City of Cockburn Local Planning Strategy

The SSDPS3 states that the District Structure Plan is consistent with the following actions outlined in the City of Cockburn Local Planning Strategy (LPS):

- Ensure there is an appropriate housing and density mix to fulfil existing and potential demand from various groups.
- Promote medium density housing in and near regional and district centres and near public transport facilities.
- Provide a range of housing opportunities; and
- Promote mixed land uses in communities, especially through the location of housing in commercial centres.

The Structure Plan remains generally consistent with the SSDPS3 and as such is in accordance with the above actions within the LPS.

1.3.5.2 Local Planning Policy 5.19 - Structure Plans and Telecommunications Infrastructure (LPP 5.19)

LPP 5.19 requires structure plans to provide evidence of consultation with telecommunications carriers responsible for operating mobile telecommunications infrastructure, to ensure infrastructure requirements are outlined at the earliest stage of planning. Mobile coverage from all major providers is available throughout the Structure Plan area.

Hatch have attempted to contact the major service providers to obtain written confirmation regarding the operation and potential upgrades of telecommunication services in the area, however, no direct line of contact has been possible. Every attempt to contact the providers directly, resulted in being referred to the general enquiry number. Through the coverage mapping provided on each providers website, confirmation of the provision of telecommunication services is provided, with all major providers (Optus, Telstra and Vodafone) providing the structure plan area with 4G, and Telstra and Vodafone providing 5G across the structure plan site.

1.3.5.3 Local Planning Policy 5.5 Local Development Plans

Local Development Plans (LDP's) are a tool to implement lot specific design variations in a consistent manner. For Lot 559 LDP's will apply to those lots with a direct interface with areas of POS, Bushfire management requirement and access restrictions to Wentworth Parade.

1.3.5.4 Local Planning Policy 5.7 Uniform Fencing

Uniform fencing is generally required where development of land abuts the public domain including roads and public open space. For Lot 559, Uniform visually permeable fencing shall be provided along the boundaries of lots abutting public open space, as well as the drainage and public purpose reserves.

02 PRE-LODGEMENT CONSULTATION

The following summarises the pre-lodgement consultation that has informed the progression of the Structure Plan design.

Table 2: Summary of consultation

Date	Attendance	Points of Discussion
January – April 2024	City of Cockburn	Various discussions on the draft Structure Plan design for City of Cockburn feedback and discuss: • Required Technical reports
January – April 2024	Telstra Optus	Various phone calls & E-mails
6 February 2024	DPLH	Meeting to discuss the proposed R30 density & report format.

03 EXISTING SITE CONDITIONS

The bulk of this commentary has been extracted from the presently endorsed Structure Plan as it largely remains relevant.

3.1 Biodiversity and Natural Area Assets

As the site is cleared and located within an established urban environment, the SP area offers no significant biodiversity or natural area assets and is not affected by any statutory environmental listings of significance. As a consequence of this, environmental assessment specific to the subject site is deemed to not be required.

The SP area was subject to environmental assessment as part of the broader Success Lakes Estate Structure Plan (SP8A). SP8A identified that the site had been cleared to facilitate historic land uses such as cattle grazing and market gardens and confirmed the suitability of the area for urban development.

The SP area is located adjacent to Wentworth Park, a recreation reserve. As Wentworth Park does not contain retained vegetation, it is not considered to materially impact upon the SP.

3.2 Landform and Soils

3.2.1 Landform

The subject site is gently sloping, falling from approximately 29m AHD at the southern boundary where the site adjoins Wentworth Parade to 23m AHD at the northern boundary adjoining a drainage reserve.

The site was earth worked and filled with 1 metre of clean fill as part of development works associated with Magnolia Gardens estate. As geotechnical assessment carried out as part of SP8A confirmed that the landform is conducive to residential development, no further analysis is deemed to be required.

3.2.2 Soils

SP8A indicates that the majority of soils within the broader locality are highly leached, deep grey sands of the Bassendean Dune landform system. This soil type is identified as having excellent drainage qualities and being well-suited to urban development.

The Department of Water and Environment Regulation's Swan Coastal Plain Acid Sulfate Soil Risk Map indicates that the subject site is generally Class 2, with a moderate to low risk of acid sulfate soils occurring within 3 metres of the natural soil surface.

As this classification did not preclude development of the surrounding urban area it is not considered to materially impact upon the Structure Plan.

3.3 Site Hydrology and Water Management

As part of development of Magnolia Gardens estate, the drainage has been landscaped as a linear open space and fitted with suitable drainage infrastructure. Run-off on Wentworth Parade is captured by side entry pits and pipes which discharges into a basin for treatment and storage.

There is a small retention basin and open drain in the drainage reserve north of Lot 559 which captures runoff from the development north of the drain. The drain untimely discharges into Thomsons Lake to the west of Hammond Road.

3.4 Bushfire Hazard

In accordance with updated mapping for Bush fire Prone Areas (November 2024), The subject site is designated by the Department of Fire and Emergency Services (DFES) as a Bush Fire Prone Area. in accordance with *State Planning Policy 3.7 Bushfire,* a Bushfire Management Plan is required.

3.5 Site Heritage

3.5.1 Aboriginal Heritage

A search of the Department for Aboriginal Affairs, Cultural Heritage Inquiry System was undertaken in April 2024 for the Success Area, confirming that there are no registered Aboriginal Heritage Places within or adjacent to SP area.

3.5.2 Development History

A search of the Heritage Council of Western Australia Heritage Places Register was undertaken in April 2024 for the Success Area, confirming that there are no known sites of heritage significance within or adjacent to the subject site.

The surrounding locality was designated as the suburb of Success in 1973, named after the HMS Success, a ship commanded by Captain James Stirling during exploration of the Perth region in 1827. Prior to residential development, the subject site and surrounding locality were partially cleared and utilised for cattle grazing. Development of the Magnolia Gardens locality, within which the subject site is located, was governed by the Success Lakes Structure Plan (SP8A) and latter revisions known as Magnolia Gardens Phase One and Phase Two and Three. Development of the Magnolia Gardens locality was commenced subsequent to the approval of these governing documents between 2000-04, with the immediate surrounds of the subject site developed between 2008-11.

3.6 Western Power Powerline Easement and SU23

A western power transmission line corridor, containing three lines, adjoins the western boundary of the subject site and will contain a portion of the new road reserve as proposed in this structure plan. The width of the Easement is approximately 120 metres and contains a number of steel-framed pylons that support high voltage power transmission cables.

This site is within a Special Use Zone- No. 23. The SU23 is described in the City of Cockburn Planning Scheme No.3 as follows:

All land within transmission line corridors designated as SU23 on the Scheme Map.

The only portion of this proposal in the SU23 is the road reserve, which is not a land use that is precluded in the SU23.

04 STRUCTURE PLAN

4.1 General

The structure plan provides for residential development of approximately 22 dwellings, an area of public open space (POS) and new road reserves. A draft subdivision plan for the site is provided at Appendix 1.

4.2 Land Use

As depicted in the Structure Plan Map, it is proposed that the subject site be zoned to accommodate residential development with an area of POS and new road reserves, which makes use of the close proximity of the site to Aubin Grove Train Station and Wentworth Park, in accordance with State and Local planning policy relating to transit-oriented and infill development and the provision of diverse and affordable housing. The Structure Plan is consistent with the existing State and Local Government planning framework applicable to the subject site and will contribute to accommodating forecast population growth within the City of Cockburn.

4.3 Residential

The Structure Plan area is to have an applicable residential density of R30, in accordance with Residential Design Codes Volume 1. The existing structure plan was an ambitious proposal to deliver 'Mixed Use' development to the site. The residential density code of R100 was proposed to enable the development of approximately 80-130 multiple dwellings. The ground floor of the development allowed for commercial tenancies in response to any market demand. The R100 density coding was considered appropriate given the proximity to the Aubin Grove Train Station (approximately 600m away), adjacent bus routes and connections to Cockburn Central, Gateway shopping centre and surrounding service and employment facilities.

Unfortunately, in the 8 years since adoption of the current structure plan there has been little commercial interest in the site. Furthermore, given the increasing building costs associated with apartment / multiple dwellings the form of development proposed under the current structure plan is not commercially viable. The surrounding area has predominantly been developed for single residential dwellings with an average lot size of 378sqm. The proposed R code of R30 and corresponding residential concept plan proposes the creation of 22 lots ranging in area from 300sqm to 660sqmwith an average lot area of 374sqm. The lot range and average lot size is in keeping with the surrounding locality and will address in a small way the need for affordable housing. The proposed 22 lots /dwellings will generate a resident population o 61 persons.

The proposed lot design provides for lots fronting Wentworth Pde and accessed via a rear laneway. This design reflects the existing housing on the southern side of Wentworth Pde and will provide for a consistent streetscape. These lots will be provided with uniform fencing fronting Wentworth Pde and visitor parking located on the new subdivisional road. The majority of the balance lots will have frontage to the subdivisional road. Those lots backing onto the existing drainage corridor and POS will be provided with uniform fencing that will have some elements of visual permeability. The subdivisional road has been designed to provide for views of the adjacent Wentworth Park from those residential lots on the eastern boundary. Lots on the western boundary will have frontage to the adjacent vacant landholding which contains the Western Power easement. The small POS area has been provided to ensure a pedestrian linkage to the adjacent Wentworth Park. (Refer Appendix 1 – Draft Subdivision Design).

4.3.1 Surrounding Residential Density

A substantial portion of the residential area to the north of the Aubin Grove Train Station, situated to the immediate south of the subject site, is zoned to a residential density of R40 in accordance with the Magnolia Gardens Structure Plan. Therefore, amending Lot 559 to an R30 density coding will more accurately reflect the surrounding density of Success.

4.4 Movement Networks

This section has been informed by a Transport Impact Statement undertaken by Transcore, appended as Appendix 2.

4.4.1 Movement Hierarchy

Wentworth Parade northeast of the subject site is constructed as a two-lane boulevard-style road standard with one lane in each direction and a 4.5m central median. Wentworth Parade is classified as a Local Distributor road in the Main Roads WA Functional Road Hierarchy and has a posted speed of 60 km/h.

It is estimated that the structure plan would generate a total of approximately 176 daily vehicle trips with around 18 trips during both AM and PM peak hour periods including inbound and outbound movements. The traffic assessment undertaken demonstrates that the impact of the structure plan traffic on the surrounding road network will be insignificant.

4.4.2 Pedestrian Movement

There is good pedestrian connectivity surrounding the subject site through a 2.0m shared path located on the northwest side of Wentworth Parade and a 1.5m footpath on the southeast side of Wentworth Parade opposite the subject site. Pedestrian crossing facilities including drop kerbs/pram ramps and median refuges currently exist in many locations along Wentworth Parade, including in close proximity to the subject site. The subject site has adequate pedestrian access to/from the Aubin Grove Station precinct, south of Wentworth Parade. Given the introduction of the new subdivisional road the existing pedestrian crossing / pram ramp is to be relocated to the east to avoid any vehicle conflicts.

A pedestrian path and stair access is shown on the landscape plan to ensure residents will have access to the adjoining Wentworth Park. A portion of the existing shared / dual use path along Wentworth Parade will be removed and constructed to ensure no conflict with the creation of the proposed residential lots. The new shared use path will tie-in with the red asphalt path within the adjoining POS reserve (Wentworth Park).

4.4.3 Cycling

There is sufficient cyclist connectivity to the subject site via a 2.0m shared path on the northwest side of Wentworth Parade.

The closest bicycle access connection to the Principal Shared Path adjacent to the freeway is available from Savannah Circuit, which intersects Wentworth Parade about 200m northeast of the subject site.

4.4.4 Public Transport

The subject site is currently served by Transperth bus route 526 which stops on Wentworth Parade right in front of the subject site. This service connects to Cockburn Central Station, providing access to the Mandurah railway line.

The subject site is also located 420m from Aubin Grove Station, also on the Mandurah line. This can be accessed by foot via the existing footpath network in this locality.

The order and timing of works is necessary to ensure continued access to the existing bus stop by surrounding residents during the construction process. This includes the replacement of crossing points and footpaths prior to removal of existing facilities.

4.4.5 Private Vehicle Access and Parking

The structure plan proposes that all residential lots are accessed by an internal road located south-west corner of the site forming a priority-controlled t-intersection with Wentworth Parade.

The internal road is proposed to be two-way with a variable road reservation ranging from 13.5m to 15.0m albeit with a consistent 6.0m wide trafficable carriageway, with latter reservations broadly consistent with the Access Street D reservation recommendation of 14.2 (WAPC Liveable Neighbourhoods 2009). A portion of the internal road on approach to Wentworth Parade is proposed to be situated within the adjacent Western Power easement site. The structure plan also introduces a cul-de-sac with an 18m diameter bulb, with a 6.0m rear lane servicing Lots fronting onto Wentworth Parade.

The resident and visitor parking are expected to be accommodated individually within each residential lot or on-street along the access street. Additional parking embayments (4 car bays) are provided along the south-west section of the access road as visitor parking for the rear-loaded lots fronting Wentworth Parade.

As per Section 3.6, a portion of the new road reserve is located in the neighbouring site which is zoned SU23. Road is not a land use that is precluded in the SU23. The road reserve will be provided with street trees and mulch to provide an appropriate interface to the adjacent site. In addition a 1.2m double post and rail chainlink fence will be provided along the boundary to preclude vehicle access.

4.5 Open Space

This section has been informed by a Landscape Concept Plan appended as Appendix 3.

There is one small area of POS provided in the Structure Plan of approximately 82m^2 in size. It borders Wentworth Park to the east, offering a green link between the dwellings and the park.

Liveable Neighbourhoods identifies the function of POS as: sport, recreation, and nature, which replaces the terms active and passive use. A balance between native vegetation retention and provision of urban water management is advocated through the provision of functional POS for sport, nature and recreation. Nature spaces provide a setting for people to enjoy and connect with nature. Nature spaces should be fully accessible to the public (i.e. not fenced off), although providing walking trails to prevent undue damage to vegetation is acceptable.

Public Open Space for the area was delivered under the guidance of the former planning framework for the locality, the Magnolia Gardens Phase One Structure Plan.

The area previously allocated for Local Centre under the former planning framework and was designated as a deduction for the purposes of calculating Public Open Space. As such, Public Open Space will need to be provided based on 10% applicable to the Residential proportion of the of the site physically (1%)and as cash-in-lieu (9%)

Table 3: POS Schedue

Gross Site Area			1.2167ha
Deductions			
Public Open Space @10%			0.1217ha
Public Open Space Contribution		0.0082ha	
Public Open Space shortfall @10%			0.1135ha
Public Open Space Provision	**0.0082ha**	**0.67%**	**9.33%**

4.6 Water Management

A Drainage Management Strategy has been prepared by The Civil Group and is appended as Appendix 4.

In accordance with the City of Cockburn's requirements for lots greater than 300 m2, all stormwater falling within lot boundaries will be contained within the lot. Runoff from roofs will be directed to soakwells and pervious garden areas where it will infiltrate through sandy soils to groundwater.

Runoff from roads and verges will be collected in gully pits and side entry pits, interconnected with a pipe network. The pits will have soakwell liners, perforated bases and a 1.2m deep trap below pipe invert levels providing storage for the first 15mm of 1.35m3 per pit. The pipe network will be sized to convey the 20% Annual Exceedance Probability (AEP) runoff to existing drainage infrastructure in Wentworth Parade, discharging into the basin to the north.

Earthworks levels are proposed at approximately between RL26.5mAHD and RL27mAHD. As the maximum groundwater level is reported to be RL22.47mAHD and the soils are of a sandy nature with adequate separation between finished level are groundwater level, no subsoil drainage or dewatering is proposed.

4.7 Bush Fire Management

Lot 559 and Lot 9073 Wentworth Parade, Success are situated within a designated bushfire prone area as depicted by the Department of Fire and Emergency Services Map of Bushfire Prone Areas (operational from 18 November 2024). In accordance with the updated *State Planning Policy 3.7 Bushfire* , a Bushfire Management plan has been prepared for the subject site. (Appendix 5)

4.7.1 Infrastructure coordination, servicing and staging

The Structure Plan area is capable of being fully serviced by all sewerage, water, power, gas and telecommunications services, which have been extended to the surrounding locality in accordance with the Success Lakes Estate Structure plan and Magnolia Gardens Phase One Structure Plan.

4.8 Developer Contribution Arrangements

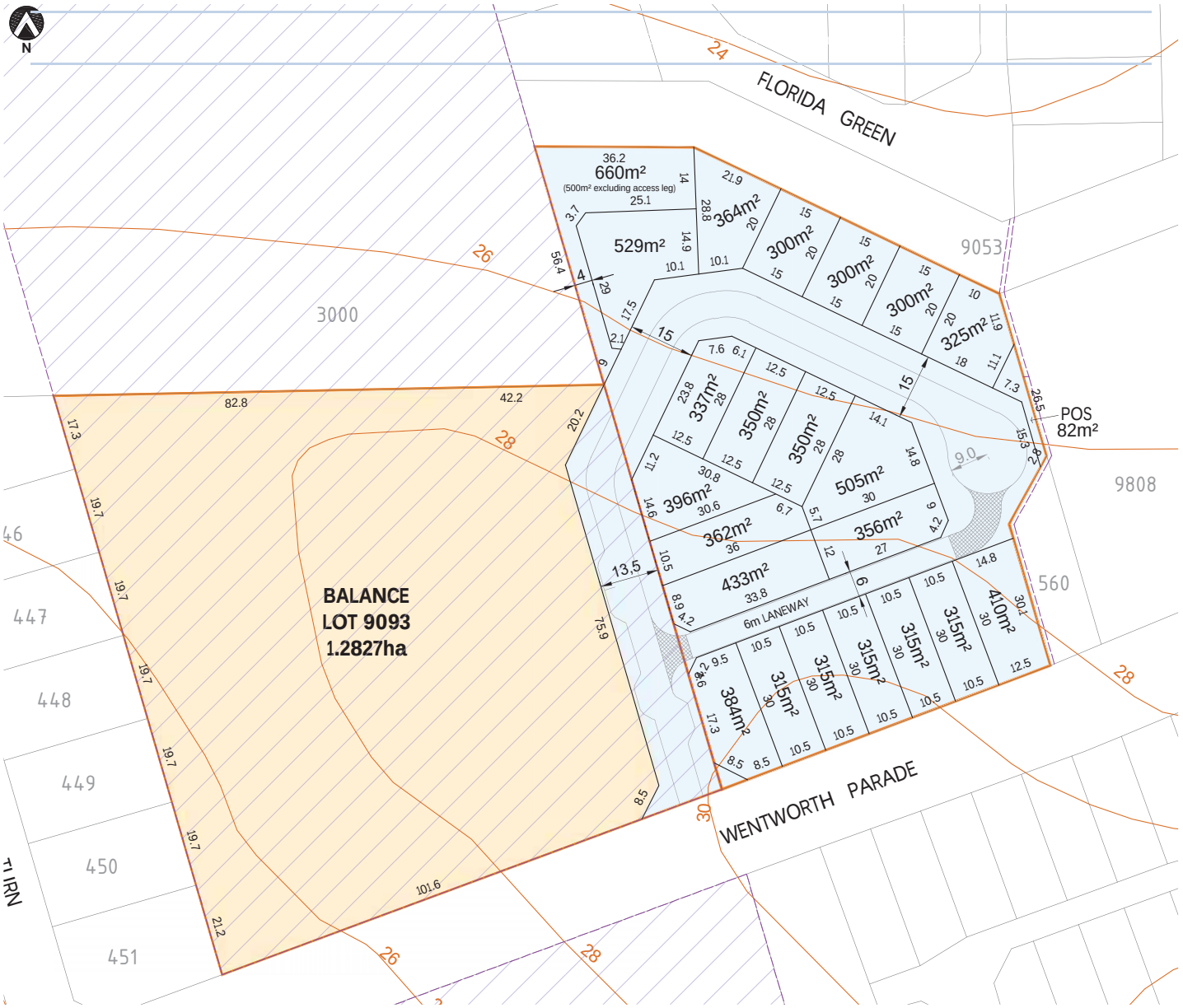
The Structure Plan is subject to the requirements of Development Contribution Area 13 for Community Infrastructure, as detailed in the Development Contribution Plan table within the City of Cockburn Town Planning Scheme No. 3.

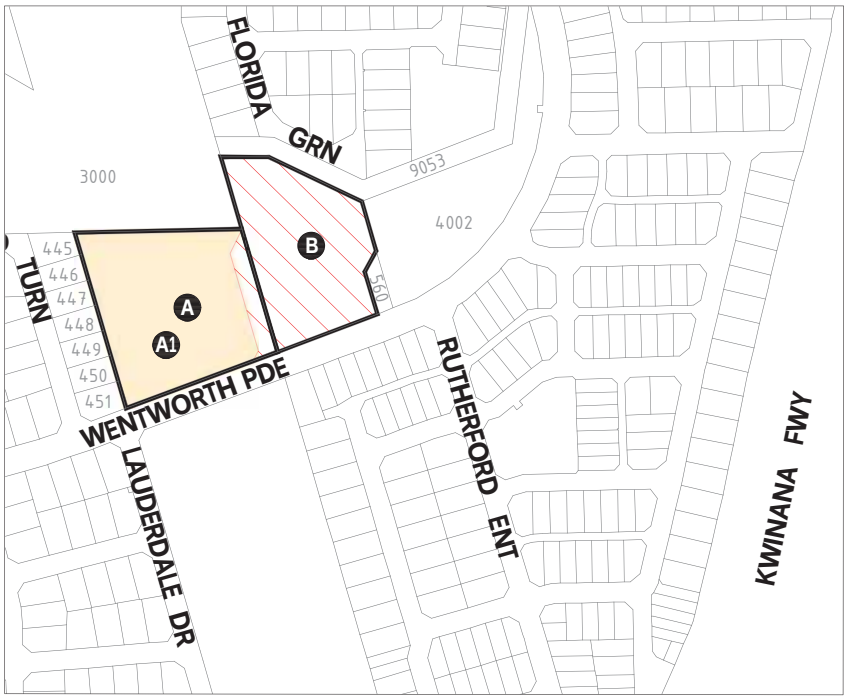
05 CONCLUSION

This Structure Plan will facilitate the development of Lot 559 and Lot 9073 Wentworth Parade, Success for residential development with an applicable residential density of R30. The provisions of the Structure Plan, will ensure that future development is of high quality residential lots which respond to surrounding development. The Structure Plan supersedes the approved SP559 as it applies to the site which ambitiously designated the site as a mixed-use area with R100 density across the site. After little commercial interest and increasing building costs for those style developments the mixed-use development was no longer viable.

It is expected that the Structure Plan will accommodate 22 dwellings an area of POS and new road reserves. The subject site is ideally positioned to take advantage of the Aubin Grove Train Station, located approximately 350 metres due south of the subject site. Future residents will also be well serviced by vehicular, cyclist and pedestrian networks, public open spaces and retail, employment and education facilities within the surrounding locality. Overall the Structure Plan presents an appropriate development outcome for the site that reflects and supports the surrounding development pattern.

APPENDIX 1
SUBDIVISION DESIGN





LOCATION PLAN - EXISTING LOTS PROPOSED SUBDIVISION AREA

EXISTING LOT 9073	
A	1.4052ha
EXISTING LOT 559	
B	1.0942ha

BALANCE LOT 9093	
A1	1.2827ha

LEGEND

- PROPOSED LOT BOUNDARIES
- PROPOSED SUBDIVISION AREA
- EXISTING SUBJECT LOTS
- EXISTING ADJOINING LOT BOUNDARIES
- EXISTING LOT BOUNDARIES - TO BE REMOVED
- 401 EXISTING LOT NUMBERS
- WESTERN POWER EASEMENT
- INDICATIVE FUTURE LOT BOUNDARY EXISTING
- 19 CONTOURS

YIELD TABLE

Existing Lots	2
Proposed Lots	
Residential	22
Balance of Title	1
TOTAL	**23**

LAND USE/DEVELOPMENT

Zone	Lot Size	No. of Lots
Residential	235m²-319m²	9
Residential	320m²-449m²	10
Residential	450m²-499m²	1
Residential	500m²-549m²	1
Residential	550m²-599m²	0
Residential	600m²-699m²	1
Other_[Balance]	1ha-2ha	1
	TOTAL	**23**

CADASTRAL INFORMATION
SOURCE: LANDGATE SLIP
YYMMDD: 240410
DWG REF: BASE CAD
PROJECTION: MGA2020z50

HATCH

SIZE A3 1:1000

0 metres 10 20 30 40 50

SUBDIVISION PLAN
Lot 559 and 9093 Wentworth Pde, Success
City of Cockburn

REF NO. **H369541**
DRAW NO. **RD1 114**
REV. **D**

APPENDIX 2
TRANSPORT IMPACT STATEMENT

Engineering a better future for over 20 years!

Structure Plan Revision & Subdivision Application

Lot 559 Wentworth Parade, Success

Transport Impact Statement

PREPARED FOR:
Richard Noble & Company

July 2024

Document history and status

Author	Revision	Approved by	Date approved	Revision type
V Baltic	r01	B Bordbar	8/04/2024	Draft
V Baltic	r01a	B Bordbar	10/04/2024	Final
V Baltic	r01b	B Bordbar	15/04/2024	1st Revision
V Baltic	r01c	B Bordbar	30/04/2024	2nd Revision
R White	r01d	B Bordbar	2/07/2024	3rd Revision
R White	r01e	B Bordbar	3/07/2024	4th Revision

File name: t24.048.vb.r01e.docx

Author: Vladimir Baltic

Project manager: Behnam Bordbar

Client: Richard Noble & Company

Project: Lot 559 Wentworth Parade, Success

Document revision: r01e

Project number: t24.048

TABLE OF CONTENTS

REPORT FIGURES

REPORT TABLES

1 Introduction

This Transport Impact Statement (TIS) has been prepared by Transcore on behalf of Richard Noble & Company with regard to the proposed revision of the structure plan proposal and future subdivision applications for Lot 559 Wentworth Parade in Success, City of Cockburn.

The subject site is located on the northern side of Wentworth Parade immediately northeast of the existing Park'n'Ride facility associated with Aubin Grove Train Station, as shown in **Figure 1**. The vacant land to the west of the subject site is a powerline easement. The subject site is presently vacant.

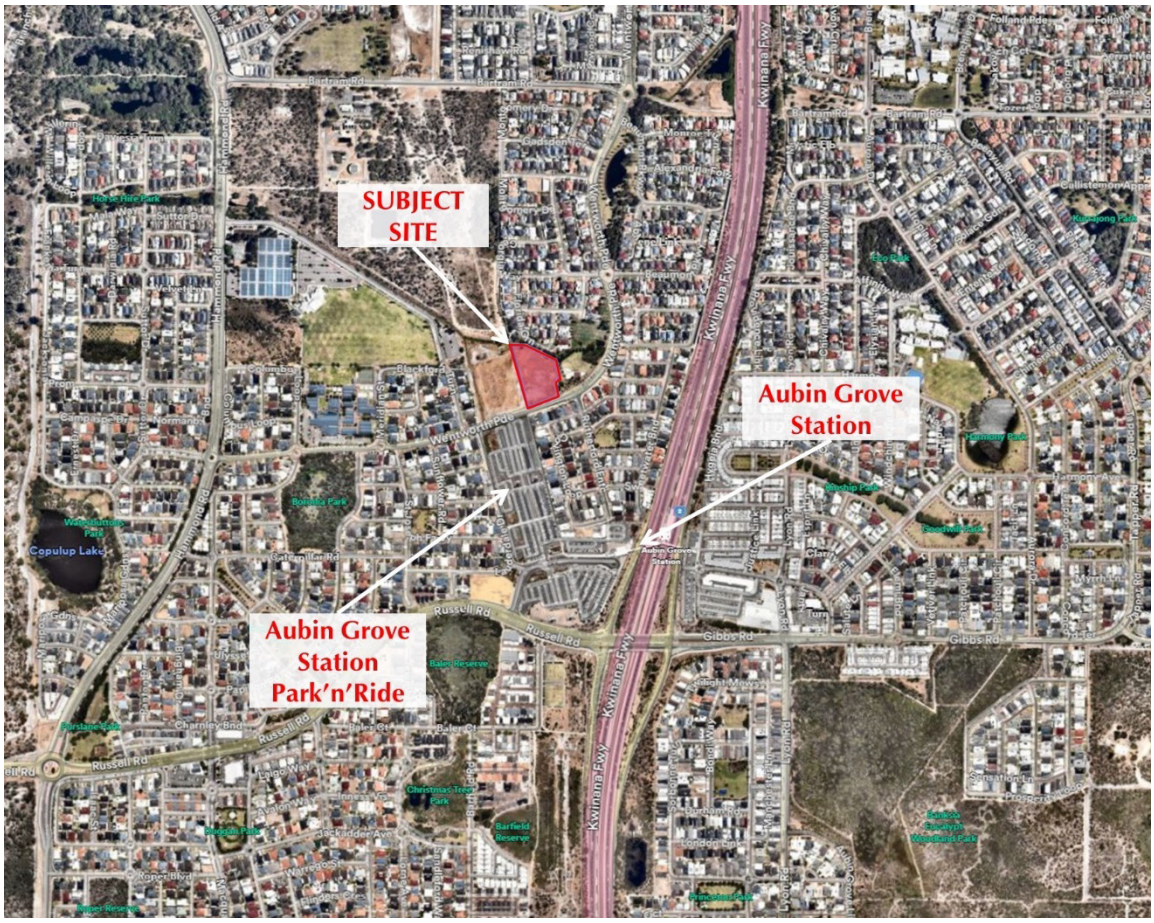


Figure 1: Location of the subject site

The previous structure plan proposal for the subject site included change in zoning to Mixed Use (R100) anticipating dwelling and commercial yield of approximately 50m^2 to 200m^2 of commercial floor space and 80 to 160 residential units. The current, revised, structure plan proposal contemplates reduction in land use intensity resulting in 22 single residential lots with associated internal road system.

The WAPC *Transport Impact Assessment Guidelines* (August 2016) indicate a *Transport Impact Statement* (TIS) is required for proposals that have moderate impact (10-100 vehicle trips in the peak hour) or a more detailed *Transport Impact Assessment* (TIA) for proposals that have high impact (>100 vehicle trips in the proposal's peak hour).

Section 5 of Transcore's report provides details of the estimated trip generation for the proposed land uses on the subject site. The total peak hour vehicular trips are estimated to be significantly less than 100 trips per hour threshold hence, a *Transport Impact Statement* is deemed appropriate for this proposal. The guidelines do not appear to have anticipated structure plan or rezoning applications that generate less than 100 vehicle trips per hour and do not provide guidance for TIS for such moderate impact structure plan or rezoning applications, so the guidelines for a subdivision TIS have been drawn upon to guide the preparation of this report.

As such, a *Transport Impact Statement* is the appropriate level of assessment for the proposed subdivision.

The location of the subject site in its regional context within the *Metropolitan Region Scheme (MRS)* is illustrated in **Figure 2**. The subject site, which occupies an area of approximately 1.0942ha, is zoned *"Urban"* in Metropolitan Region Scheme (MRS).

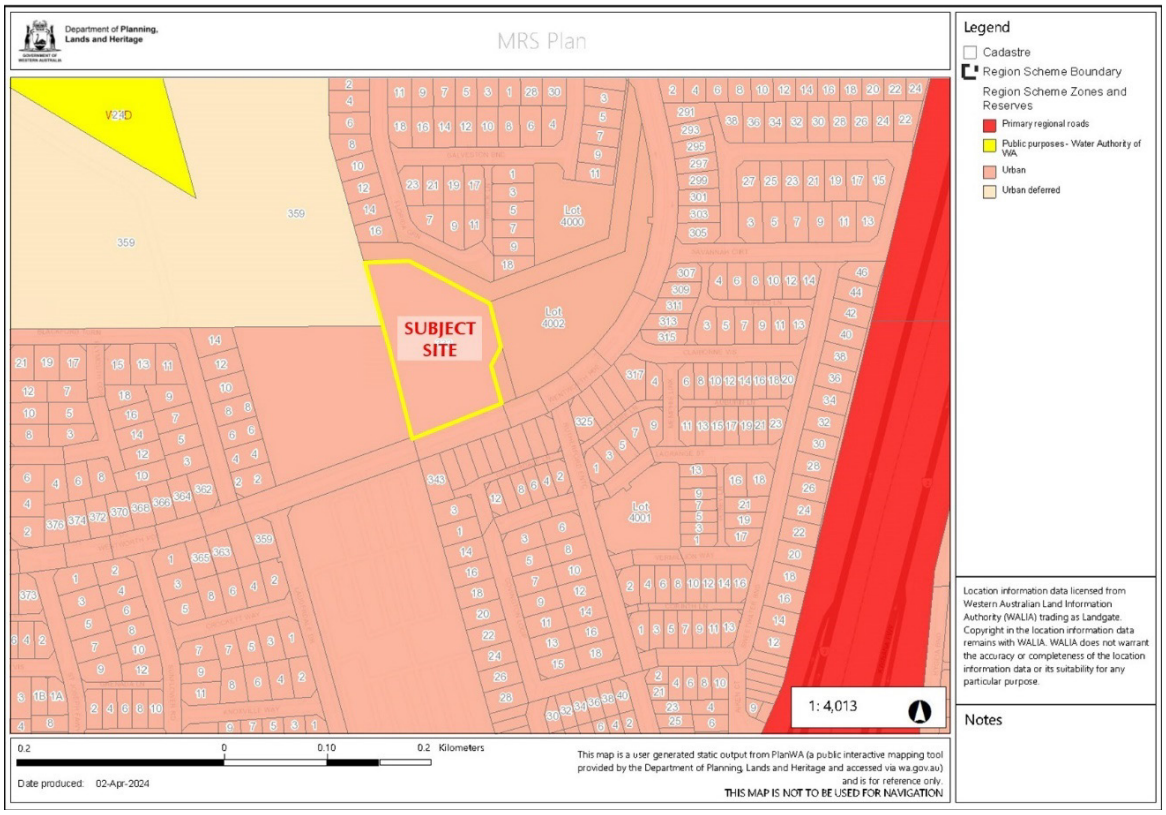


Figure 2: Subject site location within Metropolitan Region Scheme context

The MRS map identifies Wentworth Parade, and other adjacent roads, as local roads under care and control of the City of Cockburn.

2 Proposed Land Use

The current structure plan proposal for the subject site yields a total of 22 individual residential lots ranging in size from 300m^2 to 660m^2 with a P.O.S. (approximately 82m^2) situated at the northeast end of the site.

The proposed internal loop road will serve the newly created lots and will connect to Wentworth Parade near the southeast corner of the site forming a priority-controlled T-intersection. A portion of the internal loop road on approach to Wentworth Parade is proposed to be situated within the adjacent Western Power easement site. All lots will take access from the internal loop road.

For more details refer to proposed structure plan shown in **Appendix A** and proposed subdivision plan in **Appendix B**.

3 Vehicle Access and Parking

As presented in the structure plan and supporting subdivision plan prepared by Hatch, all residential lots are intended to be served by the proposed internal loop road which is proposed to connect to Wentworth Parade at the southwestern end, forming a priority-controlled T-intersection.

The structure plan road system comprises one internal single-carriageway access road ending at a cul-de-sac bulb, with a 6m-wide laneway running parallel to Wentworth Parade and connecting from the cul-de-sac to that access road.

The internal two-way road is proposed with a variable road reservation ranging from 13.5m to 15.0m albeit with a consistent 6.0m wide trafficable carriageway, with these reservations broadly consistent with the *Access Street D* reservation recommendation of 14.2m (WAPC Liveable Neighbourhoods 2009). Liveable Neighbourhoods allows for the verge abutting POS to be reduced, as proposed in the 13.5m wide sections of this access road.

Lots fronting Wentworth Parade are intended to gain access from the rear (i.e. rear loaded lots), off the 6m wide rear laneway parallel to Wentworth Parade.

The resident and visitor parking is expected to be accommodated individually within each residential lot or on-street along the access street. Additional parking embayments (4 car bays) are provided along the southwest section of the access road as visitor parking for the rear-loaded lots fronting Wentworth Parade.

For more details refer to proposed structure plan shown in **Appendix A** and proposed subdivision plan in **Appendix B**.

The proposed intersection treatment on Wentworth Parade is illustrated in **Figure 3**, which is based on the signage and linemarking plan (Drawing No 8069-0-SK002 rev C) prepared by the civil engineering consultant.

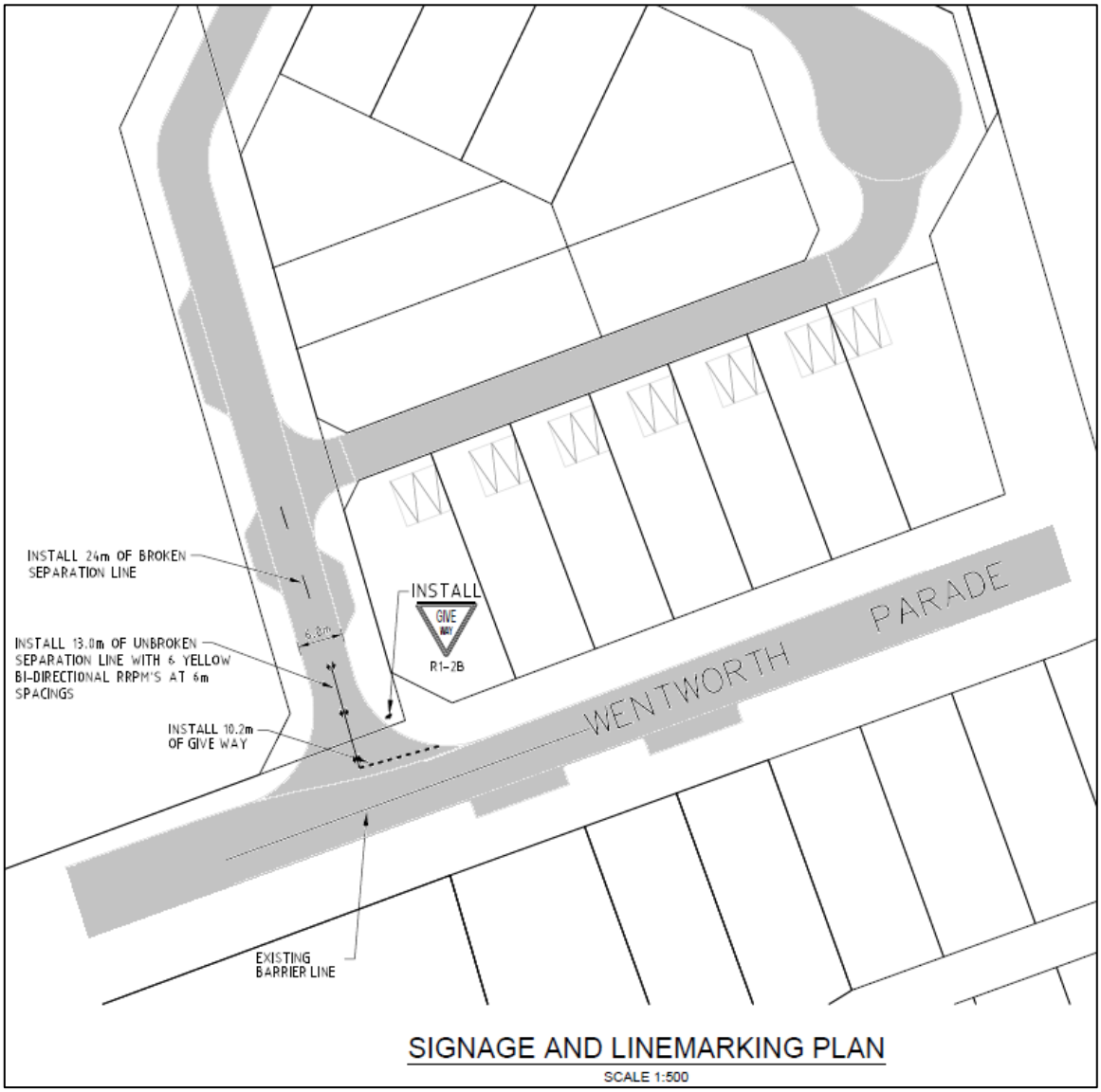


Figure 3: Wentworth Parade intersection treatment

4 Provision for Service Vehicles

The waste collection is anticipated to be carried out the same way it is presently organised for adjacent residential properties, through verge collection. Accordingly, rubbish bins will be wheeled out onto the verge for collection on designated days.

The subdivision road network includes a cul-de-sac bulb at the end of the access street to allow waste collection trucks to turn around to access waste bins on both sides of the street, without any requirement for reversing. The proposed cul-de-sac bulb is designed with 9m radius in accordance with the Local Government Subdivision Guidelines.

Truck turn paths prepared by the civil engineering consultant are included at **Appendix C**.

5 Daily Traffic Volumes and Vehicle Types

5.1 Trip Generation

The traffic volumes likely to be generated by the proposed structure plan have been estimated using trip rates for dwellings stipulated in *WAPC Transport Impact Assessment Guidelines 2016* document, which provides daily and peak hour trip rates. In this particular case, daily, AM peak and PM peak trip rate of 8.0 trips/day, 0.8 trips/hr and 0.8 trips/hr were applied for each residential lot, respectively.

Accordingly, it is estimated that the proposed structure plan would generate a total of approximately **176** daily vehicle trips with about **18** trips during both AM and PM peak hour periods. These trips include both inbound and outbound vehicle movements.

The traffic distribution detailed in **Table 1** was based on the following directional split assumptions for peak hour periods:

- Morning (AM) peak split estimated as 25%/75% for inbound/outbound trips respectively; and,
- Afternoon (PM) peak split estimated as 66%/34% for inbound/outbound trips, respectively.

Table 1: Peak hour trips for the development

Peak Period	Direction	Traffic Split	Total Peak Hour Trips
AM Peak	Inbound	4	**18 trips**
	Outbound	14	
PM Peak	Inbound	12	**18 trips**
	Outbound	6	

5.2 Traffic Distribution

Considering the location of the structure plan, as well as the available access and egress routes to and from the site, the anticipated directional trip distribution of the development-generated traffic along Wentworth Parade is assumed to be as follows:

- 50% of trips to/from the west along Wentworth Parade; and,
- 50% of trips to/from the east along Wentworth Parade.

The directional morning and afternoon trip distribution of the structure plan traffic is illustrated in **Figure 4**.

Figure 4. Estimated traffic movements for the subject structure plan – morning peak/afternoon peak hour trips

Assuming the proposed directional traffic distribution of the structure plan-generated traffic, all internal roads will carry significantly less than 1,000 vehicles per day (vpd). The desirable daily traffic volume threshold for an Access Street D is 1,000vpd, hence the proposed internal structure plan road network has more than adequate capacity to accommodate the anticipated levels of daily traffic.

The indicative cross-section of the various sections of the internal structure plan access road is shown in **Figure 5** (local street and park edge street) and **Figure 6** (laneways).

Figure 5. Proposed cross-section of Local Street and Park Edge Street

Figure 6. Proposed cross-section of Laneways

5.3 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 most pronounced peak hour traffic impact on external road network of 7vph will be experienced on Wentworth Parade in AM/PM peak hour periods. This level of additional traffic on the road is well below the critical material impact thresholds stipulated in the WAPC guidelines.

6 Traffic Management on the Frontage Streets

Wentworth Parade northeast of the subject site is constructed as a two-lane boulevard-style road standard (one lane in each direction with a 4.5m central median. It also has 1.5m cycle lanes in each direction. Most properties along this section do not have driveway access from Wentworth Parade and where driveway access is required it is accommodated by service roads (also known as controlled access places or CAP roads). Southwest of the subject site Wentworth Parade is constructed as a 7.0m-wide, single carriageway, two-lane urban road with direct driveway access to adjacent residential properties.

Wentworth Parade is classified as a *Local Distributor* road in the Main Roads WA Functional Road Hierarchy. It has a posted speed limit of 60km/h.

There is a 2.0m shared path on the northwest side of Wentworth Parade adjacent to the subject site and a 1.5m footpath on the southeast side opposite the subject site. Pedestrian crossing facilities including drop kerbs/pram ramps and median refuges are currently provided at various locations along Wentworth Parade including in close proximity to the subject site.

There is embayed parking provided on the southeast side of Wentworth Parade opposite the subject site, as shown in the Google StreetView image at **Figure 7**.

Figure 7: Wentworth Parade adjacent to the subject site

A traffic count by the City of Cockburn (survey date 28 October 2022) recorded average weekday traffic flows of 6,814vpd at the count location 100m east of Lauderdale Drive (immediately adjacent to the subject site), with heavy vehicles making up 5.6% of that traffic flow.

7 Public Transport Access

The subject site is currently served by existing bus route 526, which passes adjacent to the site on Wentworth Parade. There are existing bus stops on Wentworth Parade right in front of the subject site. Route 526 connects to the Mandurah railway line at Cockburn Central Station as shown in **Figure 8**.

The Aubin Grove Station (also on Mandurah line) is located approximately 420m walking distance southeast of the subject site. The station is accessible via the existing footpath network which is in place in this locality.

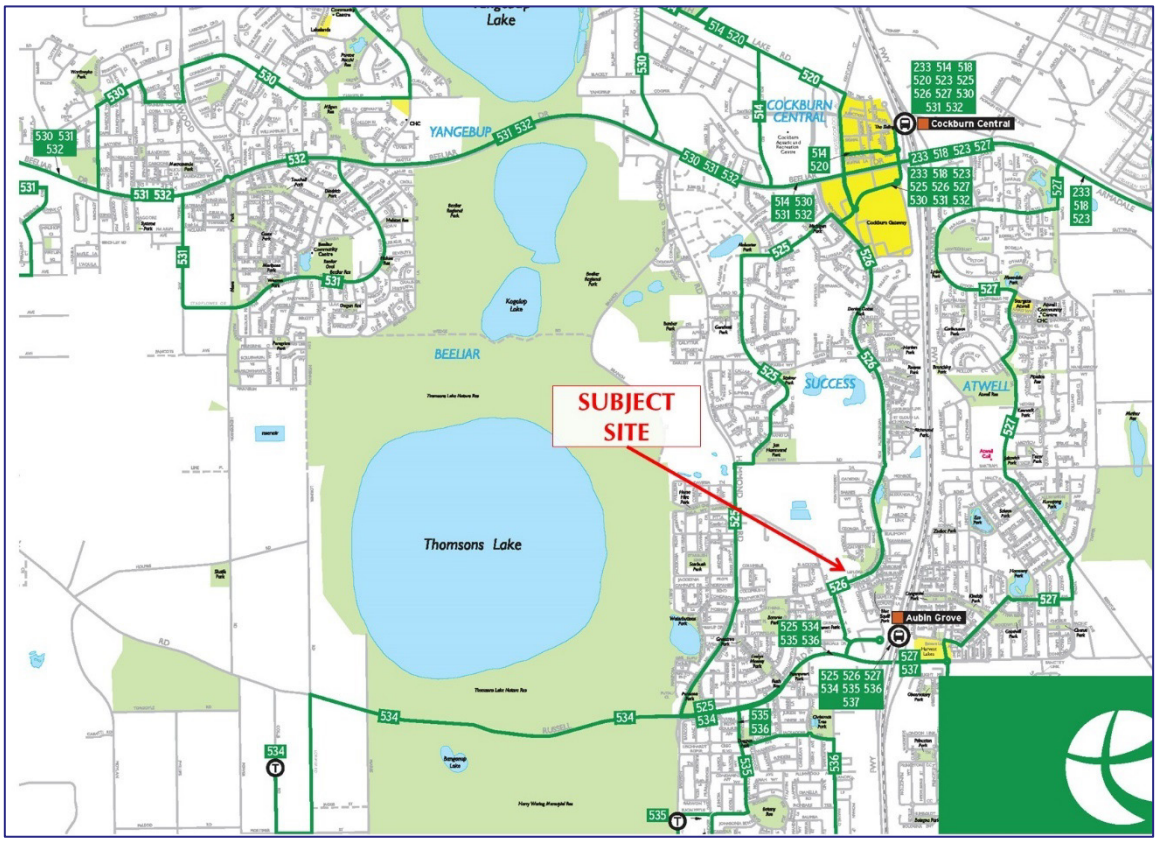


Figure 8: Existing public transport services (Source: Transperth)

8 Pedestrian and Cycle Access

Existing pedestrian facilities on the surrounding road network are discussed in **Section 6** of this report.

Pedestrians will access the site from the existing shared path along the Wentworth Parade frontage of the site.

The Aubin Grove Station precinct, south of Wentworth Parade, includes pedestrian and cyclist access from Wentworth Parade for access by the surrounding community, including the subject site.

The bike map provided in **Figure 9** indicates good pedestrian and cyclist connectivity to the subject site via the shared path on Wentworth Parade adjacent to the subject site.

The closest bicycle access connection to the Principal Shared Path adjacent to the freeway is available from Savannah Circuit, which intersects Wentworth Parade about 200m northeast of the subject site

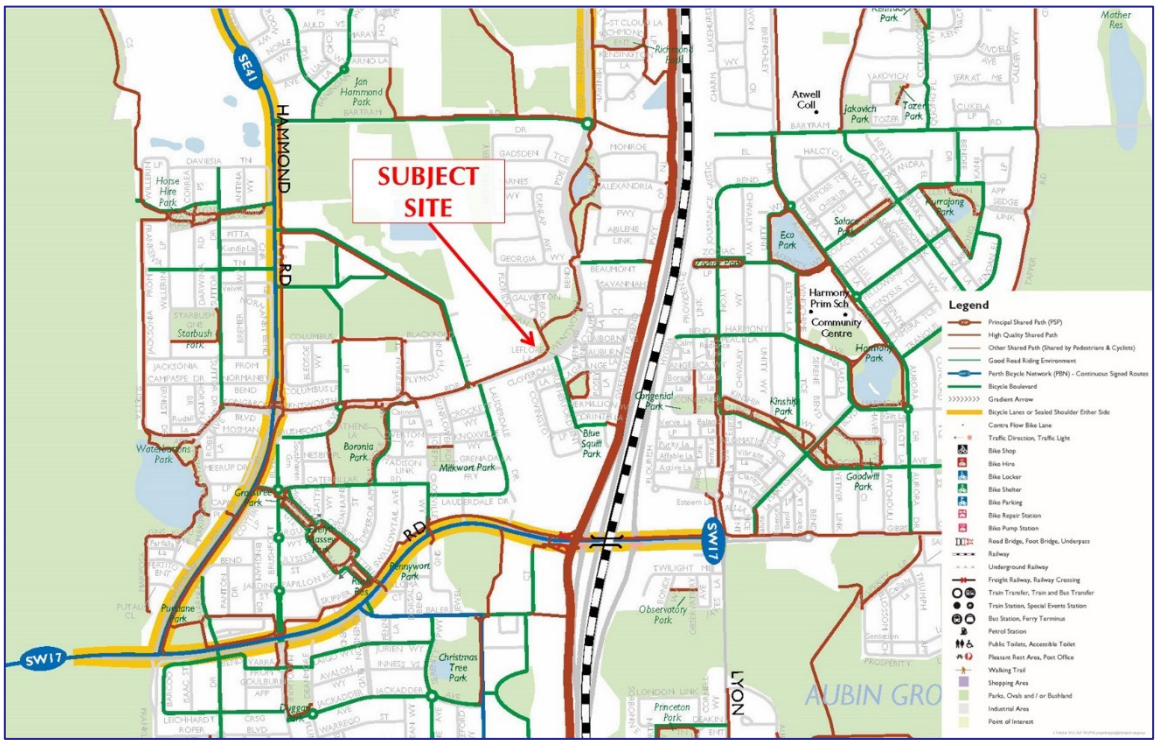


Figure 9: Extract of Perth Bike Map (Source: Department of Transport)

9 Site Specific Issues

No site-specific issues have been identified within the scope of this assessment.

10 Safety Issues

No safety issues were identified within the scope of this assessment.

11 Conclusions

This Transport Impact Statement (TIS) has been prepared by Transcore on behalf of Richard Noble & Company with regard to the proposed revision of the structure plan proposal, and to support future subdivision applications, for Lot 559 Wentworth Parade in Success, City of Cockburn.

The previous structure plan proposal for the subject site included change in zoning to Mixed Use (R100) anticipating dwelling and commercial yield of approximately 50m^2 to 200m^2 of commercial floor space and 80 to 160 residential units.

The current structure plan proposal for the subject site yields a total of 22 individual residential lots with a P.O.S. and associated internal access road connecting to Wentworth Parade near the southwestern end of the site and ending at a cul-de-sac bulb within the proposed subdivision.

Lots fronting Wentworth Parade are intended to gain access from the rear (i.e. rear loaded lots), off the proposed 6m wide rear laneway parallel to Wentworth Parade.

The internal two-way road is proposed with a variable road reservation ranging from 13.5m to 15.0m albeit with a consistent 6.0m wide trafficable carriageway, with these reservations broadly consistent with the *Access Street D* reservation recommendation of 14.2m (WAPC Liveable Neighbourhoods 2009). Liveable Neighbourhoods allows for the verge abutting POS to be reduced, as proposed in the 13.5m wide sections of this access road.

It is estimated that the proposed structure plan would generate a total of approximately **176** daily vehicle trips with about **18** trips during both AM and PM peak hour periods.The traffic assessment undertaken demonstrates that the impact of the structure plan traffic on surrounding road network will be insignificant.

The subject site currently has excellent access to public transport services including pedestrian and bicycle paths/facilities.

It is therefore concluded that traffic-related issues should not form an impediment to the approval of the revised structure plan proposal or the future 22-lot subdivision.

Appendix A

PROPOSED REVISED STRUCTURE PLAN

transcore

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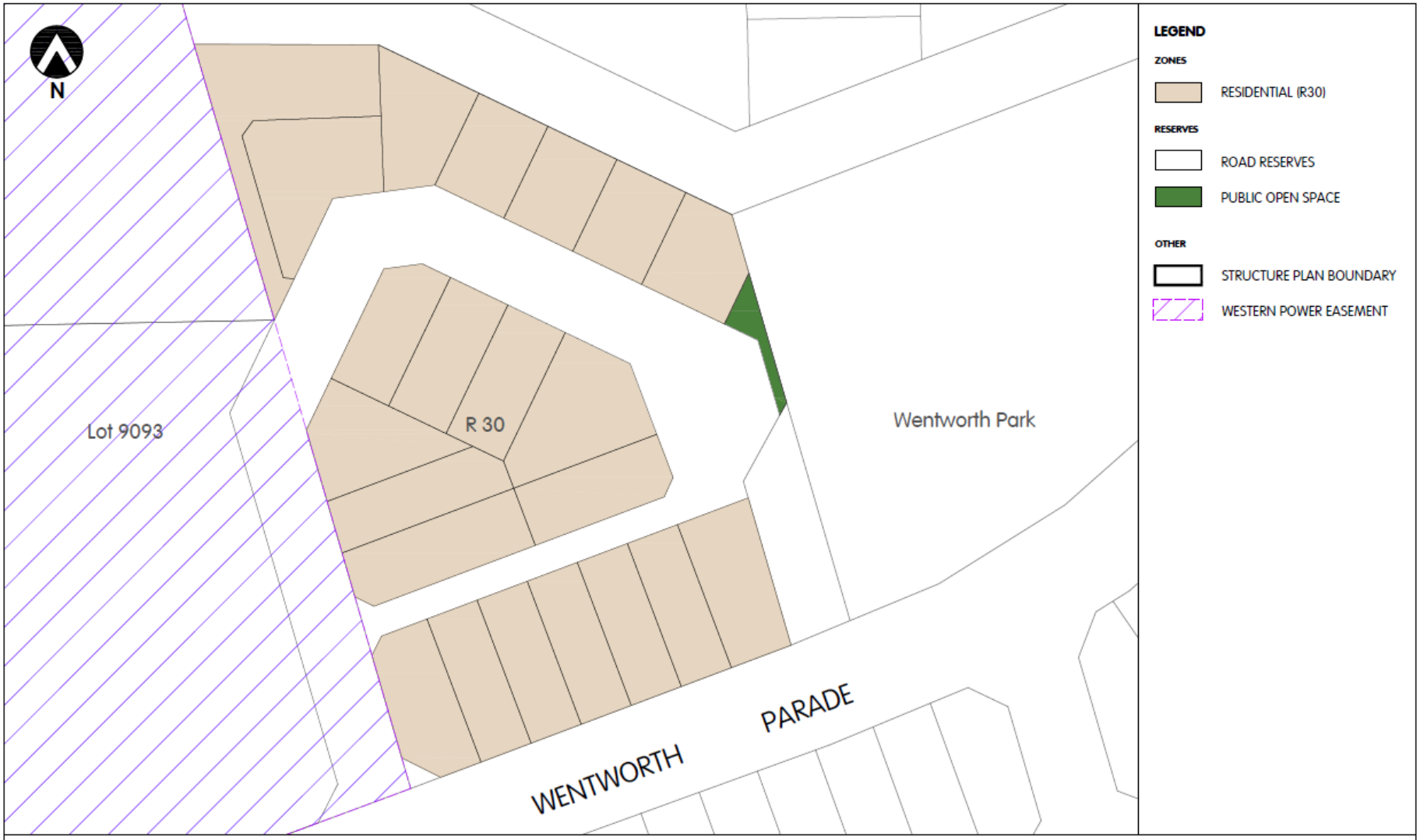

DISCLAIMER: ISSUED FOR DESIGN INTENT ONLY. ALL AREAS AND DIMENSIONS ARE SUBJECT TO DETAIL DESIGN AND SURVEY

Appendix B

PROPOSED SUBDIVISION PLAN

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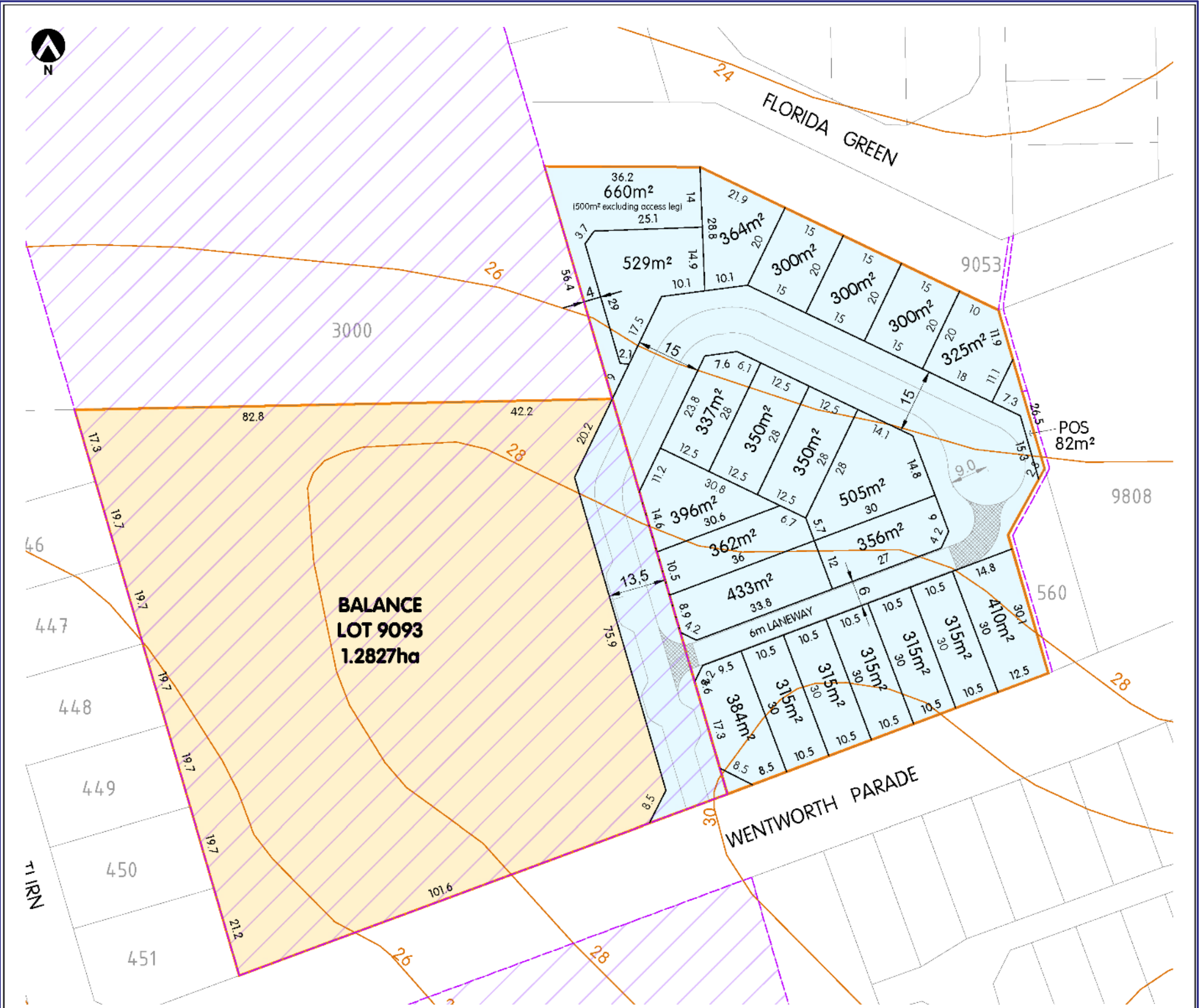

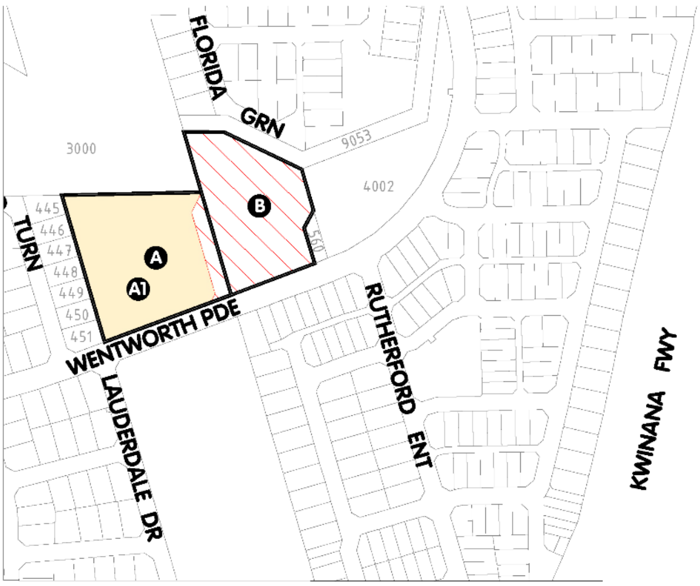

LOCATION PLAN - EXISTING LOTS — PROPOSED SUBDIVISION AREA

EXISTING LOT 9073
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EXISTING LOT 559
B 1.0942ha

BALANCE LOT 9093
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LEGEND

- PROPOSED LOT BOUNDARIES
- PROPOSED SUBDIVISION AREA
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YIELD TABLE	
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	TOTAL	**23**

CADASTRAL INFORMATION
SOURCE: LANDGATE SLIP
YYMMDD: 240410
DWG REF: BASE CAD
PROJECTION: MGA2020z50

HATCH

SIZE A3_1:1000
0 metres 10 20 30 40 50

SUBDIVISION PLAN
Lot 559 and 9093 Wentworth Pde, Success
City of Cockburn

REF NO.	DRAW NO.	REV.
H369541	**RD1 114**	**D**

DISCLAIMER: ISSUED FOR DESIGN INTENT ONLY. ALL AREAS AND DIMENSIONS ARE SUBJECT TO DETAIL DESIGN AND SURVEY

Appendix C

TURN PATHS

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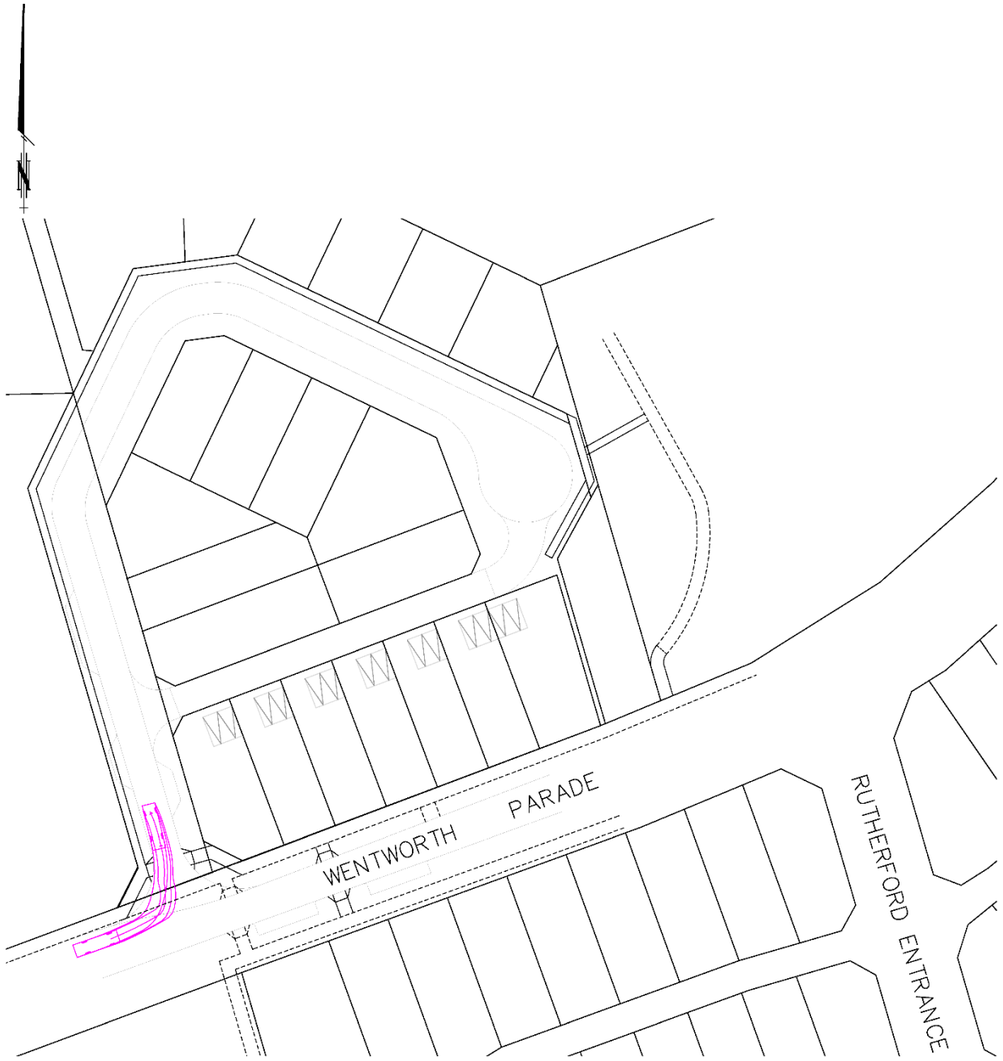
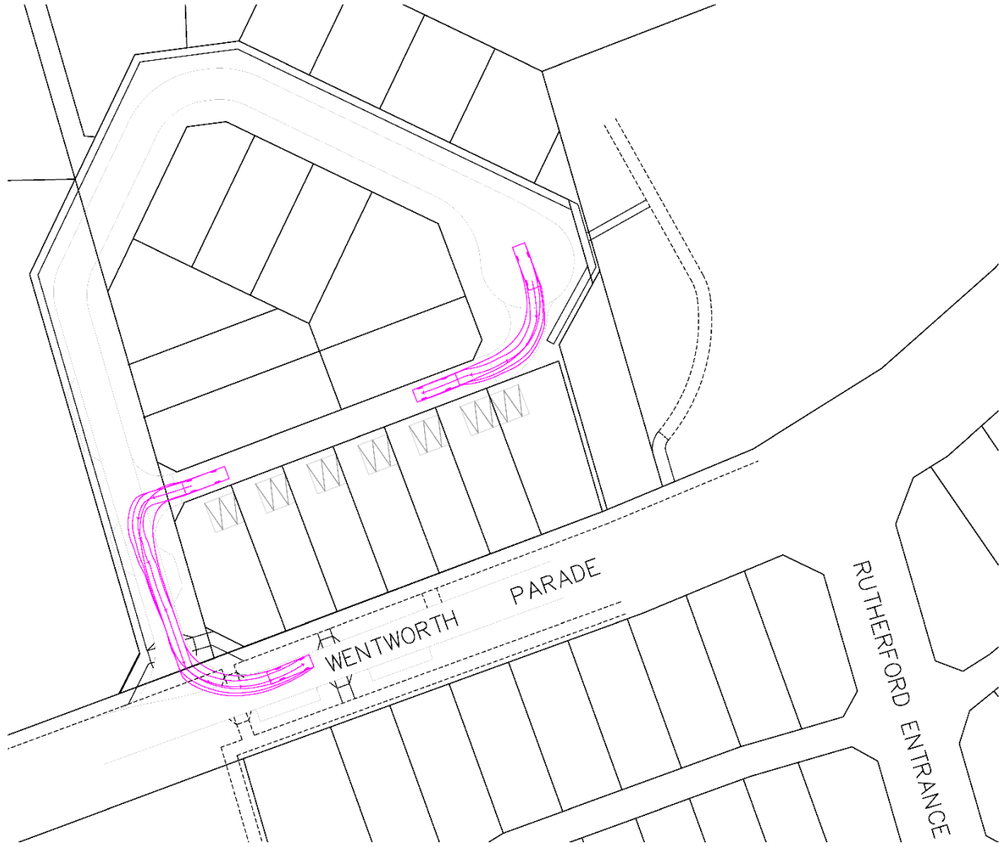


TURNING MOVEMENTS PLAN
SCALE 1:500



TURNING MOVEMENTS PLAN
SCALE 1:500

BEFORE YOU DIG www.byda.com.au

NOTE:
ALL COORDINATES SHOWN ON THIS DRAWING SHALL BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS. ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER IMMEDIATELY.

0 5 10 15 20 25m
SCALE 1:500 AT ORIGINAL SIZE

REV	REVISION	DATE	APPROVED
C	LOT LAYOUT REVISED	01.07.24	JSG
B	LOT LAYOUT REVISED	17.06.24	JSG
A	ISSUED FOR INFORMATION	06.06.24	JSG

CLIENT: GOLD ESTATES HOLDINGS PTY LTD

DRAWN	J. Barram
DESIGNED	J. Barram
CHECKED	J. Grierson
APPROVED	
DATE	

TITLE: LOT 559 WENTWORTH PARADE SUCCESS
TURNING MOVEMENTS

consulting civil engineers
3/224 Rokeby Road Subiaco WA 6008
phone 9481 4255
fax 9481 3900
info@civilgroup.com.au www.civilgroup.com.au
thecivilgroup

ORIGINAL SHEET SIZE A1 DO NOT SCALE
SCALE 1:500
LEVEL DATUM : AHD
SHEET 1 OF 1
DRAWING No 8069-0-SK003 REV C

APPENDIX 3
LANDSCAPE CONCEPT PLAN

HATCH

CADASTRAL INFORMATION
SOURCE: LANDGATE SLIP
YYMMDD: 240410
DWG REF: BASE CAD
PROJECTION: MGA2020z50

SIZE A3 1:200

0 metres 2 4 6 8 10

LANDSCAPE PLAN
Lot 559 and 9073 Wentworth Pde, Success
City of Cockburn

REF NO.	DRAW NO.	REV.
RIC 559	**RD3 006**	**D**

APPENDIX 4
DRAINAGE MANAGEMENT STRATEGY

8069-Lot 559 Wentworth Parade

10th July 2024

Richard Noble & Co
Level 1/ 189 Hay Street
SUBIACO WA 6008

Attention: Peter Dockett

Dear Sir

LOT 559 WENTWORTH PARADE SUCCESS – DRIANAGE MANAGEMENT STRATEGY

The following is summary of the stormwater assessment and management strategy for the proposed development on Lot 559 (No 332) Wentworth Parade, Success.

Background

Lot 559 Wentworth Parade in Success is a vacant that was created as part of the Magnolia Gardens Development by Gold Estates.

It fronts Wentworth Parade and is bounded in the west by the land owned by Gold Estates Holdings Pty Ltd incorporating the Western Power transmission line easement, in the by a north by a main drainage reserve and in the east by Public Open Space.

The land is currently zoned residential R100. The proposed development comprises 22 single residential lots as shown in Figure 1 below.

The Civil Group WA Pty Ltd
ABN 71 123 186 925 | ACN 123 186 925
Director | Peter Bowyer

3/224 Rokeby Road | Subiaco WA 6008
PO Box 1382 | West Perth WA 6872
phone 08 9481 4255
fax 08 9481 3900
web www.civilgroup.com.au

Figure 1 Proposed development of Lot 559

Site Conditions

The 1:50 000 Fremantle Environmental Geology Series map (Gozzard, 1986) indicates that Lot 559 is underlain by topsoil and Bassendean Sand. When the lot was created it was given an 'A' classification for residential slab and footing design.

The land is predominantly flat at a contour of RL26mAHD and has been cleared of all vegetation.

According to DEWR's Perth Groundwater Map, the maximum ground water level is RL22.47mAHD.

Existing Drainage Infrastructure

Lot 559 was included in the original Drainage Management Plans prepared for Magnolia Gardens.

The existing drainage infrastructure is illustrated (Figure 2) in an extract form the City of Cockburn mapping below.

Figure 2 Existing drainage infrastructure

Run-off in Wentworth Parade is captured by side entry pits and pipes which discharge into a basin for treatment and storage.

There is a small retention basin and open drain in the drainage reserve north of Lot 559 which captures runoff from the development north of the drain. The drain untimely discharges into Thomsons Lake to the west of Hammond Road.

Stormwater Design Assumptions

Stormwater storage for the development will be consistent with water-sensitive design principles and will comprise the following:

Lot Drainage System

In accordance with the City of Cockburn's requirements for lots greater than 300m², all stormwater falling within the lot boundaries is to be contained within the lot, either through soakwells or other approved methods. Property owners also have a statutory obligation under common law precedents and section 3.25 (1) of the Local Government Act 1995 to confine stormwater within their boundaries.

Runoff from roofs will be directed to soakwells and pervious garden areas where it will infiltrate through the sandy soils to groundwater.

Stormwater Run-off

Runoff from roads and verges will be collected in gully pits and side entry pits, interconnected with a pipe network.

The pits will have soakwell liners, perforated bases and a 1.2m deep trap below pipe invert levels, providing storage for the first 15mm of 1.35m³ per pit.

This will allow the first 15mm of run-off to be intercepted and infiltrated through biofiltration media at the base of the pit into the groundwater.

The pipe network will be sized to convey the 20% AEP runoff to existing drainage infrastructure in Wentworth Parade, discharging into the bason to the north.

The runoff from major events will be conveyed overland along the subdivision roads, grading towards Wentworth Parade.

The stormwater drainage concept is shown below in Figure 3 below.

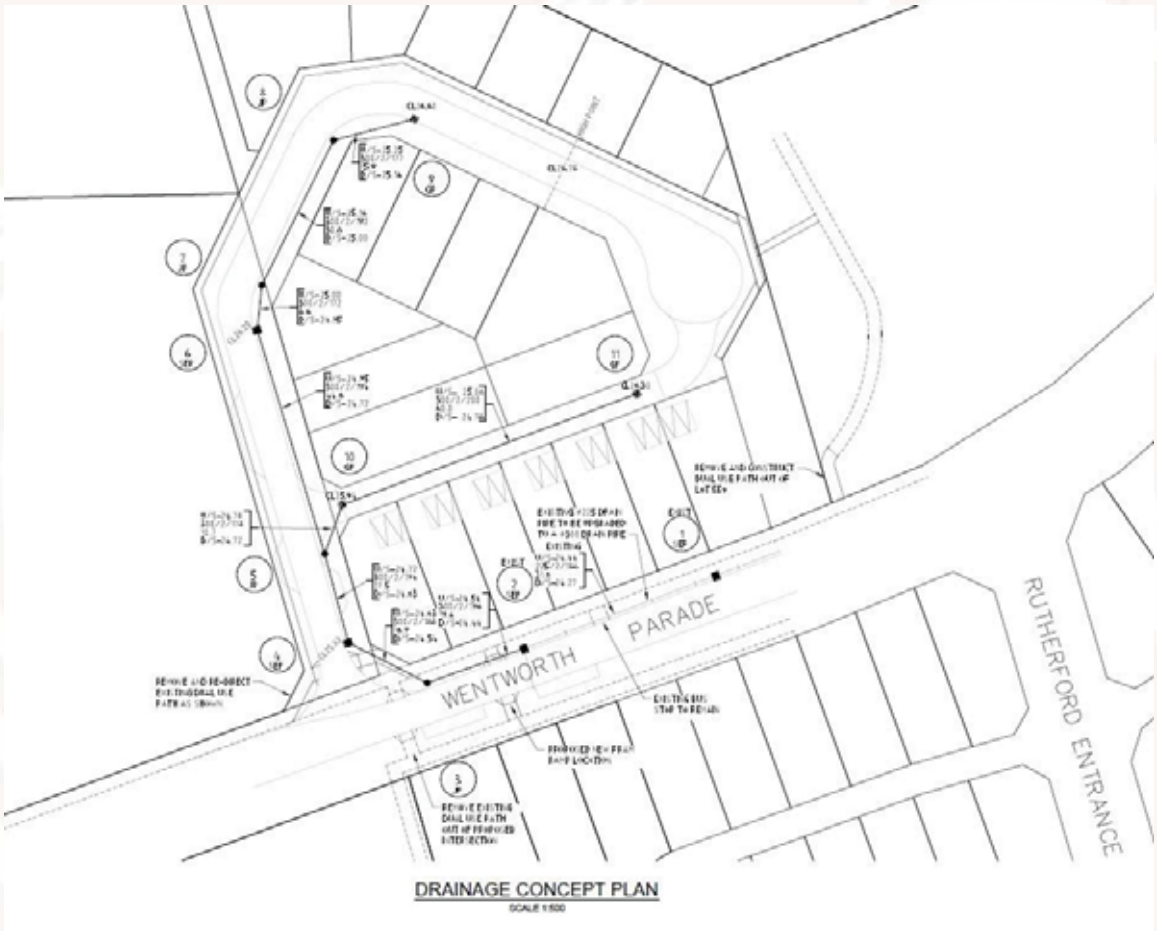


Figure 3 Proposed stormwater drainage management

Groundwater management

The proposed earthworks levels at approximately RL26.5m AHD to RL27mAHD, The maximum groundwater level is reported to be RL22.47mAHD.

Considering the sandy nature of the soils and the adequate separation between finished levels and groundwater level, no subsoil drainage or dewatering is proposed.

Copies of the hydraulic modelling for the stormwater drainage pipes are attached for information.

Yours faithfully
The Civil Group WA Pty Ltd

John Grierson
Associate Director

Encl.

APPENDIX 5
BUSHFIRE MANAGEMENT PLAN

Bushfire Management Plan Coversheet

This Coversheet and accompanying Bushfire Management Plan has been prepared and issued by a person accredited by Fire Protection Association Australia under the Bushfire Planning and Design (BPAD) Accreditation Scheme.

Bushfire Management Plan and Site Details

Site Address / Plan Reference: Lots 559 & 9093 Wentworth Parade

Suburb: Success **State:** WA **P/code:** 6164

Local government area: City of Cockburn

Description of the planning proposal: Subdivision application

BMP Plan / Reference Number: 163,645 | 68309 **Version:** R01 Rev 1 **Date of Issue:** 10/03/2025

Client / Business Name: Gold Estates Holdings Pty Ltd

Reason for referral to DFES	Yes	No
Has the BAL been calculated by a method other than method 1 as outlined in AS3959 (tick no if AS3959 method 1 has been used to calculate the BAL)?	☐	☑
Have any of the bushfire protection criteria elements been addressed through the use of a performance principle (tick no if only acceptable solutions have been used to address all of the BPC elements)?	☐	☑
Is the proposal any of the following special development types (see SPP 3.7 for definitions)?		
Unavoidable development (in BAL-40 or BAL-FZ)	☐	☑
Strategic planning proposal (including rezoning applications)	☐	☑
Minor development (in BAL-40 or BAL-FZ)	☐	☑
High risk land-use	☐	☑
Vulnerable land-use	☐	☑

If the development is a special development type as listed above, explain why the proposal is considered to be one of the above listed classifications (E.g. considered vulnerable land-use as the development is for accommodation of the elderly, etc.)?
N/A

Note: The decision maker (e.g. local government or the WAPC) should only refer the proposal to DFES for comment if one (or more) of the above answers are ticked "Yes".

BPAD Accredited Practitioner Details and Declaration

Name	Accreditation Level	Accreditation No.	Accreditation Expiry
Zac Cockerill	Level 2	BPAD37803	31/08/2025
Company		**Contact No.**	
JBS&G Australia Pty Ltd		(08) 9792 4797	

I declare that the information provided within this bushfire management plan is to the best of my knowledge true and correct

Signature of Practitioner **Date** 10/03/2025

Lots 559 & 9093 Wentworth Parade, Success

Gold Estates Holdings Pty Ltd

Bushfire Management Plan (Subdivision Application)

163,645 | 68309

10 March 2025

We acknowledge the Traditional Custodians of Country throughout Australia and their connections to land, sea and community.

We pay respect to Elders past and present and in the spirit of reconciliation, we commit to working together for our shared future.

Table of Contents

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Abbreviations

Term	Definition
AHD	Australian Height Datum
AS	Acceptable Solution
AS 3959	Australian Standard 3959-2018 Construction of buildings in bushfire-prone areas (SA 2018)
APZ	Asset Protection Zone
BAL	Bushfire Attack Level
BMP	Bushfire Management Plan
BPAD	Bushfire Planning and Design
DFES	Department of Fire and Emergency Services
EP Act	Environmental Protection Act 1986
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
ESA	Environmentally Sensitive Area
F/US	Flat/upslope
FDI	Fire Danger Index
Guidelines	Guidelines for Planning in Bushfire Prone Areas Version 1.4 (WAPC 2021)
POS	Public Open Space
SA	Standards Australia
SPP 3.7	State Planning Policy 3.7 Planning in Bushfire Prone Areas (WAPC 2015)
TEC	Threatened Ecological Community
WAPC	Western Australian Planning Commission

1. Proposal details

1.1 Background

Gold Estates Holdings Pty Ltd is seeking to lodge a subdivision application for proposed residential development within Lots 559 and part 9093 Wentworth Parade, Success (the project area), located in the City of Cockburn. The subdivision plan (Figure 1) identifies:

- 22 proposed residential lots
- one Public Open Space (POS) cell (82 m^2 in total)
- internal public road layout with one connection to Wentworth Parade
- one balance lot (Lot 9093).

1.2 Site description

The project area comprises approximately 2.50 ha of cleared grassland and is surrounded by (see Figure 2):

- existing POS to the east and a strip to the north between the project area and Florida Green
- existing urban residential development to the south and east opposite Wentworth Parade and north opposite Florida Green
- predominantly cleared powerline corridor located within proposed balance Lot 9093 to the west.

1.3 Bushfire prone designation

The project area is designated bushfire prone on the Map of Bush Fire Prone Areas (DFES 2024; see Plate 1).

Plate 1: Map of Bush Fire Prone Areas (DFES 2024)

1.4 Purpose of this report

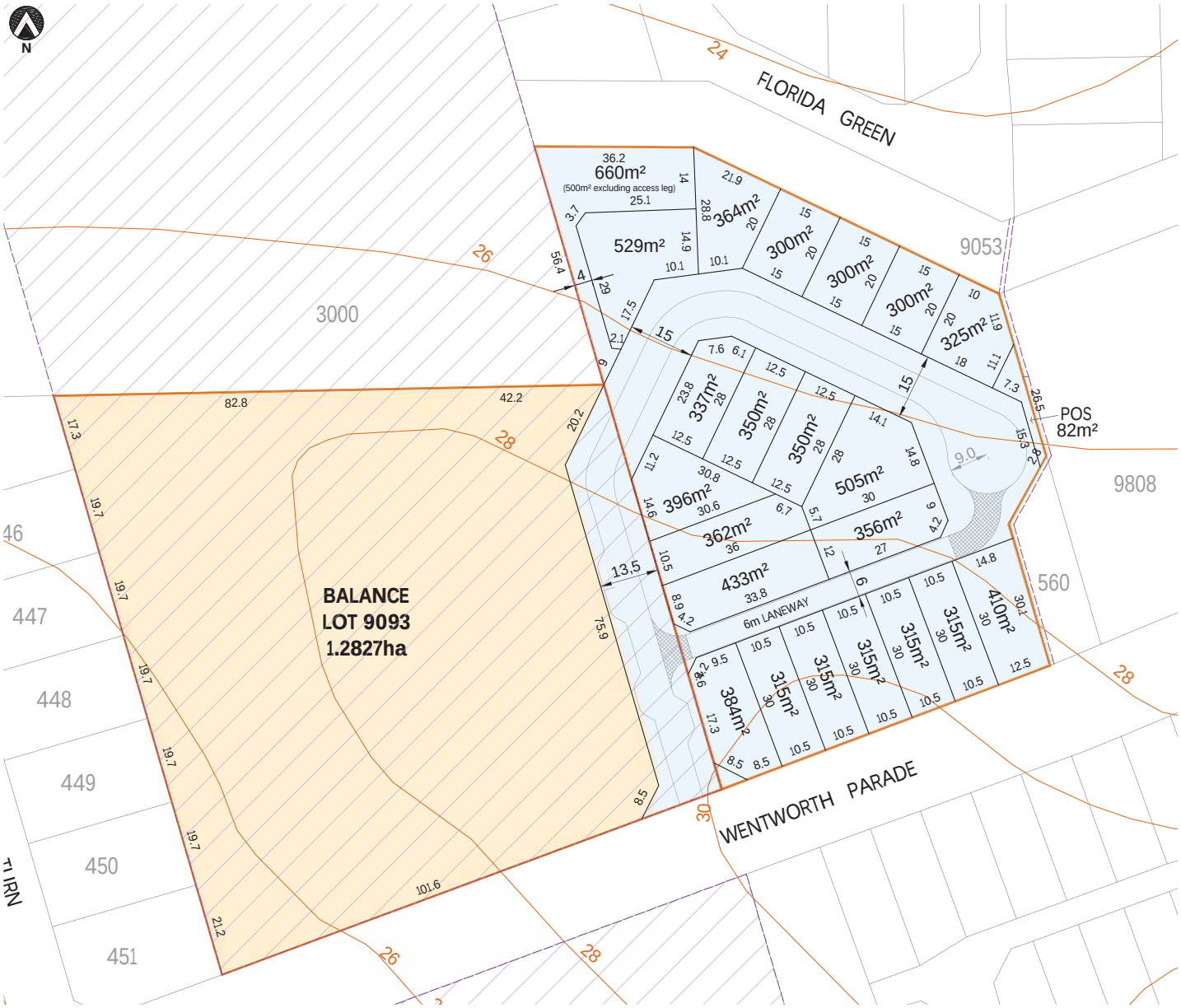
This Bushfire Management Plan (BMP) has been prepared to accompany subdivision application and address requirements under Policy Measures 6.2 and 6.4 of *State Planning Policy 3.7 Planning in Bushfire Prone Areas* (SPP 3.7; WAPC 2015) in accordance with *Guidelines for Planning in Bushfire Prone Areas Version 1.4* (the Guidelines; WAPC 2021).

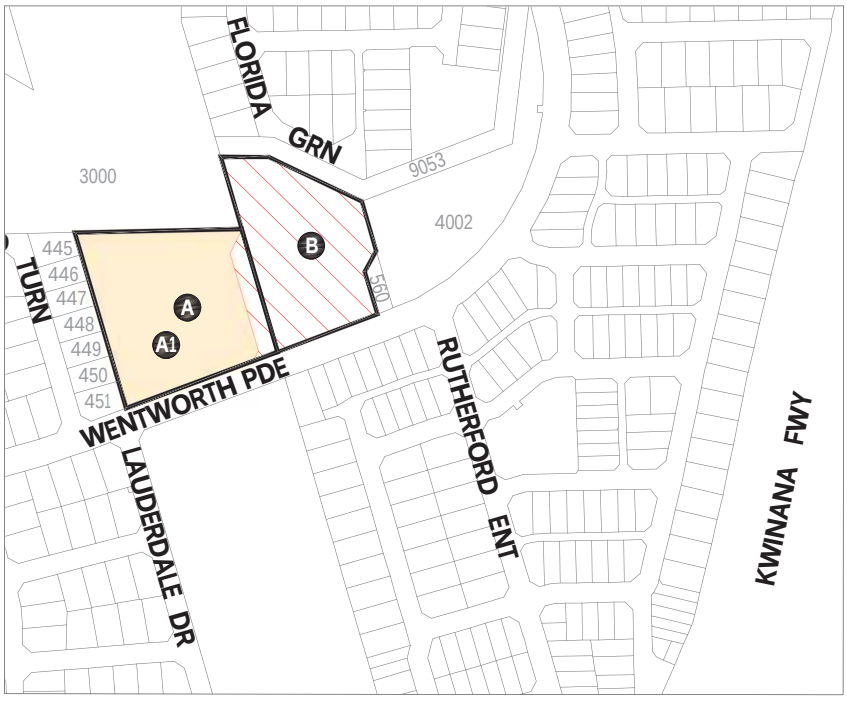
This report provides an assessment of the proposed development, bushfire risk context and required bushfire mitigation measures and includes:

- a review of the existing and anticipated post-development vegetation classifications, exclusions and effective slope within the project area and surrounds
- results of a Bushfire Attack Level (BAL) contour assessment to demonstrate the indicative BAL ratings across the project area
- details of any bushfire hazard issues relevant to the site and proposed development
- a compliance assessment to demonstrate the proposed development can comply with the bushfire protection criteria of the Guidelines
- a list of responsibilities for implementing the bushfire measures set out within this BMP that can be appropriately conditioned as part of subdivision approval.

1.5 Other plans/reports

JBS&G is not aware of any other bushfire or environmental reports that have been prepared for the project area.





LOCATION PLAN - EXISTING LOTS PROPOSED SUBDIVISION AREA

EXISTING LOT 9073	
A	1.4052ha
EXISTING LOT 559	
B	1.0942ha
BALANCE LOT 9093	
A1	1.2827ha

LEGEND

- PROPOSED LOT BOUNDARIES
- PROPOSED SUBDIVISION AREA
- EXISTING SUBJECT LOTS
- EXISTING ADJOINING LOT BOUNDARIES
- EXISTING LOT BOUNDARIES - TO BE REMOVED
- 401 EXISTING LOT NUMBERS
- WESTERN POWER EASEMENT
- INDICATIVE FUTURE LOT BOUNDARY EXISTING
- 19 CONTOURS

YIELD TABLE

Existing Lots	2
Proposed Lots	
Residential	22
Balance of Title	1
TOTAL	**23**

LAND USE/DEVELOPMENT

Zone	Lot Size	No. of Lots
Residential	235m²-319m²	9
Residential	320m²-449m²	10
Residential	450m²-499m²	1
Residential	500m²-549m²	1
Residential	550m²-599m²	0
Residential	600m²-699m²	1
Other_[Balance]	1ha-2ha	1
	TOTAL	**23**

CADASTRAL INFORMATION
SOURCE: LANDGATE SLIP
YYMMDD: 240410
DWG REF: BASE CAD
PROJECTION: MGA2020z50

HATCH

SIZE A3 1:1000

0 metres 10 20 30 40 50

SUBDIVISION PLAN
Lot 559 and 9093 Wentworth Pde, Success
City of Cockburn

REF NO. **H369541** DRAW NO. **RD1 114** REV. **D**

Legend

- Project area
- Cadastral boundary (LGATE - 002)
- Environmentally Sensitive Areas (DWER - 046)

Geomorphic wetlands (DBCA - 019)

- Multiple Use

Roads (LGATE - 195)

- Minor road

Scale: 1:2,300 at A4	0 25 50 metres
Coord. Sys. GDA2020 MGA Zone 50	
Job Number: 68309	
Client: Richard Noble	
Version: A	Date: 08-Nov-2024
Drawn By: jcrute	Checked By: ZC

Lots 559 and 9093 Wentworth Parade, Success, WA

SITE OVERVIEW

FIGURE 2

JBS&G

File Name: C:\Users\jcrute\JBS&G Australia\JBS&G - DCS - Internal - Documents\Projects\Richard Noble\68309 Lot 559 Wentworth Pde\GIS\02_MapProjects\68309 Lot 559 Wentworth Pde_R01.aprx
Image Reference: www.nearmap.com© - Imagery Date: 14. September 2024.

2. Environmental considerations

2.1 Environmental values

A search of publicly available environmental databases is summarised in Table 1 to provide an overview of the environmental values associated with the project area and proposed development.

Potential environmental impacts resulting from implementation of the proposal have been addressed by the proponent under standard State and Federal environmental assessment and referral requirements under the *Environmental Protection Act 1986* and *Environment Protection and Biodiversity Conservation Act 1999*.

Table 1: Summary of environmental values

Environmental value	Present within or adjacent to the project area	Description
Environmentally Sensitive Area (ESA)	Adjacent	Associated with multiple wetlands to the east and south, and remnant vegetation surrounding the Jandakot Groundwater Treatment Plant and the high voltage powerline corridor
Swan Bioplan Regionally Significant Natural Area	N/A	N/A
Ecological linkages	N/A	N/A
Wetlands	Within and adjacent	A portion of the project area is within and adjacent to a Multiple Use Wetland (MUW) (UFI: 6,656). The project area is adjacent to a MUW (UFI: 15,521)
Waterways	N/A	N/A
Threatened Ecological Communities listed under the EPBC Act	Potentially within and adjacent	The project area has been cleared of remnant vegetation, so is not expected to contain a TEC
Threatened and priority flora	Potentially within and adjacent	The project area has been cleared of remnant vegetation, so is not expected to contain any threatened or priority flora
Fauna habitat listed under the EPBC Act	Within and adjacent	The project area is mapped as being within a 6 km buffer for Carnaby's Black Cockatoo roosting site
Threatened and priority fauna	Potentially within and adjacent	The project area has been cleared of remnant vegetation, so is not expected to contain any threatened or priority fauna
Bush Forever Site	N/A	N/A
DBCA managed lands and waters (includes legislated lands and waters and lands of interest)	N/A	N/A
Conservation covenants	None known	N/A

2.2 Native vegetation – modification and clearing

As the project area is already cleared, the proposal will not result in the clearing of any significant native vegetation.

2.3 Revegetation / Landscape Plans

The proposed POS cell is 82 m^2 in total and will not have a drainage function. The landscaping outcome will consist of low threat treatments including a predominant mulch surface and pedestrian path, as per the Landscape Plan in Appendix E. Therefore, proposed streetscapes and POS within the project area will be excluded as a combination of non-vegetated areas and low threat managed land under Clauses 2.2.3.2 (e) and (f) of AS3959 and Schedule 1 of the Guidelines (refer to Appendix A).

3. Bushfire assessment results

3.1 Bushfire Attack Level contour assessment

A Bushfire Attack Level (BAL) contour assessment has been undertaken for the project area in accordance with Method 1 of *AS3959-2018 Construction of Buildings in Bushfire Prone Areas* (AS3959; SA 2018). The Method 1 procedure incorporates the following factors:

- state-adopted FDI 80 rating
- vegetation classification
- effective slope
- distance maintained between proposed development areas and the classified vegetation.

The BAL rating gives an indication of the level of bushfire attack (i.e. the radiant heat flux) that may be received by future development and subsequently informs the standard of building construction and/or setbacks required for proposed habitable development to potentially withstand such impacts and/or deliver compliance with the bushfire protection criteria of the Guidelines.

The BAL contours are based on:

- the vegetation classifications and effective slope observed at the time of inspection
- consideration of the existing cleared/developed extent and vegetation exclusions
- consideration of proposed areas to be modified to a non-vegetated/low threat state as part of proposed development and the resulting separation distances between proposed habitable development and classified vegetation as per the plan of subdivision in Figure 1.

3.2 Assessment inputs

3.2.1 Vegetation classification

Classified vegetation and exclusions were assessed within the project area and adjoining 150 m (the assessment area) through on-ground verification on 4 November 2024 in accordance with AS3959 and the *Visual Guide for Bushfire Risk Assessment in Western Australia* (DoP 2016). Georeferenced site photos and a description of the vegetation classifications and exclusions are contained in Appendix B, with vegetation plots depicted in Figure 3 and summarised in Table 2. Post-development classified vegetation has been identified as follows:

- Class D scrub exists to the northwest within the high voltage powerline corridor and comprises sparse shrubs, 2–6 m in height (including sheoaks, banksias and grasstrees)
- Class G grassland exists within the high voltage powerline corridor to the west and northwest, comprising grasses and weeds greater than 100 mm in height at maturity
- to the southwest and east of the project area are two small areas that are excluded under Clause 2.2.3.2 (c) as multiple areas of vegetation less than 0.25 ha in area and not within 20 m of the site, or each other or of other areas of vegetation being classified vegetation.

The project area will be modified from the current grassland state to a non-vegetated/low threat managed state through clearing, earthworks and construction of the proposed development, resulting in dwellings, roads, and low threat POS excluded from classification under Clauses 2.2.3.2 (e) and (f) of AS3959. Proposed low threat POS is consistent with the landscaping detail provided in the Landscape Plan (Appendix E).

Legend

- Project area
- 100m assessment area
- 150m assessment area
- Cadastral boundary (LGATE - 002)
- Proposed POS
- Proposed lot layout
- Carriageway
- Topographic contours in m AHD (DPIRD - 072)

Vegetation classification

- Class D Scrub
- Class G Grassland
- Clause 2.2.3.2 (c)
- Clause 2.2.3.2 (e) & (f)
- Area to be modified to non-vegetated and low threat state
- Photo point directions

Roads (LGATE - 195)

- Minor road

Scale: 1:2,300 at A4 (0, 25, 50 metres)	**Lots 559 and 9093 Wentworth Parade, Success, WA**
Coord. Sys. GDA2020 MGA Zone 50	**VEGETATION CLASSIFICATION AND EFFECTIVE SLOPE**
Job Number: 68309	
Client: Richard Noble	**FIGURE 3**
Version: A — Date: 07-Nov-2024	JBS&G
Drawn By: jcrute — Checked By: ZC	

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Image Reference: www.nearmap.com© - Imagery Date: 14. September 2024.

3.3 Assessment outputs

3.3.1 BAL contour assessment results

Results of the BAL contour assessment is detailed in Table 3 and illustrated in Figure 4. The determined worst case BAL impact to the external boundary of the proposed lots is BAL-FZ, which applies to the two northern-most lots that interface the adjacent west powerline corridor. However, with the implementation of APZ setbacks, all future habitable development within the proposed lots will be located within areas of BAL-29 or lower.

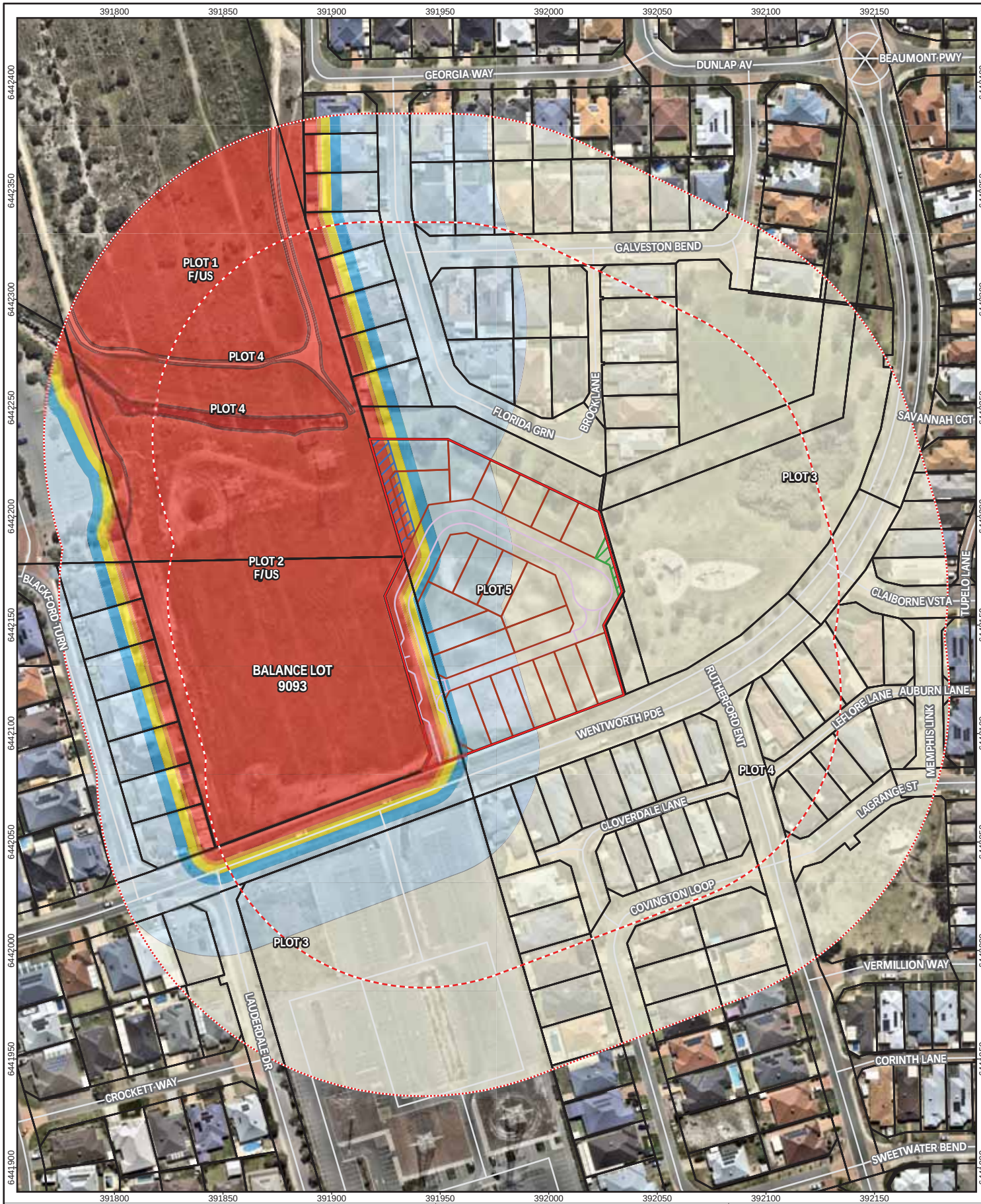
Table 3: BAL contour assessment results

Method 1 BAL determination					
Plot	**Vegetation classification**	**Effective slope**	**Separation distance (to nearest lot boundary)**	**Highest BAL (to nearest lot boundary)**	**Modified BAL (with APZ setback)**
1	Class D Scrub	Flat/upslope (0°)	52 m	**BAL–12.5**	N/A
2	Class G Grassland	Flat/upslope (0°)	0 m	BAL–FZ	**BAL–29** (with APZ setbacks outlined in the notes below)
3	Excluded – Clause 2.2.3.2 [c]	N/A	N/A	N/A	N/A
4	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])	N/A	N/A	N/A	N/A
5	Modified to non-vegetated and/or low threat (Clauses 2.2.3.2 [e] and/or [f])	N/A	N/A	N/A	N/A
Highest BAL (with APZ setbacks)					**BAL–29**

NOTES:

* An 8 m APZ setback will apply to the western boundary of the northern-most battle-axe lot and a 4 m APZ setback will apply to the western boundary of the adjacent 529 m^2 lot (adjacent to the battle-axe leg).

APZ setbacks will be enforced via application of a restrictive covenant on title.



Legend

- Project area
- 100m assessment area
- 150m assessment area
- Cadastral boundary (LGATE - 002)
- Proposed POS
- Proposed lot layout
- Classified vegetation
- APZ setback
- Carriageway

BAL contours

- BAL FZ
- BAL 40
- BAL 29
- BAL 19
- BAL 12.5
- BAL Low

Roads (LGATE - 195)

- Minor road

Scale: 1:2,300 at A4 (0, 25, 50 metres)

Coord. Sys. GDA2020 MGA Zone 50

Job Number: 68309

Client: Richard Noble

Version: A | Date: 08-Nov-2024

Drawn By: jcrute | Checked By: ZC

Lots 559 and 9093 Wentworth Parade, Success, WA

BAL CONTOUR MAP

FIGURE 4

JBS&G

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Image Reference: www.nearmap.com© - Imagery Date: 14. September 2024.

4. Identification of bushfire hazard issues

4.1 Bushfire context

The greatest bushfire threat to the proposed development is from predominantly Class G grassland vegetation directly to the west of the project area and regenerating Class D scrub to the northwest, both within the high voltage powerline corridor. The worst case bushfire scenario is a wind driven fire run through approximately 800 m of scrub and grassland from the northwest, running from adjacent to Bartram Road/Hammond Road towards the site. While fire risks are at their highest over summer, bushfire behaviour and rate of fire spread from this direction occur irregularly as the prevalent summer wind conditions are from the east in the morning and the southwest in the afternoon. The risk from the longest run of vegetation is not in either of these directions and the project area is unlikely to be affected by a long fire run from the northwest.

The project area is otherwise bound by existing urban development to the north, east and south that do not pose a bushfire threat. On this basis, there is no landscape scale bushfire risk to the project area.

On the basis of the above bushfire context, the bushfire response for this development is relatively straight forward and should focus on the provision of setbacks and BAL-rated construction where required.

4.2 Bushfire hazard issues

The following bushfire hazard issues have been identified for the proposed development:

1. The project area is located within a designated bushfire prone area and subject to a rating above BAL-Low and therefore requires assessment against the bushfire protection criteria of the Guidelines in accordance with Policy Measures 6.2 and 6.4 of SPP 3.7.
2. The BAL contour assessment identifies that future habitable development within all proposed lots has capacity to achieve BAL–29 or lower
3. Any vegetation introduced as part of proposed POS landscaping will need to consist of either non-vegetated or low threat and managed components in accordance with AS3959 Clauses 2.2.3.2 (e) and (f) and Schedule 1 of the Guidelines (refer to Appendix A).
4. Future habitable development within a designated bushfire prone area will require a bushfire construction response in accordance with AS3959 if located within an area of BAL–12.5 or higher. BAL ratings and bushfire construction response will be determined at the BMP compliance (subdivision clearance) stage or future building approval stage.
5. An 8 m APZ setback will apply to the western boundary of the northern-most battle-axe lot and a 4 m APZ setback will apply to the western boundary of the adjacent 529 m^2 lot (adjacent to the battle-axe leg) to ensure future habitable development within these lots achieves a compliant rating of BAL-29 or lower, as per Table 3 and depicted on Figure 4. APZ setbacks will be enforced via application of a restrictive covenant on title.
6. Multiple access routes can be provided for the proposed development through linkage with Wentworth Parade to the south, which provides through access to the broader public road network including the built up urban areas of Success and Cockburn Central to the north and Hammond Park and Mandogalup to the south.
7. The proposed internal public road network provides only one connection to the surrounding public road network in Wentworth Parade to the south. This single access network is unavoidable due to the landlocked nature of the site (i.e. powerline corridor to the west and constructed POS to the east and north) and subsequent inability for subdivision design to provide any additional connections to the surrounding public road network.

8. The proposed unavoidable single access network is compliant with technical requirements of the Guidelines in that all proposed lots are situated within 200 m of the nearest point at which two access routes are available (i.e. from the proposed intersection with Wentworth Parade). No internal dead-ends or cul-de-sacs are proposed; however, a turnaround point is proposed in the east of the site at the intersection with the proposed laneway.
9. Reticulated water supply is available for proposed development via extension of services along the existing public road network.

JBS&G considers the bushfire hazards within and adjacent to the project area and the associated bushfire risks are readily manageable through adoption of standard acceptable solutions, as outlined in the Guidelines. These responses have been factored in to development design, as per Figure 1, to ensure a suitable, compliant and effective bushfire management outcome is achieved for protection of future life and property assets.

Bushfire mitigation measures designed to address the abovementioned bushfire hazard issues and achieve compliance with the bushfire protection criteria of the Guidelines are described in Section 5.

5. Assessment against the bushfire protection criteria

5.1 Compliance with Elements 1–4

Compliance with Elements 1–4 of the bushfire protection criteria of the Guidelines (Version 1.4) is demonstrated by meeting the acceptable solutions, as detailed in Table 4.

Table 4: Compliance with the bushfire protection criteria of the Guidelines (Elements 1 – 4)

Bushfire protection criteria	Performance Principle	Method of compliance	Statement of development compliance	Compliance achieved
		Acceptable solutions		
Element 1: Location	**P1** – The strategic planning proposal, subdivision and development application is located in an area where the bushfire hazard assessment is or will, on completion, be moderate or low, or a BAL–29 or below, and the risk can be managed. For unavoidable development in areas where BAL–40 or BAL–FZ applies, demonstrating that the risk can be managed to the satisfaction of the decision-maker.	**A1.1 Development location** The strategic planning proposal, subdivision and development application is located in an area that is or will, on completion, be subject to either a moderate or low bushfire hazard level, or BAL–29 or below.	The BAL contour assessment (see Figure 4 and Table 3) indicates that all proposed lots can achieve BAL–29 or lower, subject to provision of an 8 m APZ setback to the western boundary of the northern-most battle-axe lot and a 4 m APZ setback to the western boundary of the adjacent 529 m^2 lot (adjacent to the battle-axe leg).	✓
Element 2: Siting and design	**P2** – The siting and design of the strategic planning proposal, subdivision or development application, including roads, paths and landscaping, is appropriate to the level of bushfire threat that applies to the site. The proposal incorporates a defendable space and significantly reduces the heat intensities at the building surface thereby minimising the bushfire risk to people, property and infrastructure, including compliance with AS 3959 if appropriate.	**A2.1 Asset Protection Zone** Every habitable building is surrounded by, and every proposed lot can achieve, an APZ depicted on submitted plans, which meets the requirements set out in Schedule 1.	Two proposed lots are identified as being subject to BAL-FZ and BAL–40 impacts (see Figure 4 and Table 3). As stated above, an 8 m APZ setback will apply to the western boundary of the northern-most battle-axe lot and a 4 m APZ setback will apply to the western boundary of the adjacent 529 m^2 lot (adjacent to the battle-axe leg) to ensure future habitable development within these lots achieves a compliant rating of BAL-29 or lower. APZ setbacks will be enforced via application of a restrictive covenant on title. The APZ setbacks, as well as any land proposed to be modified to a non-vegetated/low threat managed state, are to be established and maintained in accordance with APZ standards outlined in Schedule 1 of the Guidelines (refer to Appendix A).	✓
Element 3: Vehicular access	**P3i** – The design and capacity of vehicular access and egress is to provide for the community to evacuate to a suitable destination before a bushfire arrives at the site, allowing emergency services personnel to attend the site and/or hazard vegetation.	**A3.1 Public roads** The minimum requirements under this acceptable solution are applicable to all proposed and existing public roads. Public roads are to meet the minimum technical requirements in Table 6, Column 1. The trafficable (carriageway/pavement) width is to be in accordance with the relevant class of road in the Local Government Guidelines for Subdivisional Development (IPWEA Subdivision Guidelines), Liveable Neighbourhoods, Austroad standards and/or any applicable standards for the local government area.	All public roads will be constructed to the relevant technical requirements of the Guidelines (see Appendix C).	✓

All other land within the assessment area was identified as being excluded from classification under Clauses 2.2.3.2 (e) and (f) of AS3959 as being either existing non-vegetated areas (i.e. buildings, roads, etc) or land managed in a low threat state (i.e. managed gardens, turf, urban streetscapes, POS, etc).

3.2.2 Effective slope

Effective slope under classified vegetation was assessed within the assessment area through on-ground verification on 4 November 2024 in accordance with AS3959. Results were cross-referenced with DPIRD 2m contour data and are depicted in Figure 3 and summarised in Table 2.

Site observations indicate that all classified vegetation within the assessment area is flat or upslope in relation to the project area.

3.2.3 Summary of inputs

Figure 3 illustrates the post-development vegetation classifications, exclusions and effective slope observed during site inspection. Vegetation classifications, exclusions and effective slope are summarised in Table 2.

Table 2: Summary of post-development vegetation classifications, exclusions and effective slope

Vegetation plot	Vegetation classification	Effective slope	Comments
1	Class D Scrub	Flat/upslope (0°)	Shrubs 2–6 m in height with a continuous horizontal fuel profile
2	Class G Grassland	Flat/upslope (0°)	Grasses and weeds greater than 100 mm in height at maturity
3	Excluded – Clause 2.2.3.2 [c]	N/A	Multiple areas of vegetation less than 0.25 ha in area and not within 20 m of the site, or each other or of other areas of vegetation being classified vegetation
4	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])	N/A	Existing non-vegetated and low threat managed areas throughout the site and surrounding extent of urban development
5	Modified to non-vegetated and/or low threat (Clauses 2.2.3.2 [e] and/or [f])	N/A	Areas to be modified to a non-vegetated/low threat managed state as part of proposed development

Bushfire protection criteria	Performance Principle	Method of compliance Acceptable solutions	Statement of development compliance	Compliance achieved
		A3.2a Multiple access routes Public road access is to be provided in two different directions to at least two different suitable destinations with an all-weather surface (two-way access). If the public road access to the subject site is via a no-through road which cannot be avoided due to demonstrated site constraints, the road access is to be a maximum of 200 metres from the subject lot(s) boundary to an intersection where two-way access is provided. The no-through road may exceed 200 metres if it is demonstrated that an alternative access, including an emergency access way, cannot be provided due to site constraints and the following requirements are met: • the no-through road travels towards a suitable destination; and • the balance of the no-through road, that is greater than 200 metres from the subject site, is wholly within BAL-LOW, or is within a residential built-out area – Figure 23.	All proposed lots will be connected to Wentworth Parade, which provides access routes in two different directions to multiple suitable destinations, including: • west to Hammond Road, which provides access to the urban residential localities of Success and Cockburn Central to the north, or Hammond Park and Mandogalup to the south • east to Beeliar Drive and onto Kwinana Freeway, which provides access to multiple suitable destinations. The proposed internal public road network provides only one connection to the surrounding public road network in Wentworth Parade to the south. This single access network is unavoidable due to the landlocked nature of the site (i.e. powerline corridor to the west and constructed POS to the east and north) and subsequent inability for subdivision design to provide any additional connections to the surrounding public road network. The proposed unavoidable single access network is compliant with technical requirements of the Guidelines in that all proposed lots are situated within 200 m of the nearest point at which two access routes are available (i.e. from the proposed intersection with Wentworth Parade).	✓
		A3.2b Emergency access way Where it is demonstrated that A3.2a cannot be achieved due to site constraints, or where an alternative design option does not exist, an emergency access way can be considered as an acceptable solution. An emergency access way is to meet all the following requirements: • requirements in Table 6, Column 2; • provides a through connection to a public road; • be no more than 500 metres in length; and • must be signposted and if gated, gates must open the whole trafficable width and remain unlocked.	The proposed subdivision does not require Emergency Access Ways (EAWs) to provide through access to a public road.	N/A
		A3.3 Through-roads All public roads should be through-roads. No-through roads should be avoided and should only be considered as an acceptable solution where: • it is demonstrated that no alternative road layout exists due to site constraints; and • the no-through road is a maximum length of 200 metres to an intersection providing two-way access, unless it satisfies the exemption provisions in A3.2a of this table. A no-through road is to meet all the following requirements: • requirements of a public road (Table 6, Column 1); and • turn-around area as shown in Figure 24.	Due to the demonstrated site constraints, there is no alternative road layout that exists that would avoid the need for the proposed internal circular road with one egress to Wentworth Parade. As previously stated, all proposed lots are situated within 200 m of the nearest point at which two access routes are available (i.e. from the proposed intersection with Wentworth Parade). No internal dead-ends or cul-de-sacs are proposed; however, a compliant turnaround point is proposed in the east of the site at the intersection with the proposed laneway, which complies with A3.3 (refer to Appendix C).	✓
	P3ii – The design of vehicular access and egress provides: • access and egress for emergency service vehicles while allowing the community to evacuate;	**A3.4a Perimeter roads** A perimeter road is a public road and should be provided for greenfield or infill development where 10 or more lots are being proposed (including as part of a staged subdivision) with the aim of:	Due to the demonstrated site constraints and since the adjoining classified vegetation is Class G grassland, perimeter roads are not required for the proposed development.	N/A

Bushfire protection criteria	Performance Principle	Method of compliance Acceptable solutions	Statement of development compliance	Compliance achieved
	• a defendable space for emergency services personnel on the interface • between classified vegetation and development site; and • hazard separation between classified vegetation and the subject site to reduce the potential radiant heat that may impact a lot(s).	• separating areas of classified vegetation under AS3959, which adjoin the subject site, from the proposed lot(s); and • removing the need for battle-axe lots that back onto areas of classified vegetation. A perimeter road is to meet the requirements contained in Table 6, Column 1. A perimeter road may not be required where: • the adjoining classified vegetation is Class G Grassland; • lots are zoned for rural living or equivalent; • it is demonstrated that it cannot be provided due to site constraints; or • all lots have frontage to an existing public road.		
	P3iii – Vehicular access is provided which allows: • access and egress for emergency service vehicles; • defendable space for emergency services • personnel on the interface between classified vegetation and development; and • hazard separation between classified vegetation and the site to reduce the potential radiant heat that may impact a lot(s).	**A3.4b Fire service access route** Where proposed lots adjoin classified vegetation under AS3959 (excluding Class G Grassland), and a perimeter road is not required in accordance with A3.4a, a fire service access route can be considered as an acceptable solution to provide firefighter access, where access is not available, to the classified vegetation. A fire service access route is to meet all the following requirements: • requirements in Table 6, Column 3; • be through-routes with no dead-ends; • linked to the internal road system at regular intervals, every 500 metres; • must be signposted; • no further than 500 metres from a public road; • if gated, gates must open the required horizontal clearance and can be locked by the local government and/or emergency services, if keys are provided for each gate; and • turn-around areas designed to accommodate type 3.4 fire appliances and to enable them to turn around safely every 500 metres.	The proposed subdivision design does not require fire service access routes (FSARs) to achieve access within and around the perimeter of the project area.	N/A
	P3iv – Vehicular access is provided which allows emergency service vehicles to directly access all habitable buildings and water supplies and exit the lot without entrapment.	**A3.5 Battle-axe access legs** Where it is demonstrated that a battle-axe cannot be avoided due to site constraints, it can be considered as an acceptable solution. There are no battle-axe technical requirements where the point the battle-axe access leg joins the effective area of the lot, is less than 50 metres from a public road in a reticulated area. In circumstances where the above condition is not met, or the battle-axe is in a non-reticulated water area, the battle-axe is to meet all the following requirements: • requirements in Table 6, Column 4; and • passing bays every 200 metres with a minimum length of 20 metres and a minimum additional trafficable width of two metres (i.e. the combined trafficable width of the passing bay and constructed private driveway to be a minimum six metres).	Due to the demonstrated site constraints and design limitations for internal public access, there is no alternative lot layout that would avoid the need for the proposed battle-axe lot. The proposed battle-axe access leg is less than 50 m in length from the internal public road in a reticulated water area, meaning there are no further battle-axe technical requirements to comply with.	✓
		A3.6 Private driveways There are no private driveway technical requirements where the private driveway is: • within a lot serviced by reticulated water; • no greater than 70 metres in length between the most distant external part of the development site and the public road measured as a hose lay; and	Compliance with A3.6 is applicable to the DA stage only.	N/A

Bushfire protection criteria	Performance Principle	Method of compliance Acceptable solutions	Statement of development compliance	Compliance achieved
		• accessed by a public road where the road speed limit is not greater than 70 km/h. In circumstances where all of the above conditions are not met, or the private driveway is in a non-reticulated water area, the private driveway is to meet all the following requirements: • requirements in Table 6, Column 4; • passing bays every 200 metres with a minimum length of 20 metres and a minimum • additional trafficable width of two metres (i.e. the combined trafficable width of the passing bay and constructed private driveway to be a minimum six metres); and • turn-around area as shown in Figure 28 and within 30 metres of the habitable building.		
Element 4: Water	No performance principle applies	**A4.1 Identification of future water supply** Evidence that a reticulated or sufficient non-reticulated water supply for bushfire fighting can be provided at the subdivision and/or development application stage, in accordance with the specifications of the relevant water supply authority or the requirements of Schedule 2. Where the provision of a strategic water tank(s) is required a suitable area within a road reserve or a dedicated lot the location should be identified, should be identified on the structure plan, to the satisfaction of the local government.	A4.1 is applicable to strategic planning applications only.	N/A
	P4 – Provide a permanent water supply that is: • sufficient and available for firefighting purposes; • constructed from non-combustible materials (e.g. steel), or able to maintain its integrity throughout a bushfire; and • accessible, with legal access for maintenance and re-filling by tankers and emergency service vehicles.	**A4.2 Provision of water for firefighting purposes** Where a reticulated water supply is existing or proposed, hydrant connection(s) should be provided in accordance with the specifications of the relevant water supply authority. Where these specifications cannot be met, then the following applies: • The provision of a water tank(s), in accordance with the requirements of Schedule 2; and • Where the provision of a strategic water tank(s) is applicable, then the following requirements apply: – land to be ceded free of cost to the local government for the placement of the tank(s); – the lot or road reserve where the tank is to be located is identified on the plan of subdivision; – tank capacity, construction, and fittings, provided in accordance with the requirements of Schedule 2; and – a strategic water tank is to be located no more than 10 minutes from the subject site (at legal road speeds). Where a subdivision includes an existing habitable building(s) that is to be retained, a water supply should be provided to this existing habitable building(s), in accordance with the requirements listed above.	The proposed development will be connected to a reticulated water supply via extension of services from adjacent residential development in accordance with Water Corporations Design Standard 63 requirements.	✓

5.2 Compliance with Element 5

Element 5 relates specifically to vulnerable tourism land uses and is therefore not applicable to the proposed subdivision.

5.3 Specific and additional management measures

JBS&G advises the following specific and additional bushfire management measures to increase the level of bushfire risk mitigation across the site as part of the current subdivision application and to inform ongoing planning stages of the development.

5.3.1 Fuel management within cleared vacant lots

Cleared vacant lots are to be managed on a regular and ongoing basis by the developer until sale of lots after which time landowners will be responsible for ongoing management. Maintenance is to be in accordance with Clause 2.2.3.2 (f) of AS3959 and Schedule 1 of the Guidelines (refer to Appendix A) and will involve slashing/mowing of grassland and weeds to height of less than 50 mm. This will also deliver compliance with the City of Cockburn annual fire control order (see Appendix D).

5.3.2 Notification on title

A notification, pursuant to Section 165 of the *Planning and Development Act 2005*, is to be placed on the certificates of title of the proposed lots subject to BAL-12.5 or higher to ensure landowners/proponents and prospective purchasers are aware that their lot is located within a bushfire prone area and is subject to an approved BMP. The notification is to state as follows:

'This land is within a bushfire prone area as designated by an Order made by the Fire and Emergency Services Commissioner and is subject to a Bushfire Management Plan. Additional planning and building requirements may apply to development on this land.'

5.3.3 Enforcement of mandatory BAL–29 APZ setbacks

Development of habitable buildings within areas of lots impacted by BAL-FZ and BAL-40 (i.e. the two northern-most lots that interface the adjacent west powerline corridor) will be prohibited via application of the following APZ setbacks (as depicted in Figure 4):

- an 8 m APZ setback off the western boundary of the northern-most battle-axe lot
- a 4 m APZ setback off the western boundary of the adjacent 529 m^2 lot (adjacent to the battle-axe leg).

The APZ setbacks will be enforced via application of a restrictive covenant on title via the following subdivision condition:

> 'A restrictive covenant to the benefit of the local government, pursuant to section 129BA of the *Transfer of Land Act 1893*, is to be placed on the certificate(s) of title of the proposed lot(s) advising of the existence of a restriction on the use of the land within areas that have been assessed as BAL–40 or BAL–Flame Zone. Notice of this restriction is to be included on the diagram or plan of survey (deposited plan). The restrictive covenant is to state as follows: 'No habitable buildings are to be built within areas identified as BAL–40 or BAL–Flame Zone.'

5.3.4 Building construction standards

Future Class 1, 2, 3 and associated 10a buildings in areas subject to BAL-12.5 or higher are required to comply with the bushfire specific building construction requirements of AS3959, where located within a designated bushfire prone area.

5.3.5 BMP compliance and condition clearance report

A BMP compliance and condition clearance report is to be prepared prior to issue of title to validate and confirm that relevant management measures of this BMP have been implemented appropriately to achieve the intended bushfire management outcomes and compliance with bushfire protection criteria.

5.3.6 POS landscaping plan

The BAL contour assessment is reliant on the proposed POS cell being established in a non-vegetated/low threat managed state through a landscaping outcome in accordance with the landscape plan in Appendix E, which will deliver exclusion under Clauses 2.2.3.2 (e) and (f) of AS3959.

5.3.7 Compliance with annual fire control notice

The developer/land manager and prospective land purchasers are to comply with the current City of Cockburn annual fire control order, as amended (refer Appendix D).

6. Responsibilities for implementation and management of the bushfire measures

Implementation of the BMP applies to the developer and prospective landowners to ensure bushfire management measures are adopted and implemented on an ongoing basis. A bushfire responsibilities table is provided in Table 5 to drive implementation of all bushfire management works associated with this BMP.

Table 5: Responsibilities for implementation and management of the bushfire measures

Implementation/management table	
Developer – prior to issue of titles	
No.	Implementation action
1	Construct (or have works bonded) the public roads to the standards stated in this BMP.
2	Construct (or have works bonded) the reticulated water supply to the standards stated in this BMP.
3	Enforce APZ setbacks where required via restrictive covenants on title.
4	Establish the project area and POS cell to the required non-vegetated/low threat managed state in accordance with the standards stated in this BMP.
5	Undertake BMP compliance assessment to confirm implementation of the required bushfire management actions, as per this BMP.
6	Comply with the City of Cockburn annual fire control order, as amended.
Developer – until sale/transfer of lots	
No.	Implementation action
1	Maintain the project area and POS cell in a non-vegetated/low threat managed state in accordance with exclusion Clauses 2.2.3.2 (e) and (f) of AS3959, including slashing/mowing of grassland and weeds to height of less than 50 mm.
2	Comply with the City of Cockburn annual fire control order, as amended.
Landowner/occupier – prior to building construction and ongoing	
No.	Implementation action
1	Maintain cleared/vacant lots in a low threat state to achieve exclusion Clause 2.2.3.2 (f) of AS3959, including slashing/mowing of grassland and weeds to height of less than 50 mm, until developed to a permanent low fuel state.
2	Comply with the bushfire specific building construction requirements of AS3959 in accordance with the final assessed BAL rating and certification.
3	Comply with the City of Cockburn annual fire control order, as amended.

7. Limitations

This report has been prepared for use by the client who has commissioned the works in accordance with the project brief only, and has been based in part on information obtained from the client and other parties.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

JBS&G accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced without prior approval by the client, or amended in any way without prior approval by JBS&G, and should not be relied upon by other parties, who should make their own enquires.

Sampling and chemical analysis of environmental media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate based on the regulatory requirements.

Limited sampling and laboratory analyses were undertaken as part of the investigations undertaken, as described herein. Ground conditions between sampling locations and media may vary, and this should be considered when extrapolating between sampling points. Chemical analytes are based on the information detailed in the site history. Further chemicals or categories of chemicals may exist at the site, which were not identified in the site history and which may not be expected at the site.

Changes to the subsurface conditions may occur subsequent to the investigations described herein, through natural processes or through the intentional or accidental addition of contaminants. The conclusions and recommendations reached in this report are based on the information obtained at the time of the investigations.

This report does not provide a complete assessment of the environmental status of the site, and it is limited to the scope defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, JBS&G reserves the right to review the report in the context of the additional information.

8. References

Department of Fire and Emergency Services (DFES) 2024, *Map of Bush Fire Prone Areas*, [Online], Government of Western Australia, available from: https://maps.slip.wa.gov.au/landgate/bushfireprone/, [31/10/2024].

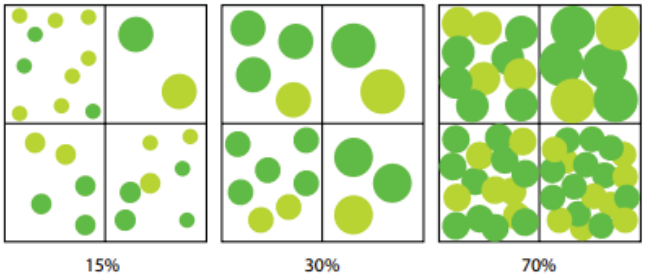
Department of Planning (DoP) 2016, *Visual guide for bushfire risk assessment in Western Australia*, Department of Planning, Perth.

Standards Australia (SA) 2018, *Australian Standard AS 3959–2018 Construction of Buildings in Bushfire-prone Areas*, Standards Australia, Sydney.

Western Australian Planning Commission (WAPC) 2015, *State Planning Policy 3.7 Planning in Bushfire Prone Areas*, Western Australian Planning Commission, Perth.

Western Australian Planning Commission (WAPC) 2021, *Guidelines for Planning in Bushfire Prone Areas, Version 1.4 December 2021*, Western Australian Planning Commission, Perth.

Appendix A Schedule 1 Asset Protection Zone standards and explanatory notes

Schedule 1: Standards for Asset Protection Zones	
Object	**Requirement**
Fences within the APZ	• Should be constructed from non-combustible materials (for example, iron, brick, limestone, metal post and wire, or bushfire-resisting timber referenced in Appendix F of AS 3959).
Fine fuel load (Combustible, dead vegetation matter <6 millimetres in thickness)	• Should be managed and removed on a regular basis to maintain a low threat state. • Should be maintained at <2 tonnes per hectare (on average). • Mulches should be non-combustible such as stone, gravel or crushed mineral earth or wood mulch >6 millimetres in thickness.
Trees* (>6 metres in height)	• Trunks at maturity should be a minimum distance of six metres from all elevations of the building. • Branches at maturity should not touch or overhang a building or powerline. • Lower branches and loose bark should be removed to a height of two metres above the ground and/or surface vegetation. • Canopy cover within the APZ should be <15 per cent of the total APZ area. • Tree canopies at maturity should be at least five metres apart to avoid forming a continuous canopy. Stands of existing mature trees with interlocking canopies may be treated as an individual canopy provided that the total canopy cover within the APZ will not exceed 15 per cent and are not connected to the tree canopy outside the APZ. **Figure 19:** Tree canopy cover – ranging from 15 to 70 per cent at maturity 
Shrub* and scrub* (0.5 metres to six metres in height). Shrub and scrub >6 metres in height are to be treated as trees.	• Should not be located under trees or within three metres of buildings. • Should not be planted in clumps >5 square metres in area. • Clumps should be separated from each other and any exposed window or door by at least 10 metres.
Ground covers* (<0.5 metres in height. Ground covers >0.5 metres in height are to be treated as shrubs)	• Can be planted under trees but must be maintained to remove dead plant material, as prescribed in 'Fine fuel load' above. • Can be located within two metres of a structure, but three metres from windows or doors if >100 millimetres in height.
Grass	• Grass should be maintained at a height of 100 millimetres or less, at all times. • Wherever possible, perennial grasses should be used and well-hydrated with regular application of wetting agents and efficient irrigation.
Defendable space	Within three metres of each wall or supporting post of a habitable building, the area is kept free from vegetation, but can include ground covers, grass and non-combustible mulches as prescribed above.

Schedule 1: Standards for Asset Protection Zones	
LP Gas Cylinders	Should be located on the side of a building furthest from the likely direction of a bushfire or on the side of a building where surrounding classified vegetation is upslope, at least one metre from vulnerable parts of a building. The pressure relief valve should point away from the house. No flammable material within six metres from the front of the valve. Must sit on a firm, level and non-combustible base and be secured to a solid structure.

***** Plant flammability, landscaping design and maintenance should be considered – refer to explanatory notes

Source: Guidelines for Planning in Bushfire Prone Areas (WAPC 2021)

Element 2 Explanatory Notes

E2 Managing an Asset Protection Zone (APZ) to a low threat state

An APZ is a low fuel area maintained around a habitable building to increase the likelihood that it will survive a bushfire, by providing a defendable space and reducing the potential for direct flame contact, radiant heat exposure and ember attack.

Vegetation management within an APZ should provide defendable space and be maintained to a low threat state, in perpetuity, in accordance with the requirements outlined in Schedule 1.

The width of an APZ varies with slope and vegetation type, however it should only be as wide as needed to ensure the potential radiant heat impact of a bushfire does not exceed 29kW/m² (BAL-29), or 10kW/m² where a building is identified for use as an on-site shelter. An APZ is generally not required where a building or development site achieves 29kW/m² (BAL-29) or lower in its pre-development state (prior to any vegetation clearing or modification).

An APZ should include an area of defendable space immediately adjoining a building, that is kept free from combustible items and obstructions, within which firefighting operations can be undertaken to defend the structure. Where a lot contains a building envelope, it may not be necessary for the entire building envelope to achieve 29kW/m² (BAL-29) as this may result in significant unnecessary clearing. It is recommended that the BMP identifies that a sufficient APZ can be accommodated within the building envelope, with the development site and associated APZ to be determined at the development approval stage.

An APZ should be contained within the boundaries of the lot on which the building is situated, except in instances where it is demonstrated that the vegetation on the adjoining land is managed in a low threat state, as per cl. 2.2.3.2 of AS 3959, such as a road, managed park, rocky outcrop or a water body.

The siting of a habitable building and associated APZ should aim to minimise the clearing of vegetation. The BMP should demonstrate that the proposed APZ has minimised the unnecessary loss of vegetation or potential for conflict with landscape or environmental objectives; and complies with environmental approvals/exemptions (where necessary). A re-design or reduction in lot yield may be necessary to minimise the removal and modification of remnant vegetation.

It is recommended that development be located on flat areas or slopes less than 20 degrees (especially where classified vegetation is located downslope to a building) and away from ridge tops, crests or narrow gullies, as bushfire can spread rapidly in these areas. Circumstances where these locations may be suitable for development to occur include where the land is already cleared, and 29kW/m² (BAL-29) or lower can be achieved for the whole development site without the use of an APZ. To ensure soil stability within an APZ, vegetation removal on slopes exceeding 18 degrees is discouraged.

Element 2 Explanatory Notes

Fine fuel load should be maintained to less than two tonnes per hectare, however this is often a subjective assessment. Reducing fuel load levels does not necessarily require the removal of existing vegetation. A combination of methods can be utilised to reduce fuel load such as raking, weed removal, pruning, mulching and/or the removal of plant material.

A simple method to estimate fuel load is to roughly equate one tonne of fuel load per hectare as 100 grams per square metre. For example, two tonnes per hectare of leaf litter is roughly 200 grams of leaf litter per square metre and eight tonnes per hectare is roughly 800 grams. Eucalyptus leaf litter is approximately 100 grams per handful, so two handfuls of litter per square metre will roughly equate to two tonnes per hectare. Different types of fine fuel, like mulch or pine needles may be more or less than a handful, however the 100 grams per square metre rule of thumb can still be used.

The landowner or proponent is responsible for maintaining an APZ in accordance with Schedule 1 - Standards for Asset Protection Zones. Ongoing maintenance of an APZ is usually enforced through the local government firebreak notice issued under section 33 of the Bushfires Act 1954, and/or through a condition of a development approval, which requires the implementation of measures identified within a BMP.

A copy of the firebreak notice and Schedule 1 should be included in a BMP specifically as a how-to guide for the landowner, and to demonstrate to decision-makers that the measures outlined in the BMP to achieve the appropriate BAL rating through provision and ongoing management of an APZ, can be implemented.

E2 Landscaping and design of an Asset Protection Zone

Landscaping, design, and maintenance of an APZ in a bushfire prone area can significantly improve the bushfire resilience of a building. An APZ should not be seen as an area entirely cleared of vegetation, but as a strategically designed space that gives holistic consideration to how existing or proposed vegetation or non-combustible features interact with, or affect the building's bushfire resilience.

A well designed APZ provides a greater level of vegetation management within the first few metres of a building with, for example, less vegetation or inclusion of non-combustible materials. The vegetation within the remainder of an APZ can increase further away from the building with carefully considered plant selection and landscaping techniques.

Strategic landscaping measures can be applied, such as replacing weeds with low flammability vegetation (refer to E2 Plant Flammability) to create horizontal and vertical separations between the retained vegetation. The accumulation of fine fuel load from different plants is an important consideration for ongoing maintenance in accordance with Schedule 1. For example, when planting ground covers under deciduous trees within an APZ, the total fine fuel load prescribed in Schedule 1 will include any dead plant material from ground covers and leaf litter from the trees.

Plant density and final structure and form of mature vegetation should be considered in the initial landscaping stages. For example, clumps of sapling shrubs planted at a density without consideration of future growth, may increase the bushfire risk as a clump will quickly grow to exceed $5m^2$. It should be noted that in some cases, a single shrub in a mature state may be so dense as to fill a $5m^2$ clump alone.

The location of plants within an APZ is a key design technique. Separation of garden beds with areas of low fuel or non-combustible material, will break up fuel continuity and reduce the likelihood of a bushfire running through an APZ and subjecting a dwelling to radiant heat or direct flame contact. It is important to note, where mature trees are separated from a building by six metres, but the canopy has grown to extend or overhang a building, maintenance and pruning to remove the overhanging branches should be undertaken without the entirety of the tree being removed.

Element 2 Explanatory Notes

Mulches used within the APZ should be non-combustible. The use of stone, gravel, rock and crushed mineral earth is encouraged. Wood mulch >6mm in thickness may be used, however it is recommended that it is used in garden beds or areas where the moisture level is higher by regular irrigation. These materials could be sourced from non-toxic construction and demolition waste giving the added benefit of reducing the environmental impact of any 'hard landscaping' actions.

Combustible objects, plants, garden supplies such as mulches, fences made from combustible material, should be avoided within 10 metres of a building. Vines or climbing plants on pergolas, posts or beams, should be located away from vulnerable parts of the building, such as windows and doors. Non-flammable features can be used to provide hazard separation from classified vegetation, such as tennis courts, pools, lawns and driveways or paths that use inorganic mulches (gravel or crushed rock). Consider locating firewood stacks away from trees and habitable buildings.

Incorporation of landscaping features, such as masonry feature walls can provide habitable buildings with barriers to wind, radiant heat and embers. These features can include noise walls or wind breaks. Use of Appendix F of AS 3959 for bushfire resistant timber selection within areas of 29kW/m² (BAL-29) or below, or the use of non-combustible fencing materials such as iron, brick, limestone, metal post and wire is encouraged.

In addition to regular maintenance of an APZ, further bushfire protection can be provided at any time by:

- ensuring gutters are free from vegetation;
- installing gutter guards or plugs;
- regular cleaning of underfloor spaces, or enclosing them to prevent gaps;
- trimming and removing dead plants or leaf litter;
- pruning climbing vegetation (such as vines) on a trellis, to ensure it does not connect to a building, particularly near windows and doors;
- removing vegetation in close proximity to a water tank to ensure it is not touching the sides of a tank; and/or
- following the requirements of the relevant local government section 33 fire break notice, which may include additional provisions such as locating wood piles more than 10 metres from a building.

Preparation of a property prior to the bushfire season and/or in anticipation of a bushfire is beneficial even if your plan is to evacuate. As embers can travel up to several kilometres from a bushfire and fall into small spaces and crevices or land against the external walls of a building, best practice recommends that objects within the APZ are moved away from the building prior to any bushfire event. Objects may include, but are not limited to:

- door mats;
- outdoor furniture;
- potted plants;
- shade sails or umbrellas;
- plastic garbage bins;
- firewood stacks;
- flammable sculptures; and/or
- playground equipment and children's toys.

E2 Plant flammability

There are certain plant characteristics that are known to influence flammability, such as moisture or oil content and the presence and type of bark. Plants with lower flammability properties may still burn during a bushfire event, but may be more resistant to burning and some may regenerate faster post-bushfire.

There are many terms for plant flammability that should not be confused, including:

- Fire resistant – plant species that survive being burnt and will regrow after a bushfire and therefore may be highly flammable and inappropriate for a garden in areas of high bushfire risk.

Element 2 Explanatory Notes

- Fire retardant – plants that may not burn readily or may slow the passage of a bushfire.
- Fire wise – plants that have been identified and selected based on their flammability properties and linked to maintenance advice and planting location within a garden.

Although not a requirement of these Guidelines, local governments may develop their own list of fire wise or fire retardant plant species that suit the environmental characteristics of an area. When developing a recommended plant species list, local governments should consult with ecologists, land care officers or environmental authorities to ensure the plants do not present a risk to endangered ecological communities, threatened, or endangered species or their habitat.

When selecting plants, private landholders and developers should aim for plants within the APZ that have the following characteristics:

- grow in a predicted structure, shape and height;
- are open and loose branching with leaves that are thinly spread;
- have a coarse texture and low surface-area-to-volume ratio;
- will not drop large amounts of leaves or limbs, that require regular maintenance;
- have wide, flat, and thick or succulent leaves;
- trees that have bark attached tightly to their trunk or have smooth bark;
- have low amounts of oils, waxes, and resins (which will often have a strong scent when crushed);
- do not produce or hold large amounts of fine dead material in their crowns; and/or
- will not become a weed in the area.

Refer to the WAPC Bushfire and Vegetation Fact Sheet for further information on clearing and vegetation management and APZ landscaping, design and plant selection reference material.

Source: Guidelines for Planning in Bushfire Prone Areas (WAPC 2021)

Appendix B Georeferenced site photos and descriptions

Plot 1		
Vegetation classification	**Pre-development**	Class D Scrub
	Post-development	Class D Scrub
Description / justification		
Vegetation with a continuous horizontal and vertical structure, greater than 2 m high at maturity		

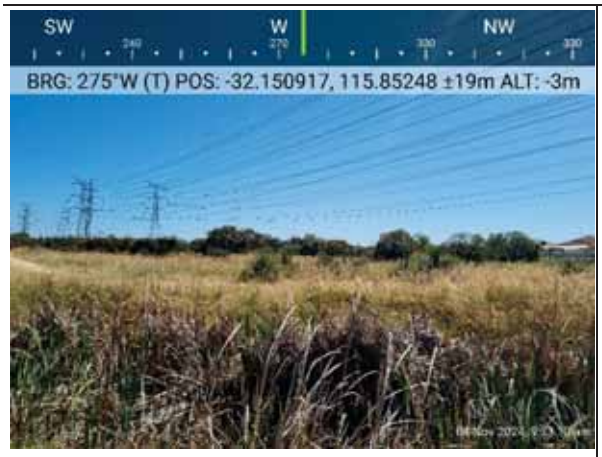


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Photo ID: 1b

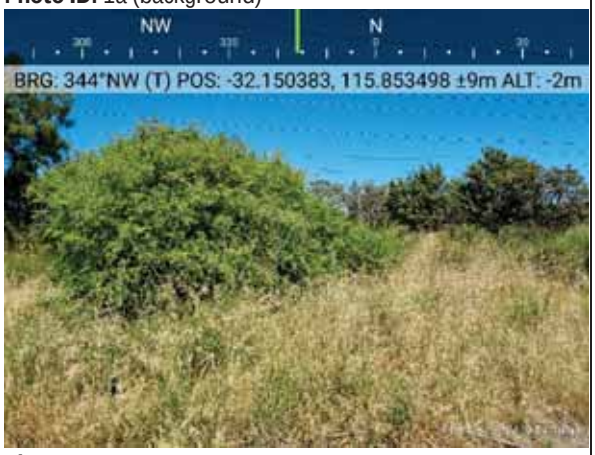
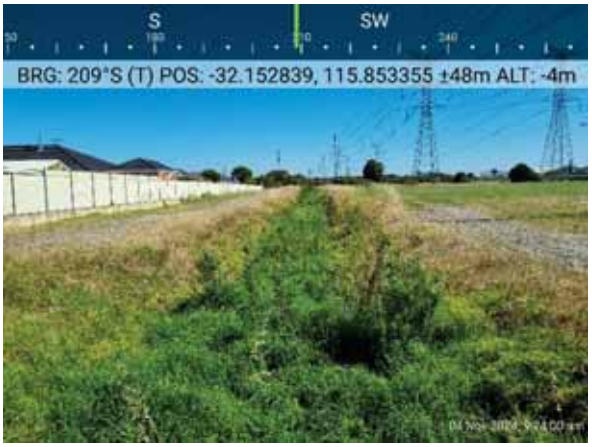


Photo ID: 1c

Plot 2		
Vegetation classification	**Pre-development**	Class G Grassland
	Post-development	Class G Grassland
Description / justification		
Grassland greater than 100 mm in height		

Photo ID: 2a



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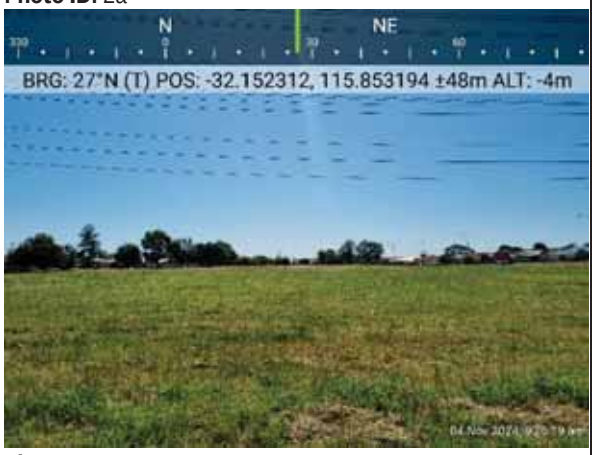

Photo ID: 2c

Photo ID: 2d

Photo ID: 2e

Plot 3		
Vegetation classification	**Pre-development**	Excluded – Clause 2.2.3.2 [c]
	Post-development	Excluded – Clause 2.2.3.2 [c]
Description / justification		
Multiple areas of vegetation less than 0.25 ha in area and not within 20 m of the site, or each other or of other areas of vegetation being classified vegetation		

Photo ID: 3a

Photo ID: 3b

Photo ID: 3c

Plot 4		
Vegetation classification	**Pre-development**	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])
	Post-development	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])
Description / justification		
Existing non-vegetated areas (i.e. buildings, roads, footpaths, driveways, car parks, firebreaks, etc) and low threat managed areas (i.e. managed gardens, urban street verges, irrigated turf, managed POS, etc)		

Photo ID: 4a

Photo ID: 4b

Photo ID: 4c

Photo ID: 4d (background)

Photo ID: 4e

Photo ID: 4f

Bushfire Management Plan Coversheet

This Coversheet and accompanying Bushfire Management Plan has been prepared and issued by a person accredited by Fire Protection Association Australia under the Bushfire Planning and Design (BPAD) Accreditation Scheme.

Bushfire Management Plan and Site Details

Site Address / Plan Reference: Lots 559 & 9093 Wentworth Parade

Suburb: Success **State:** WA **P/code:** 6164

Local government area: City of Cockburn

Description of the planning proposal: Subdivision application

BMP Plan / Reference Number: 163,645 | 68309 **Version:** R01 Rev 1 **Date of Issue:** 10/03/2025

Client / Business Name: Gold Estates Holdings Pty Ltd

Reason for referral to DFES	Yes	No
Has the BAL been calculated by a method other than method 1 as outlined in AS3959 (tick no if AS3959 method 1 has been used to calculate the BAL)?	☐	☑
Have any of the bushfire protection criteria elements been addressed through the use of a performance principle (tick no if only acceptable solutions have been used to address all of the BPC elements)?	☐	☑
Is the proposal any of the following special development types (see SPP 3.7 for definitions)?		
Unavoidable development (in BAL-40 or BAL-FZ)	☐	☑
Strategic planning proposal (including rezoning applications)	☐	☑
Minor development (in BAL-40 or BAL-FZ)	☐	☑
High risk land-use	☐	☑
Vulnerable land-use	☐	☑

If the development is a special development type as listed above, explain why the proposal is considered to be one of the above listed classifications (E.g. considered vulnerable land-use as the development is for accommodation of the elderly, etc.)?
N/A

Note: The decision maker (e.g. local government or the WAPC) should only refer the proposal to DFES for comment if one (or more) of the above answers are ticked "Yes".

BPAD Accredited Practitioner Details and Declaration

Name	Accreditation Level	Accreditation No.	Accreditation Expiry
Zac Cockerill	Level 2	BPAD37803	31/08/2025
Company		**Contact No.**	
JBS&G Australia Pty Ltd		(08) 9792 4797	

I declare that the information provided within this bushfire management plan is to the best of my knowledge true and correct

Signature of Practitioner **Date** 10/03/2025

Lots 559 & 9093 Wentworth Parade, Success

Gold Estates Holdings Pty Ltd

Bushfire Management Plan (Subdivision Application)

163,645 | 68309

10 March 2025

We acknowledge the Traditional Custodians of Country throughout Australia and their connections to land, sea and community.

We pay respect to Elders past and present and in the spirit of reconciliation, we commit to working together for our shared future.

Table of Contents

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Abbreviations

Term	Definition
AHD	Australian Height Datum
AS	Acceptable Solution
AS 3959	Australian Standard 3959-2018 Construction of buildings in bushfire-prone areas (SA 2018)
APZ	Asset Protection Zone
BAL	Bushfire Attack Level
BMP	Bushfire Management Plan
BPAD	Bushfire Planning and Design
DFES	Department of Fire and Emergency Services
EP Act	Environmental Protection Act 1986
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
ESA	Environmentally Sensitive Area
F/US	Flat/upslope
FDI	Fire Danger Index
Guidelines	Guidelines for Planning in Bushfire Prone Areas Version 1.4 (WAPC 2021)
POS	Public Open Space
SA	Standards Australia
SPP 3.7	State Planning Policy 3.7 Planning in Bushfire Prone Areas (WAPC 2015)
TEC	Threatened Ecological Community
WAPC	Western Australian Planning Commission

1. Proposal details

1.1 Background

Gold Estates Holdings Pty Ltd is seeking to lodge a subdivision application for proposed residential development within Lots 559 and part 9093 Wentworth Parade, Success (the project area), located in the City of Cockburn. The subdivision plan (Figure 1) identifies:

- 22 proposed residential lots
- one Public Open Space (POS) cell (82 m^2 in total)
- internal public road layout with one connection to Wentworth Parade
- one balance lot (Lot 9093).

1.2 Site description

The project area comprises approximately 2.50 ha of cleared grassland and is surrounded by (see Figure 2):

- existing POS to the east and a strip to the north between the project area and Florida Green
- existing urban residential development to the south and east opposite Wentworth Parade and north opposite Florida Green
- predominantly cleared powerline corridor located within proposed balance Lot 9093 to the west.

1.3 Bushfire prone designation

The project area is designated bushfire prone on the Map of Bush Fire Prone Areas (DFES 2024; see Plate 1).

Plate 1: Map of Bush Fire Prone Areas (DFES 2024)

1.4 Purpose of this report

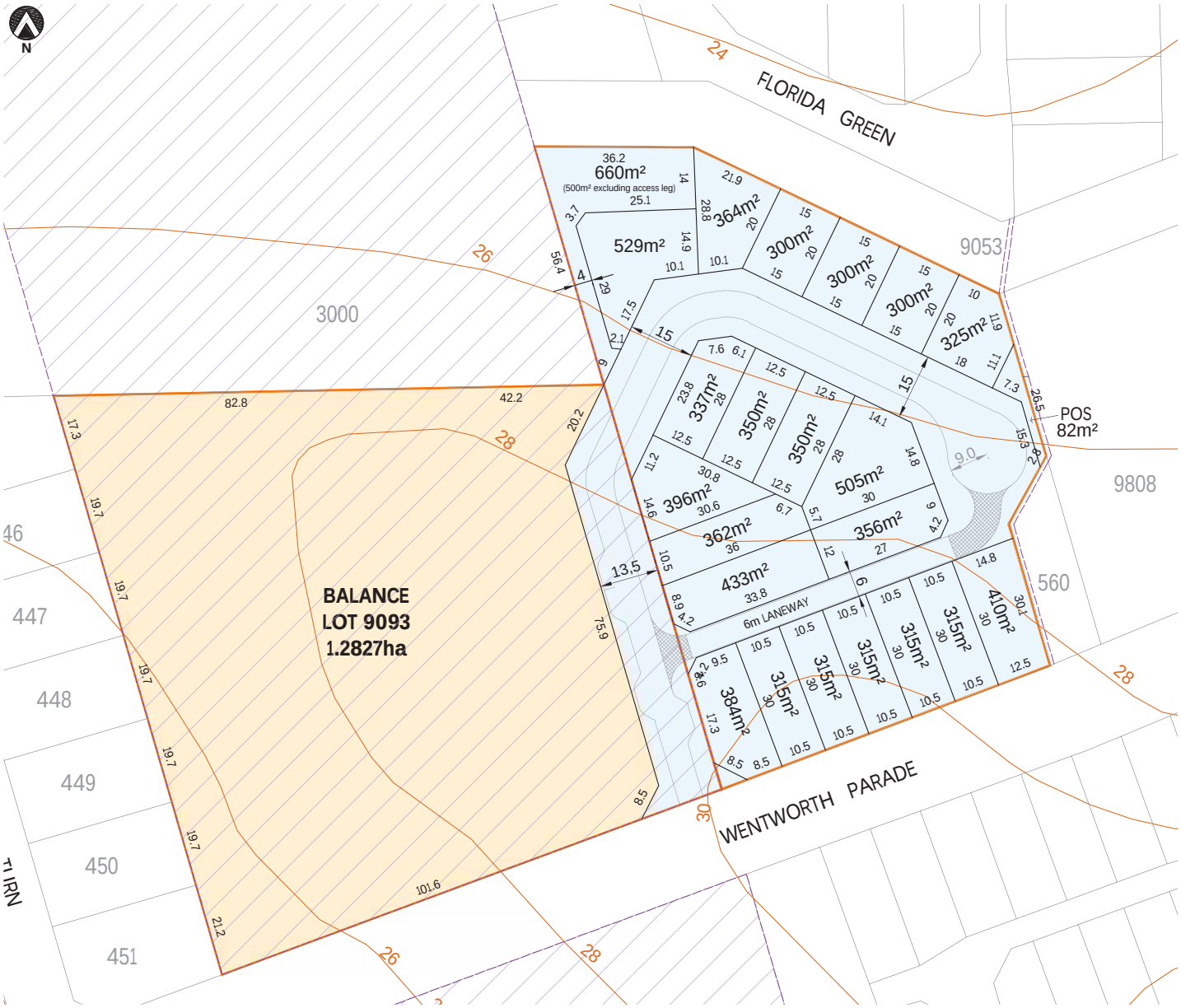
This Bushfire Management Plan (BMP) has been prepared to accompany subdivision application and address requirements under Policy Measures 6.2 and 6.4 of *State Planning Policy 3.7 Planning in Bushfire Prone Areas* (SPP 3.7; WAPC 2015) in accordance with *Guidelines for Planning in Bushfire Prone Areas Version 1.4* (the Guidelines; WAPC 2021).

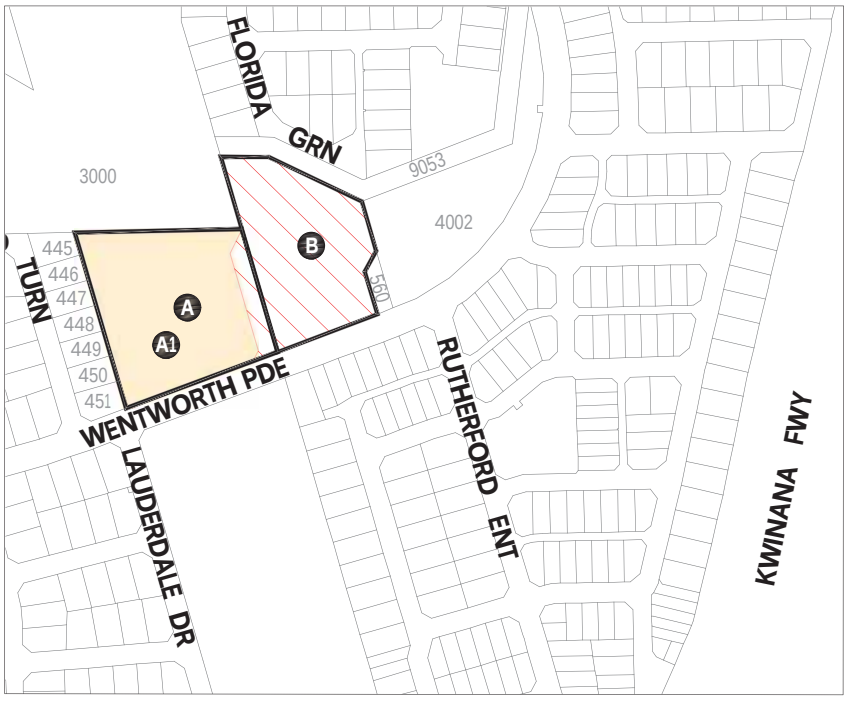
This report provides an assessment of the proposed development, bushfire risk context and required bushfire mitigation measures and includes:

- a review of the existing and anticipated post-development vegetation classifications, exclusions and effective slope within the project area and surrounds
- results of a Bushfire Attack Level (BAL) contour assessment to demonstrate the indicative BAL ratings across the project area
- details of any bushfire hazard issues relevant to the site and proposed development
- a compliance assessment to demonstrate the proposed development can comply with the bushfire protection criteria of the Guidelines
- a list of responsibilities for implementing the bushfire measures set out within this BMP that can be appropriately conditioned as part of subdivision approval.

1.5 Other plans/reports

JBS&G is not aware of any other bushfire or environmental reports that have been prepared for the project area.





LOCATION PLAN - EXISTING LOTS PROPOSED SUBDIVISION AREA

EXISTING LOT 9073	
A	1.4052ha
EXISTING LOT 559	
B	1.0942ha
BALANCE LOT 9093	
A1	1.2827ha

LEGEND

- PROPOSED LOT BOUNDARIES
- PROPOSED SUBDIVISION AREA
- EXISTING SUBJECT LOTS
- EXISTING ADJOINING LOT BOUNDARIES
- EXISTING LOT BOUNDARIES - TO BE REMOVED
- 401 EXISTING LOT NUMBERS
- WESTERN POWER EASEMENT
- INDICATIVE FUTURE LOT BOUNDARY EXISTING
- 19 CONTOURS

YIELD TABLE

Existing Lots	2
Proposed Lots	
Residential	22
Balance of Title	1
TOTAL	**23**

LAND USE/DEVELOPMENT

Zone	Lot Size	No. of Lots
Residential	235m²-319m²	9
Residential	320m²-449m²	10
Residential	450m²-499m²	1
Residential	500m²-549m²	1
Residential	550m²-599m²	0
Residential	600m²-699m²	1
Other_[Balance]	1ha-2ha	1
	TOTAL	**23**

CADASTRAL INFORMATION
SOURCE: LANDGATE SLIP
YYMMDD: 240410
DWG REF: BASE CAD
PROJECTION: MGA2020z50

HATCH

SIZE A3 1:1000

0 metres 10 20 30 40 50

SUBDIVISION PLAN
Lot 559 and 9093 Wentworth Pde, Success
City of Cockburn

REF NO. **H369541** DRAW NO. **RD1 114** REV. **D**

Legend

- Project area
- Cadastral boundary (LGATE - 002)
- Environmentally Sensitive Areas (DWER - 046)

Geomorphic wetlands (DBCA - 019)

- Multiple Use

Roads (LGATE - 195)

- Minor road

Scale: 1:2,300 at A4	0 25 50 metres
Coord. Sys. GDA2020 MGA Zone 50	
Job Number: 68309	
Client: Richard Noble	
Version: A	Date: 08-Nov-2024
Drawn By: jcrute	Checked By: ZC

Lots 559 and 9093 Wentworth Parade, Success, WA

SITE OVERVIEW

FIGURE 2

JBS&G

File Name: C:\Users\jcrute\JBS&G Australia\JBS&G - DCS - Internal - Documents\Projects\Richard Noble\68309 Lot 559 Wentworth Pde\GIS\02_MapProjects\68309 Lot 559 Wentworth Pde_R01.aprx
Image Reference: www.nearmap.com© - Imagery Date: 14. September 2024.

2. Environmental considerations

2.1 Environmental values

A search of publicly available environmental databases is summarised in Table 1 to provide an overview of the environmental values associated with the project area and proposed development.

Potential environmental impacts resulting from implementation of the proposal have been addressed by the proponent under standard State and Federal environmental assessment and referral requirements under the *Environmental Protection Act 1986* and *Environment Protection and Biodiversity Conservation Act 1999*.

Table 1: Summary of environmental values

Environmental value	Present within or adjacent to the project area	Description
Environmentally Sensitive Area (ESA)	Adjacent	Associated with multiple wetlands to the east and south, and remnant vegetation surrounding the Jandakot Groundwater Treatment Plant and the high voltage powerline corridor
Swan Bioplan Regionally Significant Natural Area	N/A	N/A
Ecological linkages	N/A	N/A
Wetlands	Within and adjacent	A portion of the project area is within and adjacent to a Multiple Use Wetland (MUW) (UFI: 6,656). The project area is adjacent to a MUW (UFI: 15,521)
Waterways	N/A	N/A
Threatened Ecological Communities listed under the EPBC Act	Potentially within and adjacent	The project area has been cleared of remnant vegetation, so is not expected to contain a TEC
Threatened and priority flora	Potentially within and adjacent	The project area has been cleared of remnant vegetation, so is not expected to contain any threatened or priority flora
Fauna habitat listed under the EPBC Act	Within and adjacent	The project area is mapped as being within a 6 km buffer for Carnaby's Black Cockatoo roosting site
Threatened and priority fauna	Potentially within and adjacent	The project area has been cleared of remnant vegetation, so is not expected to contain any threatened or priority fauna
Bush Forever Site	N/A	N/A
DBCA managed lands and waters (includes legislated lands and waters and lands of interest)	N/A	N/A
Conservation covenants	None known	N/A

2.2 Native vegetation – modification and clearing

As the project area is already cleared, the proposal will not result in the clearing of any significant native vegetation.

2.3 Revegetation / Landscape Plans

The proposed POS cell is 82 m^2 in total and will not have a drainage function. The landscaping outcome will consist of low threat treatments including a predominant mulch surface and pedestrian path, as per the Landscape Plan in Appendix E. Therefore, proposed streetscapes and POS within the project area will be excluded as a combination of non-vegetated areas and low threat managed land under Clauses 2.2.3.2 (e) and (f) of AS3959 and Schedule 1 of the Guidelines (refer to Appendix A).

3. Bushfire assessment results

3.1 Bushfire Attack Level contour assessment

A Bushfire Attack Level (BAL) contour assessment has been undertaken for the project area in accordance with Method 1 of *AS3959-2018 Construction of Buildings in Bushfire Prone Areas* (AS3959; SA 2018). The Method 1 procedure incorporates the following factors:

- state-adopted FDI 80 rating
- vegetation classification
- effective slope
- distance maintained between proposed development areas and the classified vegetation.

The BAL rating gives an indication of the level of bushfire attack (i.e. the radiant heat flux) that may be received by future development and subsequently informs the standard of building construction and/or setbacks required for proposed habitable development to potentially withstand such impacts and/or deliver compliance with the bushfire protection criteria of the Guidelines.

The BAL contours are based on:

- the vegetation classifications and effective slope observed at the time of inspection
- consideration of the existing cleared/developed extent and vegetation exclusions
- consideration of proposed areas to be modified to a non-vegetated/low threat state as part of proposed development and the resulting separation distances between proposed habitable development and classified vegetation as per the plan of subdivision in Figure 1.

3.2 Assessment inputs

3.2.1 Vegetation classification

Classified vegetation and exclusions were assessed within the project area and adjoining 150 m (the assessment area) through on-ground verification on 4 November 2024 in accordance with AS3959 and the *Visual Guide for Bushfire Risk Assessment in Western Australia* (DoP 2016). Georeferenced site photos and a description of the vegetation classifications and exclusions are contained in Appendix B, with vegetation plots depicted in Figure 3 and summarised in Table 2. Post-development classified vegetation has been identified as follows:

- Class D scrub exists to the northwest within the high voltage powerline corridor and comprises sparse shrubs, 2–6 m in height (including sheoaks, banksias and grasstrees)
- Class G grassland exists within the high voltage powerline corridor to the west and northwest, comprising grasses and weeds greater than 100 mm in height at maturity
- to the southwest and east of the project area are two small areas that are excluded under Clause 2.2.3.2 (c) as multiple areas of vegetation less than 0.25 ha in area and not within 20 m of the site, or each other or of other areas of vegetation being classified vegetation.

The project area will be modified from the current grassland state to a non-vegetated/low threat managed state through clearing, earthworks and construction of the proposed development, resulting in dwellings, roads, and low threat POS excluded from classification under Clauses 2.2.3.2 (e) and (f) of AS3959. Proposed low threat POS is consistent with the landscaping detail provided in the Landscape Plan (Appendix E).

All other land within the assessment area was identified as being excluded from classification under Clauses 2.2.3.2 (e) and (f) of AS3959 as being either existing non-vegetated areas (i.e. buildings, roads, etc) or land managed in a low threat state (i.e. managed gardens, turf, urban streetscapes, POS, etc).

3.2.2 Effective slope

Effective slope under classified vegetation was assessed within the assessment area through on-ground verification on 4 November 2024 in accordance with AS3959. Results were cross-referenced with DPIRD 2m contour data and are depicted in Figure 3 and summarised in Table 2.

Site observations indicate that all classified vegetation within the assessment area is flat or upslope in relation to the project area.

3.2.3 Summary of inputs

Figure 3 illustrates the post-development vegetation classifications, exclusions and effective slope observed during site inspection. Vegetation classifications, exclusions and effective slope are summarised in Table 2.

Table 2: Summary of post-development vegetation classifications, exclusions and effective slope

Vegetation plot	Vegetation classification	Effective slope	Comments
1	Class D Scrub	Flat/upslope (0°)	Shrubs 2–6 m in height with a continuous horizontal fuel profile
2	Class G Grassland	Flat/upslope (0°)	Grasses and weeds greater than 100 mm in height at maturity
3	Excluded – Clause 2.2.3.2 [c]	N/A	Multiple areas of vegetation less than 0.25 ha in area and not within 20 m of the site, or each other or of other areas of vegetation being classified vegetation
4	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])	N/A	Existing non-vegetated and low threat managed areas throughout the site and surrounding extent of urban development
5	Modified to non-vegetated and/or low threat (Clauses 2.2.3.2 [e] and/or [f])	N/A	Areas to be modified to a non-vegetated/low threat managed state as part of proposed development

Legend

- Project area
- 100m assessment area
- 150m assessment area
- Cadastral boundary (LGATE - 002)
- Proposed POS
- Proposed lot layout
- Carriageway
- Topographic contours in m AHD (DPIRD - 072)

Vegetation classification

- Class D Scrub
- Class G Grassland
- Clause 2.2.3.2 (c)
- Clause 2.2.3.2 (e) & (f)
- Area to be modified to non-vegetated and low threat state
- Photo point directions

Roads (LGATE - 195)

- Minor road

Scale: 1:2,300 at A4 (0, 25, 50 metres)	**Lots 559 and 9093 Wentworth Parade, Success, WA**
Coord. Sys. GDA2020 MGA Zone 50	**VEGETATION CLASSIFICATION AND EFFECTIVE SLOPE**
Job Number: 68309	
Client: Richard Noble	**FIGURE 3**
Version: A — Date: 07-Nov-2024	JBS&G
Drawn By: jcrute — Checked By: ZC	

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Image Reference: www.nearmap.com© - Imagery Date: 14. September 2024.

3.3 Assessment outputs

3.3.1 BAL contour assessment results

Results of the BAL contour assessment is detailed in Table 3 and illustrated in Figure 4. The determined worst case BAL impact to the external boundary of the proposed lots is BAL-FZ, which applies to the two northern-most lots that interface the adjacent west powerline corridor. However, with the implementation of APZ setbacks, all future habitable development within the proposed lots will be located within areas of BAL-29 or lower.

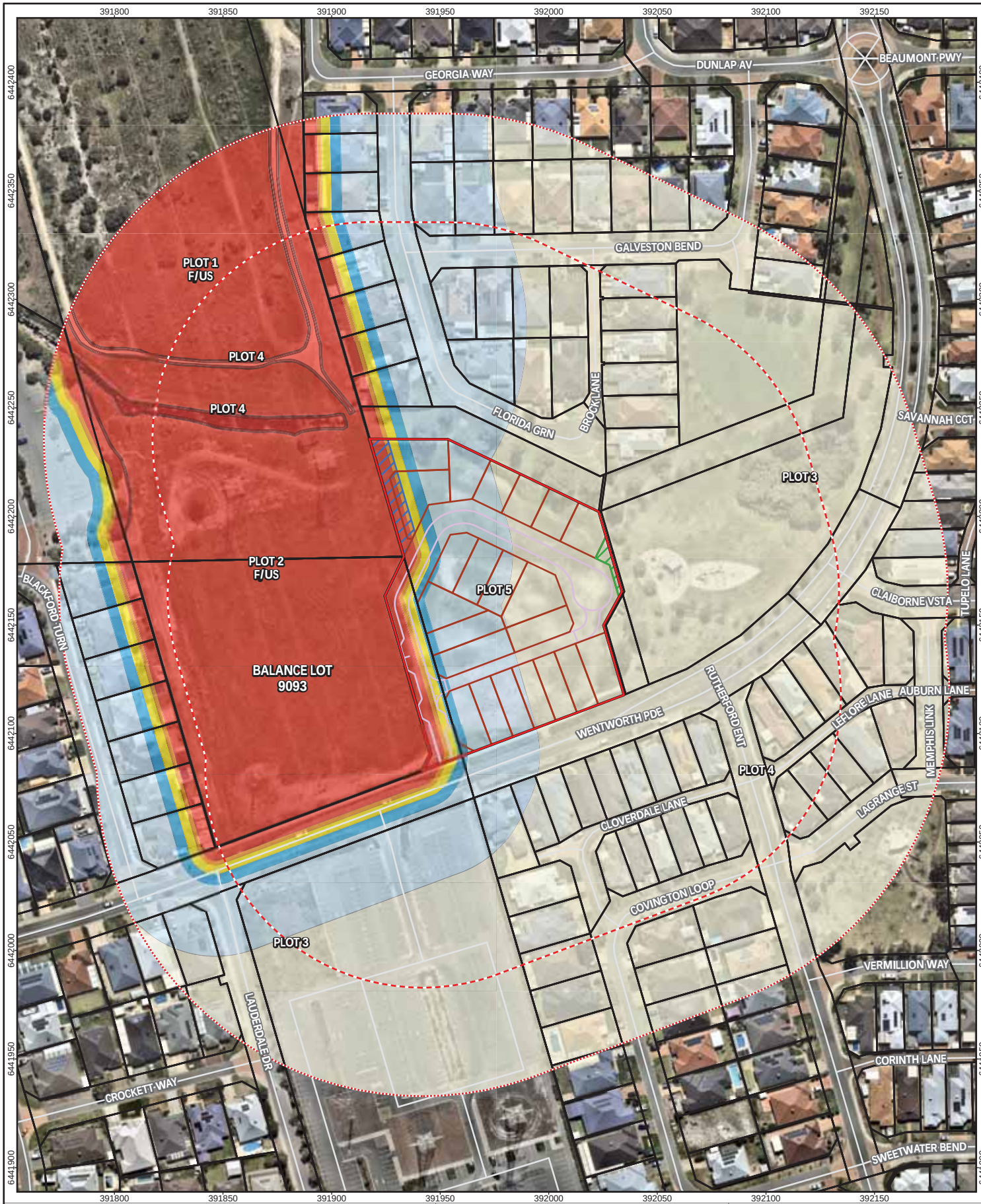
Table 3: BAL contour assessment results

Method 1 BAL determination					
Plot	**Vegetation classification**	**Effective slope**	**Separation distance (to nearest lot boundary)**	**Highest BAL (to nearest lot boundary)**	**Modified BAL (with APZ setback)**
1	Class D Scrub	Flat/upslope (0°)	52 m	**BAL–12.5**	N/A
2	Class G Grassland	Flat/upslope (0°)	0 m	BAL–FZ	**BAL–29** (with APZ setbacks outlined in the notes below)
3	Excluded – Clause 2.2.3.2 [c]	N/A	N/A	N/A	N/A
4	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])	N/A	N/A	N/A	N/A
5	Modified to non-vegetated and/or low threat (Clauses 2.2.3.2 [e] and/or [f])	N/A	N/A	N/A	N/A
Highest BAL (with APZ setbacks)					**BAL–29**

NOTES:

* An 8 m APZ setback will apply to the western boundary of the northern-most battle-axe lot and a 4 m APZ setback will apply to the western boundary of the adjacent 529 m^2 lot (adjacent to the battle-axe leg).

APZ setbacks will be enforced via application of a restrictive covenant on title.



Legend

- Project area
- 100m assessment area
- 150m assessment area
- Cadastral boundary (LGATE - 002)
- Proposed POS
- Proposed lot layout
- Classified vegetation
- APZ setback
- Carriageway

BAL contours

- BAL FZ
- BAL 40
- BAL 29
- BAL 19
- BAL 12.5
- BAL Low

Roads (LGATE - 195)

- Minor road

Scale: 1:2,300 at A4 (0, 25, 50 metres)

Coord. Sys. GDA2020 MGA Zone 50

Job Number: 68309

Client: Richard Noble

Version: A | Date: 08-Nov-2024

Drawn By: jcrute | Checked By: ZC

Lots 559 and 9093 Wentworth Parade, Success, WA

BAL CONTOUR MAP

FIGURE 4

JBS&G

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Image Reference: www.nearmap.com© - Imagery Date: 14. September 2024.

4. Identification of bushfire hazard issues

4.1 Bushfire context

The greatest bushfire threat to the proposed development is from predominantly Class G grassland vegetation directly to the west of the project area and regenerating Class D scrub to the northwest, both within the high voltage powerline corridor. The worst case bushfire scenario is a wind driven fire run through approximately 800 m of scrub and grassland from the northwest, running from adjacent to Bartram Road/Hammond Road towards the site. While fire risks are at their highest over summer, bushfire behaviour and rate of fire spread from this direction occur irregularly as the prevalent summer wind conditions are from the east in the morning and the southwest in the afternoon. The risk from the longest run of vegetation is not in either of these directions and the project area is unlikely to be affected by a long fire run from the northwest.

The project area is otherwise bound by existing urban development to the north, east and south that do not pose a bushfire threat. On this basis, there is no landscape scale bushfire risk to the project area.

On the basis of the above bushfire context, the bushfire response for this development is relatively straight forward and should focus on the provision of setbacks and BAL-rated construction where required.

4.2 Bushfire hazard issues

The following bushfire hazard issues have been identified for the proposed development:

1. The project area is located within a designated bushfire prone area and subject to a rating above BAL-Low and therefore requires assessment against the bushfire protection criteria of the Guidelines in accordance with Policy Measures 6.2 and 6.4 of SPP 3.7.
2. The BAL contour assessment identifies that future habitable development within all proposed lots has capacity to achieve BAL–29 or lower
3. Any vegetation introduced as part of proposed POS landscaping will need to consist of either non-vegetated or low threat and managed components in accordance with AS3959 Clauses 2.2.3.2 (e) and (f) and Schedule 1 of the Guidelines (refer to Appendix A).
4. Future habitable development within a designated bushfire prone area will require a bushfire construction response in accordance with AS3959 if located within an area of BAL–12.5 or higher. BAL ratings and bushfire construction response will be determined at the BMP compliance (subdivision clearance) stage or future building approval stage.
5. An 8 m APZ setback will apply to the western boundary of the northern-most battle-axe lot and a 4 m APZ setback will apply to the western boundary of the adjacent 529 m^2 lot (adjacent to the battle-axe leg) to ensure future habitable development within these lots achieves a compliant rating of BAL-29 or lower, as per Table 3 and depicted on Figure 4. APZ setbacks will be enforced via application of a restrictive covenant on title.
6. Multiple access routes can be provided for the proposed development through linkage with Wentworth Parade to the south, which provides through access to the broader public road network including the built up urban areas of Success and Cockburn Central to the north and Hammond Park and Mandogalup to the south.
7. The proposed internal public road network provides only one connection to the surrounding public road network in Wentworth Parade to the south. This single access network is unavoidable due to the landlocked nature of the site (i.e. powerline corridor to the west and constructed POS to the east and north) and subsequent inability for subdivision design to provide any additional connections to the surrounding public road network.

8. The proposed unavoidable single access network is compliant with technical requirements of the Guidelines in that all proposed lots are situated within 200 m of the nearest point at which two access routes are available (i.e. from the proposed intersection with Wentworth Parade). No internal dead-ends or cul-de-sacs are proposed; however, a turnaround point is proposed in the east of the site at the intersection with the proposed laneway.
9. Reticulated water supply is available for proposed development via extension of services along the existing public road network.

JBS&G considers the bushfire hazards within and adjacent to the project area and the associated bushfire risks are readily manageable through adoption of standard acceptable solutions, as outlined in the Guidelines. These responses have been factored in to development design, as per Figure 1, to ensure a suitable, compliant and effective bushfire management outcome is achieved for protection of future life and property assets.

Bushfire mitigation measures designed to address the abovementioned bushfire hazard issues and achieve compliance with the bushfire protection criteria of the Guidelines are described in Section 5.

5. Assessment against the bushfire protection criteria

5.1 Compliance with Elements 1–4

Compliance with Elements 1–4 of the bushfire protection criteria of the Guidelines (Version 1.4) is demonstrated by meeting the acceptable solutions, as detailed in Table 4.

Table 4: Compliance with the bushfire protection criteria of the Guidelines (Elements 1 – 4)

Bushfire protection criteria	Performance Principle	Method of compliance	Statement of development compliance	Compliance achieved
		Acceptable solutions		
Element 1: Location	**P1** – The strategic planning proposal, subdivision and development application is located in an area where the bushfire hazard assessment is or will, on completion, be moderate or low, or a BAL–29 or below, and the risk can be managed. For unavoidable development in areas where BAL–40 or BAL–FZ applies, demonstrating that the risk can be managed to the satisfaction of the decision-maker.	**A1.1 Development location** The strategic planning proposal, subdivision and development application is located in an area that is or will, on completion, be subject to either a moderate or low bushfire hazard level, or BAL–29 or below.	The BAL contour assessment (see Figure 4 and Table 3) indicates that all proposed lots can achieve BAL–29 or lower, subject to provision of an 8 m APZ setback to the western boundary of the northern-most battle-axe lot and a 4 m APZ setback to the western boundary of the adjacent 529 m^2 lot (adjacent to the battle-axe leg).	✓
Element 2: Siting and design	**P2** – The siting and design of the strategic planning proposal, subdivision or development application, including roads, paths and landscaping, is appropriate to the level of bushfire threat that applies to the site. The proposal incorporates a defendable space and significantly reduces the heat intensities at the building surface thereby minimising the bushfire risk to people, property and infrastructure, including compliance with AS 3959 if appropriate.	**A2.1 Asset Protection Zone** Every habitable building is surrounded by, and every proposed lot can achieve, an APZ depicted on submitted plans, which meets the requirements set out in Schedule 1.	Two proposed lots are identified as being subject to BAL-FZ and BAL–40 impacts (see Figure 4 and Table 3). As stated above, an 8 m APZ setback will apply to the western boundary of the northern-most battle-axe lot and a 4 m APZ setback will apply to the western boundary of the adjacent 529 m^2 lot (adjacent to the battle-axe leg) to ensure future habitable development within these lots achieves a compliant rating of BAL-29 or lower. APZ setbacks will be enforced via application of a restrictive covenant on title. The APZ setbacks, as well as any land proposed to be modified to a non-vegetated/low threat managed state, are to be established and maintained in accordance with APZ standards outlined in Schedule 1 of the Guidelines (refer to Appendix A).	✓
Element 3: Vehicular access	**P3i** – The design and capacity of vehicular access and egress is to provide for the community to evacuate to a suitable destination before a bushfire arrives at the site, allowing emergency services personnel to attend the site and/or hazard vegetation.	**A3.1 Public roads** The minimum requirements under this acceptable solution are applicable to all proposed and existing public roads. Public roads are to meet the minimum technical requirements in Table 6, Column 1. The trafficable (carriageway/pavement) width is to be in accordance with the relevant class of road in the Local Government Guidelines for Subdivisional Development (IPWEA Subdivision Guidelines), Liveable Neighbourhoods, Austroad standards and/or any applicable standards for the local government area.	All public roads will be constructed to the relevant technical requirements of the Guidelines (see Appendix C).	✓

Bushfire protection criteria	Performance Principle	Method of compliance Acceptable solutions	Statement of development compliance	Compliance achieved
		A3.2a Multiple access routes Public road access is to be provided in two different directions to at least two different suitable destinations with an all-weather surface (two-way access). If the public road access to the subject site is via a no-through road which cannot be avoided due to demonstrated site constraints, the road access is to be a maximum of 200 metres from the subject lot(s) boundary to an intersection where two-way access is provided. The no-through road may exceed 200 metres if it is demonstrated that an alternative access, including an emergency access way, cannot be provided due to site constraints and the following requirements are met: • the no-through road travels towards a suitable destination; and • the balance of the no-through road, that is greater than 200 metres from the subject site, is wholly within BAL-LOW, or is within a residential built-out area – Figure 23.	All proposed lots will be connected to Wentworth Parade, which provides access routes in two different directions to multiple suitable destinations, including: • west to Hammond Road, which provides access to the urban residential localities of Success and Cockburn Central to the north, or Hammond Park and Mandogalup to the south • east to Beeliar Drive and onto Kwinana Freeway, which provides access to multiple suitable destinations. The proposed internal public road network provides only one connection to the surrounding public road network in Wentworth Parade to the south. This single access network is unavoidable due to the landlocked nature of the site (i.e. powerline corridor to the west and constructed POS to the east and north) and subsequent inability for subdivision design to provide any additional connections to the surrounding public road network. The proposed unavoidable single access network is compliant with technical requirements of the Guidelines in that all proposed lots are situated within 200 m of the nearest point at which two access routes are available (i.e. from the proposed intersection with Wentworth Parade).	✓
		A3.2b Emergency access way Where it is demonstrated that A3.2a cannot be achieved due to site constraints, or where an alternative design option does not exist, an emergency access way can be considered as an acceptable solution. An emergency access way is to meet all the following requirements: • requirements in Table 6, Column 2; • provides a through connection to a public road; • be no more than 500 metres in length; and • must be signposted and if gated, gates must open the whole trafficable width and remain unlocked.	The proposed subdivision does not require Emergency Access Ways (EAWs) to provide through access to a public road.	N/A
		A3.3 Through-roads All public roads should be through-roads. No-through roads should be avoided and should only be considered as an acceptable solution where: • it is demonstrated that no alternative road layout exists due to site constraints; and • the no-through road is a maximum length of 200 metres to an intersection providing two-way access, unless it satisfies the exemption provisions in A3.2a of this table. A no-through road is to meet all the following requirements: • requirements of a public road (Table 6, Column 1); and • turn-around area as shown in Figure 24.	Due to the demonstrated site constraints, there is no alternative road layout that exists that would avoid the need for the proposed internal circular road with one egress to Wentworth Parade. As previously stated, all proposed lots are situated within 200 m of the nearest point at which two access routes are available (i.e. from the proposed intersection with Wentworth Parade). No internal dead-ends or cul-de-sacs are proposed; however, a compliant turnaround point is proposed in the east of the site at the intersection with the proposed laneway, which complies with A3.3 (refer to Appendix C).	✓
	P3ii – The design of vehicular access and egress provides: • access and egress for emergency service vehicles while allowing the community to evacuate;	**A3.4a Perimeter roads** A perimeter road is a public road and should be provided for greenfield or infill development where 10 or more lots are being proposed (including as part of a staged subdivision) with the aim of:	Due to the demonstrated site constraints and since the adjoining classified vegetation is Class G grassland, perimeter roads are not required for the proposed development.	N/A

Bushfire protection criteria	Performance Principle	Method of compliance Acceptable solutions	Statement of development compliance	Compliance achieved
	• a defendable space for emergency services personnel on the interface • between classified vegetation and development site; and • hazard separation between classified vegetation and the subject site to reduce the potential radiant heat that may impact a lot(s).	• separating areas of classified vegetation under AS3959, which adjoin the subject site, from the proposed lot(s); and • removing the need for battle-axe lots that back onto areas of classified vegetation. A perimeter road is to meet the requirements contained in Table 6, Column 1. A perimeter road may not be required where: • the adjoining classified vegetation is Class G Grassland; • lots are zoned for rural living or equivalent; • it is demonstrated that it cannot be provided due to site constraints; or • all lots have frontage to an existing public road.		
	P3iii – Vehicular access is provided which allows: • access and egress for emergency service vehicles; • defendable space for emergency services • personnel on the interface between classified vegetation and development; and • hazard separation between classified vegetation and the site to reduce the potential radiant heat that may impact a lot(s).	**A3.4b Fire service access route** Where proposed lots adjoin classified vegetation under AS3959 (excluding Class G Grassland), and a perimeter road is not required in accordance with A3.4a, a fire service access route can be considered as an acceptable solution to provide firefighter access, where access is not available, to the classified vegetation. A fire service access route is to meet all the following requirements: • requirements in Table 6, Column 3; • be through-routes with no dead-ends; • linked to the internal road system at regular intervals, every 500 metres; • must be signposted; • no further than 500 metres from a public road; • if gated, gates must open the required horizontal clearance and can be locked by the local government and/or emergency services, if keys are provided for each gate; and • turn-around areas designed to accommodate type 3.4 fire appliances and to enable them to turn around safely every 500 metres.	The proposed subdivision design does not require fire service access routes (FSARs) to achieve access within and around the perimeter of the project area.	N/A
	P3iv – Vehicular access is provided which allows emergency service vehicles to directly access all habitable buildings and water supplies and exit the lot without entrapment.	**A3.5 Battle-axe access legs** Where it is demonstrated that a battle-axe cannot be avoided due to site constraints, it can be considered as an acceptable solution. There are no battle-axe technical requirements where the point the battle-axe access leg joins the effective area of the lot, is less than 50 metres from a public road in a reticulated area. In circumstances where the above condition is not met, or the battle-axe is in a non-reticulated water area, the battle-axe is to meet all the following requirements: • requirements in Table 6, Column 4; and • passing bays every 200 metres with a minimum length of 20 metres and a minimum additional trafficable width of two metres (i.e. the combined trafficable width of the passing bay and constructed private driveway to be a minimum six metres).	Due to the demonstrated site constraints and design limitations for internal public access, there is no alternative lot layout that would avoid the need for the proposed battle-axe lot. The proposed battle-axe access leg is less than 50 m in length from the internal public road in a reticulated water area, meaning there are no further battle-axe technical requirements to comply with.	✓
		A3.6 Private driveways There are no private driveway technical requirements where the private driveway is: • within a lot serviced by reticulated water; • no greater than 70 metres in length between the most distant external part of the development site and the public road measured as a hose lay; and	Compliance with A3.6 is applicable to the DA stage only.	N/A

Bushfire protection criteria	Performance Principle	Method of compliance Acceptable solutions	Statement of development compliance	Compliance achieved
		• accessed by a public road where the road speed limit is not greater than 70 km/h. In circumstances where all of the above conditions are not met, or the private driveway is in a non-reticulated water area, the private driveway is to meet all the following requirements: • requirements in Table 6, Column 4; • passing bays every 200 metres with a minimum length of 20 metres and a minimum • additional trafficable width of two metres (i.e. the combined trafficable width of the passing bay and constructed private driveway to be a minimum six metres); and • turn-around area as shown in Figure 28 and within 30 metres of the habitable building.		
Element 4: Water	No performance principle applies	**A4.1 Identification of future water supply** Evidence that a reticulated or sufficient non-reticulated water supply for bushfire fighting can be provided at the subdivision and/or development application stage, in accordance with the specifications of the relevant water supply authority or the requirements of Schedule 2. Where the provision of a strategic water tank(s) is required a suitable area within a road reserve or a dedicated lot the location should be identified, should be identified on the structure plan, to the satisfaction of the local government.	A4.1 is applicable to strategic planning applications only.	N/A
	P4 – Provide a permanent water supply that is: • sufficient and available for firefighting purposes; • constructed from non-combustible materials (e.g. steel), or able to maintain its integrity throughout a bushfire; and • accessible, with legal access for maintenance and re-filling by tankers and emergency service vehicles.	**A4.2 Provision of water for firefighting purposes** Where a reticulated water supply is existing or proposed, hydrant connection(s) should be provided in accordance with the specifications of the relevant water supply authority. Where these specifications cannot be met, then the following applies: • The provision of a water tank(s), in accordance with the requirements of Schedule 2; and • Where the provision of a strategic water tank(s) is applicable, then the following requirements apply: – land to be ceded free of cost to the local government for the placement of the tank(s); – the lot or road reserve where the tank is to be located is identified on the plan of subdivision; – tank capacity, construction, and fittings, provided in accordance with the requirements of Schedule 2; and – a strategic water tank is to be located no more than 10 minutes from the subject site (at legal road speeds). Where a subdivision includes an existing habitable building(s) that is to be retained, a water supply should be provided to this existing habitable building(s), in accordance with the requirements listed above.	The proposed development will be connected to a reticulated water supply via extension of services from adjacent residential development in accordance with Water Corporations Design Standard 63 requirements.	✓

5.2 Compliance with Element 5

Element 5 relates specifically to vulnerable tourism land uses and is therefore not applicable to the proposed subdivision.

5.3 Specific and additional management measures

JBS&G advises the following specific and additional bushfire management measures to increase the level of bushfire risk mitigation across the site as part of the current subdivision application and to inform ongoing planning stages of the development.

5.3.1 Fuel management within cleared vacant lots

Cleared vacant lots are to be managed on a regular and ongoing basis by the developer until sale of lots after which time landowners will be responsible for ongoing management. Maintenance is to be in accordance with Clause 2.2.3.2 (f) of AS3959 and Schedule 1 of the Guidelines (refer to Appendix A) and will involve slashing/mowing of grassland and weeds to height of less than 50 mm. This will also deliver compliance with the City of Cockburn annual fire control order (see Appendix D).

5.3.2 Notification on title

A notification, pursuant to Section 165 of the *Planning and Development Act 2005*, is to be placed on the certificates of title of the proposed lots subject to BAL-12.5 or higher to ensure landowners/proponents and prospective purchasers are aware that their lot is located within a bushfire prone area and is subject to an approved BMP. The notification is to state as follows:

'This land is within a bushfire prone area as designated by an Order made by the Fire and Emergency Services Commissioner and is subject to a Bushfire Management Plan. Additional planning and building requirements may apply to development on this land.'

5.3.3 Enforcement of mandatory BAL–29 APZ setbacks

Development of habitable buildings within areas of lots impacted by BAL-FZ and BAL-40 (i.e. the two northern-most lots that interface the adjacent west powerline corridor) will be prohibited via application of the following APZ setbacks (as depicted in Figure 4):

- an 8 m APZ setback off the western boundary of the northern-most battle-axe lot
- a 4 m APZ setback off the western boundary of the adjacent 529 m^2 lot (adjacent to the battle-axe leg).

The APZ setbacks will be enforced via application of a restrictive covenant on title via the following subdivision condition:

> 'A restrictive covenant to the benefit of the local government, pursuant to section 129BA of the *Transfer of Land Act 1893*, is to be placed on the certificate(s) of title of the proposed lot(s) advising of the existence of a restriction on the use of the land within areas that have been assessed as BAL–40 or BAL–Flame Zone. Notice of this restriction is to be included on the diagram or plan of survey (deposited plan). The restrictive covenant is to state as follows: 'No habitable buildings are to be built within areas identified as BAL–40 or BAL–Flame Zone.'

5.3.4 Building construction standards

Future Class 1, 2, 3 and associated 10a buildings in areas subject to BAL-12.5 or higher are required to comply with the bushfire specific building construction requirements of AS3959, where located within a designated bushfire prone area.

5.3.5 BMP compliance and condition clearance report

A BMP compliance and condition clearance report is to be prepared prior to issue of title to validate and confirm that relevant management measures of this BMP have been implemented appropriately to achieve the intended bushfire management outcomes and compliance with bushfire protection criteria.

5.3.6 POS landscaping plan

The BAL contour assessment is reliant on the proposed POS cell being established in a non-vegetated/low threat managed state through a landscaping outcome in accordance with the landscape plan in Appendix E, which will deliver exclusion under Clauses 2.2.3.2 (e) and (f) of AS3959.

5.3.7 Compliance with annual fire control notice

The developer/land manager and prospective land purchasers are to comply with the current City of Cockburn annual fire control order, as amended (refer Appendix D).

6. Responsibilities for implementation and management of the bushfire measures

Implementation of the BMP applies to the developer and prospective landowners to ensure bushfire management measures are adopted and implemented on an ongoing basis. A bushfire responsibilities table is provided in Table 5 to drive implementation of all bushfire management works associated with this BMP.

Table 5: Responsibilities for implementation and management of the bushfire measures

Implementation/management table	
Developer – prior to issue of titles	
No.	Implementation action
1	Construct (or have works bonded) the public roads to the standards stated in this BMP.
2	Construct (or have works bonded) the reticulated water supply to the standards stated in this BMP.
3	Enforce APZ setbacks where required via restrictive covenants on title.
4	Establish the project area and POS cell to the required non-vegetated/low threat managed state in accordance with the standards stated in this BMP.
5	Undertake BMP compliance assessment to confirm implementation of the required bushfire management actions, as per this BMP.
6	Comply with the City of Cockburn annual fire control order, as amended.
Developer – until sale/transfer of lots	
No.	Implementation action
1	Maintain the project area and POS cell in a non-vegetated/low threat managed state in accordance with exclusion Clauses 2.2.3.2 (e) and (f) of AS3959, including slashing/mowing of grassland and weeds to height of less than 50 mm.
2	Comply with the City of Cockburn annual fire control order, as amended.
Landowner/occupier – prior to building construction and ongoing	
No.	Implementation action
1	Maintain cleared/vacant lots in a low threat state to achieve exclusion Clause 2.2.3.2 (f) of AS3959, including slashing/mowing of grassland and weeds to height of less than 50 mm, until developed to a permanent low fuel state.
2	Comply with the bushfire specific building construction requirements of AS3959 in accordance with the final assessed BAL rating and certification.
3	Comply with the City of Cockburn annual fire control order, as amended.

7. Limitations

This report has been prepared for use by the client who has commissioned the works in accordance with the project brief only, and has been based in part on information obtained from the client and other parties.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

JBS&G accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced without prior approval by the client, or amended in any way without prior approval by JBS&G, and should not be relied upon by other parties, who should make their own enquires.

Sampling and chemical analysis of environmental media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate based on the regulatory requirements.

Limited sampling and laboratory analyses were undertaken as part of the investigations undertaken, as described herein. Ground conditions between sampling locations and media may vary, and this should be considered when extrapolating between sampling points. Chemical analytes are based on the information detailed in the site history. Further chemicals or categories of chemicals may exist at the site, which were not identified in the site history and which may not be expected at the site.

Changes to the subsurface conditions may occur subsequent to the investigations described herein, through natural processes or through the intentional or accidental addition of contaminants. The conclusions and recommendations reached in this report are based on the information obtained at the time of the investigations.

This report does not provide a complete assessment of the environmental status of the site, and it is limited to the scope defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, JBS&G reserves the right to review the report in the context of the additional information.

8. References

Department of Fire and Emergency Services (DFES) 2024, *Map of Bush Fire Prone Areas*, [Online], Government of Western Australia, available from: https://maps.slip.wa.gov.au/landgate/bushfireprone/, [31/10/2024].

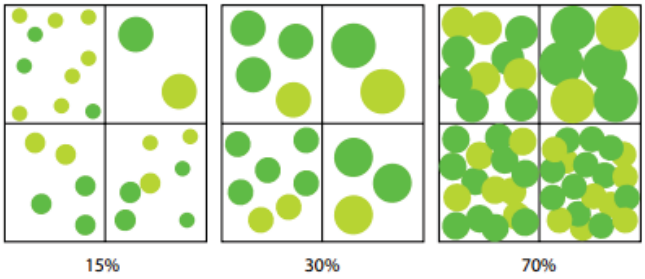
Department of Planning (DoP) 2016, *Visual guide for bushfire risk assessment in Western Australia*, Department of Planning, Perth.

Standards Australia (SA) 2018, *Australian Standard AS 3959–2018 Construction of Buildings in Bushfire-prone Areas*, Standards Australia, Sydney.

Western Australian Planning Commission (WAPC) 2015, *State Planning Policy 3.7 Planning in Bushfire Prone Areas*, Western Australian Planning Commission, Perth.

Western Australian Planning Commission (WAPC) 2021, *Guidelines for Planning in Bushfire Prone Areas, Version 1.4 December 2021*, Western Australian Planning Commission, Perth.

Appendix A Schedule 1 Asset Protection Zone standards and explanatory notes

Schedule 1: Standards for Asset Protection Zones	
Object	**Requirement**
Fences within the APZ	• Should be constructed from non-combustible materials (for example, iron, brick, limestone, metal post and wire, or bushfire-resisting timber referenced in Appendix F of AS 3959).
Fine fuel load (Combustible, dead vegetation matter <6 millimetres in thickness)	• Should be managed and removed on a regular basis to maintain a low threat state. • Should be maintained at <2 tonnes per hectare (on average). • Mulches should be non-combustible such as stone, gravel or crushed mineral earth or wood mulch >6 millimetres in thickness.
Trees* (>6 metres in height)	• Trunks at maturity should be a minimum distance of six metres from all elevations of the building. • Branches at maturity should not touch or overhang a building or powerline. • Lower branches and loose bark should be removed to a height of two metres above the ground and/or surface vegetation. • Canopy cover within the APZ should be <15 per cent of the total APZ area. • Tree canopies at maturity should be at least five metres apart to avoid forming a continuous canopy. Stands of existing mature trees with interlocking canopies may be treated as an individual canopy provided that the total canopy cover within the APZ will not exceed 15 per cent and are not connected to the tree canopy outside the APZ. **Figure 19:** Tree canopy cover – ranging from 15 to 70 per cent at maturity 
Shrub* and scrub* (0.5 metres to six metres in height). Shrub and scrub >6 metres in height are to be treated as trees.	• Should not be located under trees or within three metres of buildings. • Should not be planted in clumps >5 square metres in area. • Clumps should be separated from each other and any exposed window or door by at least 10 metres.
Ground covers* (<0.5 metres in height. Ground covers >0.5 metres in height are to be treated as shrubs)	• Can be planted under trees but must be maintained to remove dead plant material, as prescribed in 'Fine fuel load' above. • Can be located within two metres of a structure, but three metres from windows or doors if >100 millimetres in height.
Grass	• Grass should be maintained at a height of 100 millimetres or less, at all times. • Wherever possible, perennial grasses should be used and well-hydrated with regular application of wetting agents and efficient irrigation.
Defendable space	Within three metres of each wall or supporting post of a habitable building, the area is kept free from vegetation, but can include ground covers, grass and non-combustible mulches as prescribed above.

Schedule 1: Standards for Asset Protection Zones	
LP Gas Cylinders	Should be located on the side of a building furthest from the likely direction of a bushfire or on the side of a building where surrounding classified vegetation is upslope, at least one metre from vulnerable parts of a building. The pressure relief valve should point away from the house. No flammable material within six metres from the front of the valve. Must sit on a firm, level and non-combustible base and be secured to a solid structure.

***** Plant flammability, landscaping design and maintenance should be considered – refer to explanatory notes

Source: Guidelines for Planning in Bushfire Prone Areas (WAPC 2021)

Element 2 Explanatory Notes

E2 Managing an Asset Protection Zone (APZ) to a low threat state

An APZ is a low fuel area maintained around a habitable building to increase the likelihood that it will survive a bushfire, by providing a defendable space and reducing the potential for direct flame contact, radiant heat exposure and ember attack.

Vegetation management within an APZ should provide defendable space and be maintained to a low threat state, in perpetuity, in accordance with the requirements outlined in Schedule 1.

The width of an APZ varies with slope and vegetation type, however it should only be as wide as needed to ensure the potential radiant heat impact of a bushfire does not exceed 29kW/m² (BAL-29), or 10kW/m² where a building is identified for use as an on-site shelter. An APZ is generally not required where a building or development site achieves 29kW/m² (BAL-29) or lower in its pre-development state (prior to any vegetation clearing or modification).

An APZ should include an area of defendable space immediately adjoining a building, that is kept free from combustible items and obstructions, within which firefighting operations can be undertaken to defend the structure. Where a lot contains a building envelope, it may not be necessary for the entire building envelope to achieve 29kW/m² (BAL-29) as this may result in significant unnecessary clearing. It is recommended that the BMP identifies that a sufficient APZ can be accommodated within the building envelope, with the development site and associated APZ to be determined at the development approval stage.

An APZ should be contained within the boundaries of the lot on which the building is situated, except in instances where it is demonstrated that the vegetation on the adjoining land is managed in a low threat state, as per cl. 2.2.3.2 of AS 3959, such as a road, managed park, rocky outcrop or a water body.

The siting of a habitable building and associated APZ should aim to minimise the clearing of vegetation. The BMP should demonstrate that the proposed APZ has minimised the unnecessary loss of vegetation or potential for conflict with landscape or environmental objectives; and complies with environmental approvals/exemptions (where necessary). A re-design or reduction in lot yield may be necessary to minimise the removal and modification of remnant vegetation.

It is recommended that development be located on flat areas or slopes less than 20 degrees (especially where classified vegetation is located downslope to a building) and away from ridge tops, crests or narrow gullies, as bushfire can spread rapidly in these areas. Circumstances where these locations may be suitable for development to occur include where the land is already cleared, and 29kW/m² (BAL-29) or lower can be achieved for the whole development site without the use of an APZ. To ensure soil stability within an APZ, vegetation removal on slopes exceeding 18 degrees is discouraged.

Element 2 Explanatory Notes

Fine fuel load should be maintained to less than two tonnes per hectare, however this is often a subjective assessment. Reducing fuel load levels does not necessarily require the removal of existing vegetation. A combination of methods can be utilised to reduce fuel load such as raking, weed removal, pruning, mulching and/or the removal of plant material.

A simple method to estimate fuel load is to roughly equate one tonne of fuel load per hectare as 100 grams per square metre. For example, two tonnes per hectare of leaf litter is roughly 200 grams of leaf litter per square metre and eight tonnes per hectare is roughly 800 grams. Eucalyptus leaf litter is approximately 100 grams per handful, so two handfuls of litter per square metre will roughly equate to two tonnes per hectare. Different types of fine fuel, like mulch or pine needles may be more or less than a handful, however the 100 grams per square metre rule of thumb can still be used.

The landowner or proponent is responsible for maintaining an APZ in accordance with Schedule 1 - Standards for Asset Protection Zones. Ongoing maintenance of an APZ is usually enforced through the local government firebreak notice issued under section 33 of the Bushfires Act 1954, and/or through a condition of a development approval, which requires the implementation of measures identified within a BMP.

A copy of the firebreak notice and Schedule 1 should be included in a BMP specifically as a how-to guide for the landowner, and to demonstrate to decision-makers that the measures outlined in the BMP to achieve the appropriate BAL rating through provision and ongoing management of an APZ, can be implemented.

E2 Landscaping and design of an Asset Protection Zone

Landscaping, design, and maintenance of an APZ in a bushfire prone area can significantly improve the bushfire resilience of a building. An APZ should not be seen as an area entirely cleared of vegetation, but as a strategically designed space that gives holistic consideration to how existing or proposed vegetation or non-combustible features interact with, or affect the building's bushfire resilience.

A well designed APZ provides a greater level of vegetation management within the first few metres of a building with, for example, less vegetation or inclusion of non-combustible materials. The vegetation within the remainder of an APZ can increase further away from the building with carefully considered plant selection and landscaping techniques.

Strategic landscaping measures can be applied, such as replacing weeds with low flammability vegetation (refer to E2 Plant Flammability) to create horizontal and vertical separations between the retained vegetation. The accumulation of fine fuel load from different plants is an important consideration for ongoing maintenance in accordance with Schedule 1. For example, when planting ground covers under deciduous trees within an APZ, the total fine fuel load prescribed in Schedule 1 will include any dead plant material from ground covers and leaf litter from the trees.

Plant density and final structure and form of mature vegetation should be considered in the initial landscaping stages. For example, clumps of sapling shrubs planted at a density without consideration of future growth, may increase the bushfire risk as a clump will quickly grow to exceed $5m^2$. It should be noted that in some cases, a single shrub in a mature state may be so dense as to fill a $5m^2$ clump alone.

The location of plants within an APZ is a key design technique. Separation of garden beds with areas of low fuel or non-combustible material, will break up fuel continuity and reduce the likelihood of a bushfire running through an APZ and subjecting a dwelling to radiant heat or direct flame contact. It is important to note, where mature trees are separated from a building by six metres, but the canopy has grown to extend or overhang a building, maintenance and pruning to remove the overhanging branches should be undertaken without the entirety of the tree being removed.

Element 2 Explanatory Notes

Mulches used within the APZ should be non-combustible. The use of stone, gravel, rock and crushed mineral earth is encouraged. Wood mulch >6mm in thickness may be used, however it is recommended that it is used in garden beds or areas where the moisture level is higher by regular irrigation. These materials could be sourced from non-toxic construction and demolition waste giving the added benefit of reducing the environmental impact of any 'hard landscaping' actions.

Combustible objects, plants, garden supplies such as mulches, fences made from combustible material, should be avoided within 10 metres of a building. Vines or climbing plants on pergolas, posts or beams, should be located away from vulnerable parts of the building, such as windows and doors. Non-flammable features can be used to provide hazard separation from classified vegetation, such as tennis courts, pools, lawns and driveways or paths that use inorganic mulches (gravel or crushed rock). Consider locating firewood stacks away from trees and habitable buildings.

Incorporation of landscaping features, such as masonry feature walls can provide habitable buildings with barriers to wind, radiant heat and embers. These features can include noise walls or wind breaks. Use of Appendix F of AS 3959 for bushfire resistant timber selection within areas of 29kW/m² (BAL-29) or below, or the use of non-combustible fencing materials such as iron, brick, limestone, metal post and wire is encouraged.

In addition to regular maintenance of an APZ, further bushfire protection can be provided at any time by:

- ensuring gutters are free from vegetation;
- installing gutter guards or plugs;
- regular cleaning of underfloor spaces, or enclosing them to prevent gaps;
- trimming and removing dead plants or leaf litter;
- pruning climbing vegetation (such as vines) on a trellis, to ensure it does not connect to a building, particularly near windows and doors;
- removing vegetation in close proximity to a water tank to ensure it is not touching the sides of a tank; and/or
- following the requirements of the relevant local government section 33 fire break notice, which may include additional provisions such as locating wood piles more than 10 metres from a building.

Preparation of a property prior to the bushfire season and/or in anticipation of a bushfire is beneficial even if your plan is to evacuate. As embers can travel up to several kilometres from a bushfire and fall into small spaces and crevices or land against the external walls of a building, best practice recommends that objects within the APZ are moved away from the building prior to any bushfire event. Objects may include, but are not limited to:

- door mats;
- outdoor furniture;
- potted plants;
- shade sails or umbrellas;
- plastic garbage bins;
- firewood stacks;
- flammable sculptures; and/or
- playground equipment and children's toys.

E2 Plant flammability

There are certain plant characteristics that are known to influence flammability, such as moisture or oil content and the presence and type of bark. Plants with lower flammability properties may still burn during a bushfire event, but may be more resistant to burning and some may regenerate faster post-bushfire.

There are many terms for plant flammability that should not be confused, including:

- Fire resistant – plant species that survive being burnt and will regrow after a bushfire and therefore may be highly flammable and inappropriate for a garden in areas of high bushfire risk.

Element 2 Explanatory Notes

- Fire retardant – plants that may not burn readily or may slow the passage of a bushfire.
- Fire wise – plants that have been identified and selected based on their flammability properties and linked to maintenance advice and planting location within a garden.

Although not a requirement of these Guidelines, local governments may develop their own list of fire wise or fire retardant plant species that suit the environmental characteristics of an area. When developing a recommended plant species list, local governments should consult with ecologists, land care officers or environmental authorities to ensure the plants do not present a risk to endangered ecological communities, threatened, or endangered species or their habitat.

When selecting plants, private landholders and developers should aim for plants within the APZ that have the following characteristics:

- grow in a predicted structure, shape and height;
- are open and loose branching with leaves that are thinly spread;
- have a coarse texture and low surface-area-to-volume ratio;
- will not drop large amounts of leaves or limbs, that require regular maintenance;
- have wide, flat, and thick or succulent leaves;
- trees that have bark attached tightly to their trunk or have smooth bark;
- have low amounts of oils, waxes, and resins (which will often have a strong scent when crushed);
- do not produce or hold large amounts of fine dead material in their crowns; and/or
- will not become a weed in the area.

Refer to the WAPC Bushfire and Vegetation Fact Sheet for further information on clearing and vegetation management and APZ landscaping, design and plant selection reference material.

Source: Guidelines for Planning in Bushfire Prone Areas (WAPC 2021)

Appendix B Georeferenced site photos and descriptions

Plot 1		
Vegetation classification	**Pre-development**	Class D Scrub
	Post-development	Class D Scrub
Description / justification		
Vegetation with a continuous horizontal and vertical structure, greater than 2 m high at maturity		

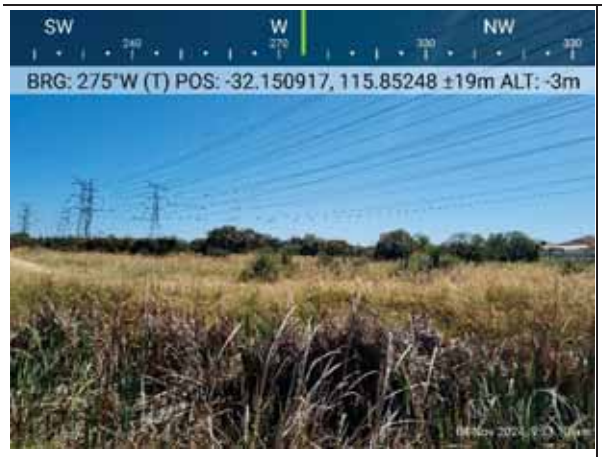


Photo ID: 1a (background)

Photo ID: 1b

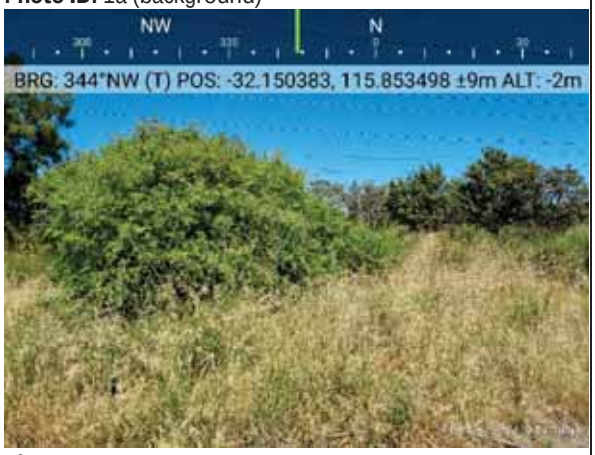


Photo ID: 1c

Plot 2		
Vegetation classification	**Pre-development**	Class G Grassland
	Post-development	Class G Grassland
Description / justification		
Grassland greater than 100 mm in height		

Photo ID: 2a

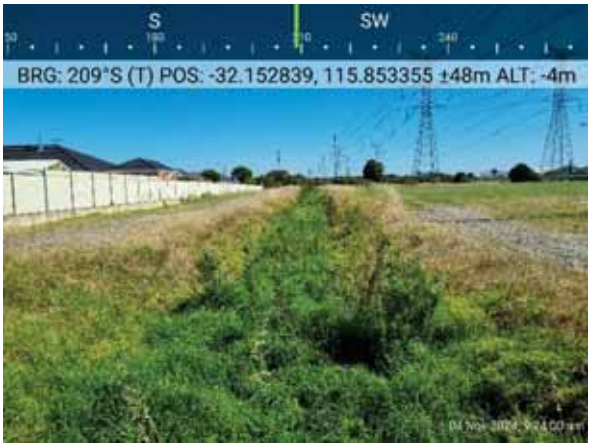


Photo ID: 2b

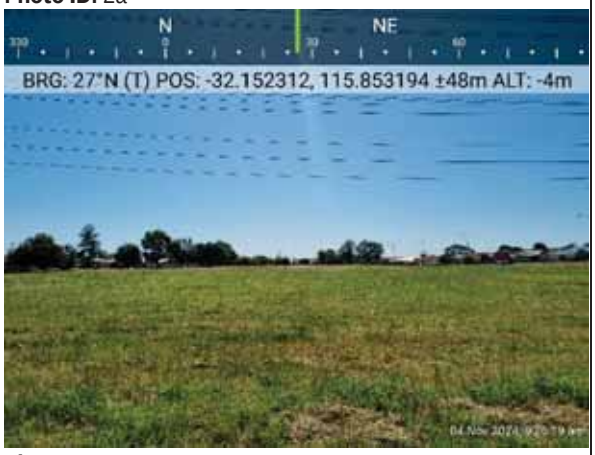


Photo ID: 2c

Photo ID: 2d

Photo ID: 2e

Plot 3		
Vegetation classification	**Pre-development**	Excluded – Clause 2.2.3.2 [c]
	Post-development	Excluded – Clause 2.2.3.2 [c]
Description / justification		
Multiple areas of vegetation less than 0.25 ha in area and not within 20 m of the site, or each other or of other areas of vegetation being classified vegetation		

Photo ID: 3a

Photo ID: 3b

Photo ID: 3c

Plot 4		
Vegetation classification	**Pre-development**	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])
	Post-development	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])
Description / justification		
Existing non-vegetated areas (i.e. buildings, roads, footpaths, driveways, car parks, firebreaks, etc) and low threat managed areas (i.e. managed gardens, urban street verges, irrigated turf, managed POS, etc)		

Photo ID: 4a

Photo ID: 4b

Photo ID: 4c

Photo ID: 4d (background)

Photo ID: 4e

Photo ID: 4f

Plot 4	
	
Photo ID: 4g	**Photo ID:** 4h
	
Photo ID: 4i	**Photo ID:** 4j
	
Photo ID: 4k	**Photo ID:** 4l

Plot 4	
 **Photo ID:** 4m	

Plot 5		
Vegetation classification	**Pre-development**	Class G Grassland
	Post-development	Modified to non-vegetated and/or low threat (Clauses 2.2.3.2 [e] and/or [f])
Description / justification		
Areas to be modified from Class G Grassland to a non-vegetated and low threat managed state as part of the proposed development		

Photo ID: 5a

Photo ID: 5b

Appendix C Vehicular access explanatory notes

Acceptable Solution A3.1 – Public Roads

Explanatory Note E3.1

These Guidelines do not prescribe values for the trafficable (carriageway/pavement) width of public roads as they should be in accordance with the class of road as specified in the IPWEA Subdivision Guidelines, Liveable Neighbourhoods, Austroad Standards and/or any applicable standard in the local government area.

The IPWEA Subdivision Guidelines, Liveable Neighbourhoods, Austroad Standards do not prescribe a horizontal clearance. However, it is recommended that a traversable verge is provided to allow for emergency services vehicles to stop and operate on the side of the public road, specifically where the public road may traverse large areas of classified vegetation.

Where local government roads are proposed to be widened by the proponent, they must obtain approval from the local government.

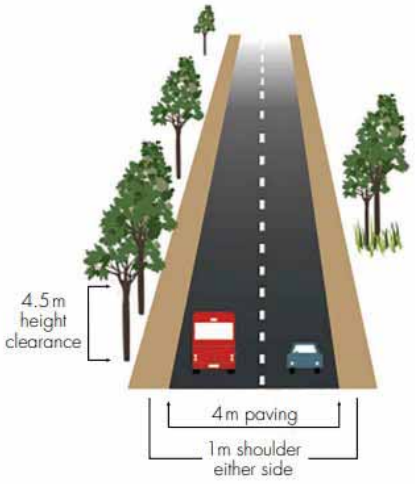


Figure 20: Example of a public road

Source: *Guidelines for Planning in Bushfire Prone Areas (WAPC 2021)*

Acceptable Solution A3.2a – Multiple access routes

Explanatory Note E3.2a

Two-way public road access is public road access from a lot in at least two different directions to two suitable destinations, and provides residents and the community, as well as emergency services, with access and egress from both the subdivision and individual habitable buildings/development in the event of a bushfire emergency. A single road provides no alternative route if the access becomes congested or is unable to be traversed due to smoke and/or fallen trees during a bushfire.

Two-way public road access applies to access/egress routes leading into a subdivision, as well as those within a subdivision. A road that loops back onto itself does not constitute the option of two different directions.

Two-way public road access should always be the first option. Where the site is not able to achieve two-way access within 200 metres of the lot boundary, due to demonstrated site or environmental constraints, the proponent should identify options for an emergency access way from the subject site to a suitable destination. Where an emergency access way cannot be provided, the proponent should demonstrate compliance with the performance principle.

Subject sites or proposed lots greater than 200 metres from an intersection, which provides two-way access, do not satisfy the requirement for two-way access unless they meet the provisions which allow for no-through roads greater than 200 metres in A3.2a.

To demonstrate compliance with the performance principle for two-way access, the bushfire planning practitioner may have regard to:

a. the extent of the bushfire hazard, location and vegetation classification, the likelihood, potential severity and impact of bushfire to the subject site and the road network;
b. time between fire detection and the onset of conditions in comparison to travel time for the community to evacuate to a suitable destination;
c. available access route(s) travelling towards a suitable destination; and
d. turn-around area for a fire appliance for no-through roads.

Figure 21: Example of compliant and non-compliant two-way

Source: *Guidelines for Planning in Bushfire Prone Areas (WAPC 2021)*

Acceptable Solution A3.3 – Through roads

Explanatory Note E3.3

In bushfire prone areas, a proposed structure plan or subdivision that incorporates no-through roads should be avoided because they do not provide a connected and legible design that allows for easy access and egress by the community, residents and emergency services in the event of a bushfire. No-through roads also reduce the options available for access and egress in the event of a bushfire emergency.

There will however be situations where a subject site is accessed via an existing or proposed no-through road and alternative access cannot be provided. In these situations, the proponent should demonstrate to the decision-maker, that all efforts have been made with the local government and/or adjoining landowners to secure alternative public road access or an emergency access way and that a redesign has been explored. The bushfire planning practitioner may need to develop a performance principle-based solution or address the non-compliance and demonstrate to the decisionmaker why discretion should be exercised in accordance with section 2.6 of these Guidelines.

No-through roads will only be considered an acceptable solution where it is demonstrated by the proponent, to the satisfaction of the decision maker, that a no through-road cannot be avoided due to site constraints. For example, the internal road design of a structure plan or subdivision where site constraints, such as a water body or Bush Forever, prevent the ability to create a through-road and a no through road may be a more appropriate road layout.

No-through roads should be a maximum of 200 metres from the lot(s) boundary to an intersection where two-way access is provided and may only exceed 200 metres if it meets the provisions which allow for no-through roads greater than 200 metres in A3.2a.

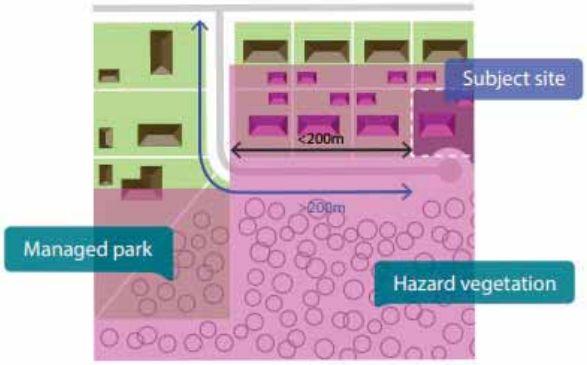


Figure 23: Example of a site on a no-through road greater than 200 metres from the intersection, but within 200 metres of BAL-LOW

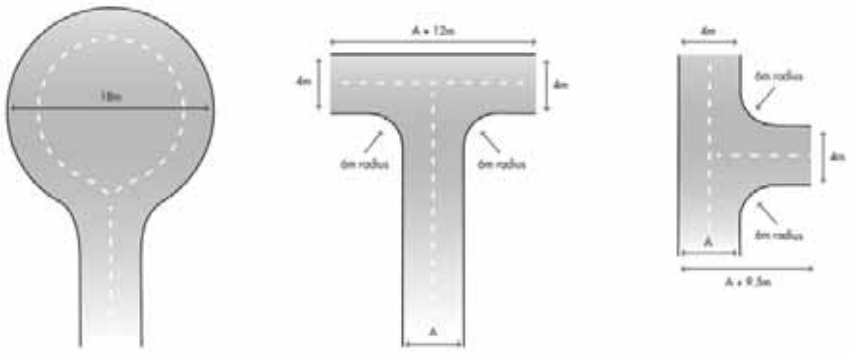


Figure 24: Turn-around area dimensions for a no-through road

Source: *Guidelines for Planning in Bushfire Prone Areas (WAPC 2021)*

Technical requirement	1	2	3	4
	Public road	Emergency access way[1]	Fire service access route[1]	Battle-axe and private driveways[2]
Minimum trafficable surface (m)	In accordance with A3.1	6	6	4
Minimum horizontal clearance (m)	N/A	6	6	6
Minimum vertical clearance (m)	4.5	4.5	4.5	4.5
Minimum weight capacity (t)	15	15	15	15
Maximum grade unsealed road[3]	As outlined in the IPWEA Subdivision Guidelines	1:10 (10%, 6°)	1:10 (10%, 6°)	1:10 (10%, 6°)
Maximum grade sealed road[3]		1:7 (14.3%, 8°)	1:7 (14.3%, 8°)	1:7 (14.3%, 8°)
Maximum average grade sealed road		1:10 (10%, 6°)	1:10 (10%, 6°)	1:10 (10%, 6°)
Minimum inner radius of road curves (m)		8.5	8.5	8.5

[1] To have crossfalls between 3 and 6%

[2] Where driveways and battle-axe legs are not required to comply with the widths in A3.5 or A3.6, they are to comply with the Residential Design Codes and Development Control Policy 2.2 Residential Subdivision

[3] Dips must have no more than a 1 in 8 (12.5% -7.1 degree) entry and exit angle.

Appendix D City of Cockburn Fire Control Order

City of Cockburn Fire Control Order - Effective from 10 May 2018

First and Final Notice

Pursuant to *Section 33* of the *Bush Fires Act 1954* owners or occupiers of land situated within the City of Cockburn are required by law to comply with the prescribed Fire Control Order here within.

Term	Definition
Authorised Officer	A person appointed by the City of Cockburn Chief Executive Officer as an authorised person/officer to exercise the powers and duties set out in the Local Government Act 1995, Bush Fires Act 1954 and Local Law(s).
Flammable Material	Any dead or dry grass, vegetation, substance, object, thing or material (except living flora including live and/ or habitat standing trees) that may or is likely to catch fire and burn or any other thing deemed by an Authorised Officer to be capable of combustion.
Maintained Grass	Soil covered land, planted with grasses or other durable plants, maintained green and less than 50mm in height.
Prohibited Burning Time	The time of each year where it is unlawful to set fire to the bush at any time. This time is normally from 1 December of each year until and including 31 March of the following year. This time may be amended, subject to prevailing seasonal conditions.
Restricted Burning Time	The time of each year where it is unlawful to set fire to the bush without a valid Permit to Set Fire To The Bush issued by an Authorised Officer. This period is normally from 1 April until and including 31 May and from 1 October until and including 30 November of any year. This time may be amended, subject to the prevailing seasonal conditions.
Unrestricted Burning Time	The time of each year where it is lawful to set fire to the bush at any time, in areas zoned rural under the Metropolitan Region Scheme. This time is normally from 1 June until and including 30 September. This time may be amended, subject to the prevailing seasonal conditions.

Term	Definition
Firebreak Time	**The time of each year where fire hazard reduction works must be maintained as specified in this Fire Control Order. This time is 1 November of each year until and including 15 April of the following year.**
Structure	A building, as defined in the Building Codes of Australia (BCA) may be made up of a number of classes if it has a mixed use.

1. All Property (vacant or developed) - less than 4,047m2

To reduce the fire hazard on your land and to comply with the requirements of this Fire Control Order you are required to:

1.1 Have all flammable materials such as dry grass and weeds slashed, mown or trimmed down by other means to a maximum height of 50mm across the entire property for the duration of this firebreak time; and

1.2 Remove all dead vegetation.

2. All property (vacant or developed) - 4,047m2 or greater

To reduce the fire hazard on your land and to comply with the requirements of this Fire Control Order you are required to:

2.1 Construct a firebreak (as defined within section 3 of this order) immediately inside all external property boundaries, this includes those adjacent to roads, drains, rail reserves and any public open space reserves

2.2 Remove all dead vegetation surrounding and over all habitable structures to a radius of 3 metres except living trees, shrubs, maintained grass and gardens under cultivation.

3. Firebreak Specifications

A firebreak is an area of land cleared of flammable material, installed to minimise the spread or extension of a fire and to provide suitable access for fire fighting vehicles. The standards of a compliant firebreak are as follows:

3.1 A firebreak must be constructed of bare earth, stone, or sealed surfaces and be clear of all flammable materials to create a 3 metre wide trafficable surface

3.2 Maintained grass may occupy a firebreak

3.3 Overhanging branches must be pruned to provide a 4 metre vertical clearance above the full width of the 3 metre firebreak surface

3.4 A firebreak must be a continuous trafficable surface for a fire fighting vehicle, clear of any obstructions and must not terminate in a cul-de-sac (dead end).

4. Additional Works

Regardless of land size and location, the City of Cockburn or its Authorised Officer(s) may require you to undertake additional work(s) on your property to improve access and/or undertake further works where in the opinion of that Authorised Officer(s), these works would be conducive to preventing the outbreak and/or the spread or extension of a fire.

5. Fire Control Order Variations

A variation will be considered where the owner and/or occupiers believe it is impractical to meet the compliance requirements of this Fire Control Order.

Approved structure's occupying a firebreak will not require a variation approval. However, a firebreak will be required to be installed as close as practical around the approved structure.

If approved, variations will be valid in perpetuity, unless a new variation has been approved or the property changes ownership.

The City of Cockburn reserves the right to review, amend or revoke an existing variation in writing at any time. Should a request to vary the Fire Control Order requirements on your property not be approved in writing, this Fire Control Order must be complied with as applicable in its entirety.

If you cannot comply with the above requirements you can complete the online firebreak variation application form.

Firebreak Variation Application Form

Approved: You must comply with the conditions of the approved variation.

Not approved: You must comply with the requirements of the Fire Control Order.

6. Burning

During the declared prohibited burning time, owners and/or occupiers must not undertake any bush or garden refuse burning activities.

During the declared restricted burning time only, owners and/or occupiers may:

6.1 Apply for a permit to burn the bush for bush fire risk mitigation purposes, by following the conditions imposed on a permit to burn as issued by an Authorised Officer.

6.2 In areas zoned rural by the Metropolitan Region Scheme you may undertake burning of leaves, tree branches, and other dry vegetation in piles no larger than $1m^3$ in size, without a permit to burn, subject to the following conditions:

6.2.1 No flammable material (other than that being burned) is to be within 5 metres of the fire at any time while the fire is burning

6.2.2 The fire is lit between 6pm and 11pm and is completely extinguished before midnight on the same day

6.2.3 At least one person is present at the site of the fire at all times until it is completely extinguished

6.2.4 When the fire is no longer required, the person ensures that the fire is completely extinguished by the application of water or earth.

During the unrestricted burning time, owners and/or occupiers in areas zoned rural under the Metropolitan Region Scheme may burn garden refuse and set fire to bush on their land without a permit 'To Set Fire To The Bush'. Burning of the bush must be in accordance with all relevant State legislative requirements.

Burning of garden refuse in areas not zoned rural should not be undertaken within the City of Cockburn, unless approved by an Authorised Officer. Burning of household waste is prohibited in all areas of the City of Cockburn.

7. Penalties

Failing to comply with this Fire Control Order will result in a penalty of up to $5,000. A person in default is also liable whether prosecuted or not to pay the costs of performing the work directed by a City's Authorised Officer.

Any owner and/or occupier who engages a contractor to undertake works on their behalf is responsible to ensure that the works completed meet the requirements of this Fire Control Order.

Any Fire Control Order previously published by the City of Cockburn in the Government Gazette or in any Western Australian newsprint is hereby revoked.

By Order of Council

Appendix E POS landscape plan

HATCH

CADASTRAL INFORMATION
SOURCE: LANDGATE SLIP
YYMMDD: 240410
DWG REF: BASE CAD
PROJECTION: MGA2020z50

SIZE A3 1:200

0 metres 2 4 6 8 10

LANDSCAPE PLAN
Lot 559 and 9073 Wentworth Pde, Success
City of Cockburn

REF NO.	DRAW NO.	REV.
RIC 559	**RD3 006**	**D**

Document Status

Rev No.	Purpose	Author	Reviewed and approved for Issue	
			Name	Date
Rev A	Draft report for review by client	Michelle Gellender	Zac Cockerill (BPAD 37803, Level 2)	14 November 2024
Rev 0	Issued for use: to accompany subdivision application	Michelle Gellender	Zac Cockerill (BPAD 37803, Level 2)	14 November 2024
Rev 1	**Issued for use: updated to address DPLH schedule of modifications (updated POS landscape plan)**	**Michelle Gellender**	**Zac Cockerill (BPAD 37803, Level 2)**	**10 March 2025**

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