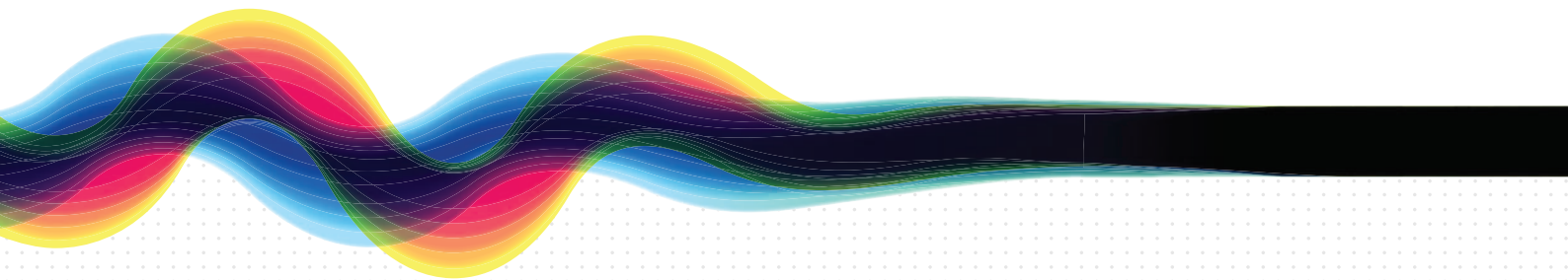


Lot 9001 Winyama Road, Baynton

Proposed Amendment to the Baynton West Development Plan

May 2020 | 19-074

Prepared for DevelopmentWA



Document ID: Creative Cloud Files/WORK/2019/19-074 Baynton West, Lot 9001 Winyama Road/19-704 Baynton Draft Structure Plan Amendment.docx/Draft Structure Plan Amendment.indd

Issue	Date	Status	Prepared by	Approved by
1	24.04.20	DRAFT	George Ashton	Matt Raymond
2	01.05.20	FINAL	George Ashton	Matt Raymond

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In particular, it should be noted that this report is a qualitative assessment only, based on the scope and timing of services defined by the Client and is based on information supplied by the Client and its agents.

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ENDORSEMENT PAGE

This structure plan amendment is prepared under the provisions of the City of Karratha Local Planning Scheme No. 8

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

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

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

_____ Witness

_____ Date

_____ Date of Expiry

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1. Introduction

This report has been prepared by **element**, on behalf of DevelopmentWA, to request an amendment to the existing Baynton West Development Plan (the Development Plan) as it relates to Lot 9001 Winyama Road, Baynton (the subject site). The Development Plan operates as a Structure Plan under Part 4 of the Deemed Provisions contained within the *Planning and Development (Local Planning Schemes) Regulations 2015*, and is the primary document guiding future land use and development outcomes in the Baynton West region. Specifically, this application seeks to amend the existing Development Plan by:

- Replacing the current 'Special Use' zoning that applies to the subject site with a 'Residential' zoning at a density of R15; and
- Including the proposed internal road network within the subject site, and a portion of new public road reserve over the existing drainage reserve to the north of the subject site at Lot 364 Marniyarra Loop, which will operate as a secondary vehicle access point for the purpose of compliance with the Western Australian Planning Commission's (WAPC) Guidelines for Planning in Bushfire Prone Areas.

The above amendments are consistent with the application that has recently been submitted to the WAPC for the Stage 1 subdivision of the subject site, which seeks to deliver a total of 12 residential lots at a density equivalent to R15, and will also support the future Stage 2 subdivision of the balance of Lot 9001 for residential purposes.

Refer to Figure 1 – Amended Development Plan

The following report has been prepared to provide an overview of the subject site and the proposed amendment to the existing Development Plan, and an analysis of the consistency of the proposal with relevant planning requirements. This report should be read in conjunction with the original Development Plan report from 2008 and the amended Development Plan report from 2011.

1.1 Approvals Required

In accordance with the process set out under Part 4 of the Deemed Provisions contained within the *Planning and Development (Local Planning Schemes) Regulations 2015*, the proposed amendment to the existing Development Plan requires the approval of the WAPC, on the advice of the City of Karratha (the City).



Amended Development Plan

Dampier Road, Baynton West, Karratha

Figure 1. Amended Development Plan

2. Subject Site

2.1 Site Description

This Development Plan amendment application relates to Lot 9001 Winyama Road, Baynton, which is located within the City of Karratha municipality.

Refer to Figure 2 – Location Plan

Lot 9001 is largely vacant and cleared of vegetation, as shown in Figure 2 (below). There is some existing road infrastructure constructed on Lot 9001, which relates to a previous subdivision approval issued for the site. This existing road infrastructure will be modified, and portions removed, to accommodate the future subdivision of the site, with an application for the first stage of the subdivision of the site having been lodged with the WAPC in March 2020.

Refer to Figure 3 – Aerial Plan

The Certificate of Title details for the subject site and the adjoining Lot 364 Marniyarra Loop are summarised in Table 1 (below). Copies of the Certificates of Title are enclosed at Appendix A.

Table 1 – Certificate of Title Details

Lot	Survey	Area	Volume/Folio	Registered Proprietor
9001	DP71830	3.9072ha	2781/895	Western Australian Land Authority
364	DP61450	0.3677ha	LR3156/683	State of Western Australia

Lot 364 forms part of Crown Reserve 50192, for the purpose of drainage. The Department of Planning, Lands and Heritage (DPLH) is listed as the Responsible Agency for Reserve 50192, with a Management Order in favour of the City.

2.2 Surrounding Context

The Baynton West Development Plan can be described as covering an area of 96.3 hectares generally bounded by Dampier Road to the north, Baynton Drive to the east, Mujira Ramble to the south, and vacant Crown land to the west.

The subject site is located on the western periphery of the existing Development Plan area, which comprises predominantly single residential development at residential densities of between R10 and R40.

The subject site is surrounded by existing residential development to the north, east and south, and vacant crown land to the west.

Baynton West Primary School, Baynton West Park and the Karratha Early Learning Centre are also located to the east of the site, within a 500 metre walkable catchment. Further to the east are the Tambrey Village Shopping Centre, St Luke's Secondary College, Karratha Senior High School and the Karratha Leisureplex.

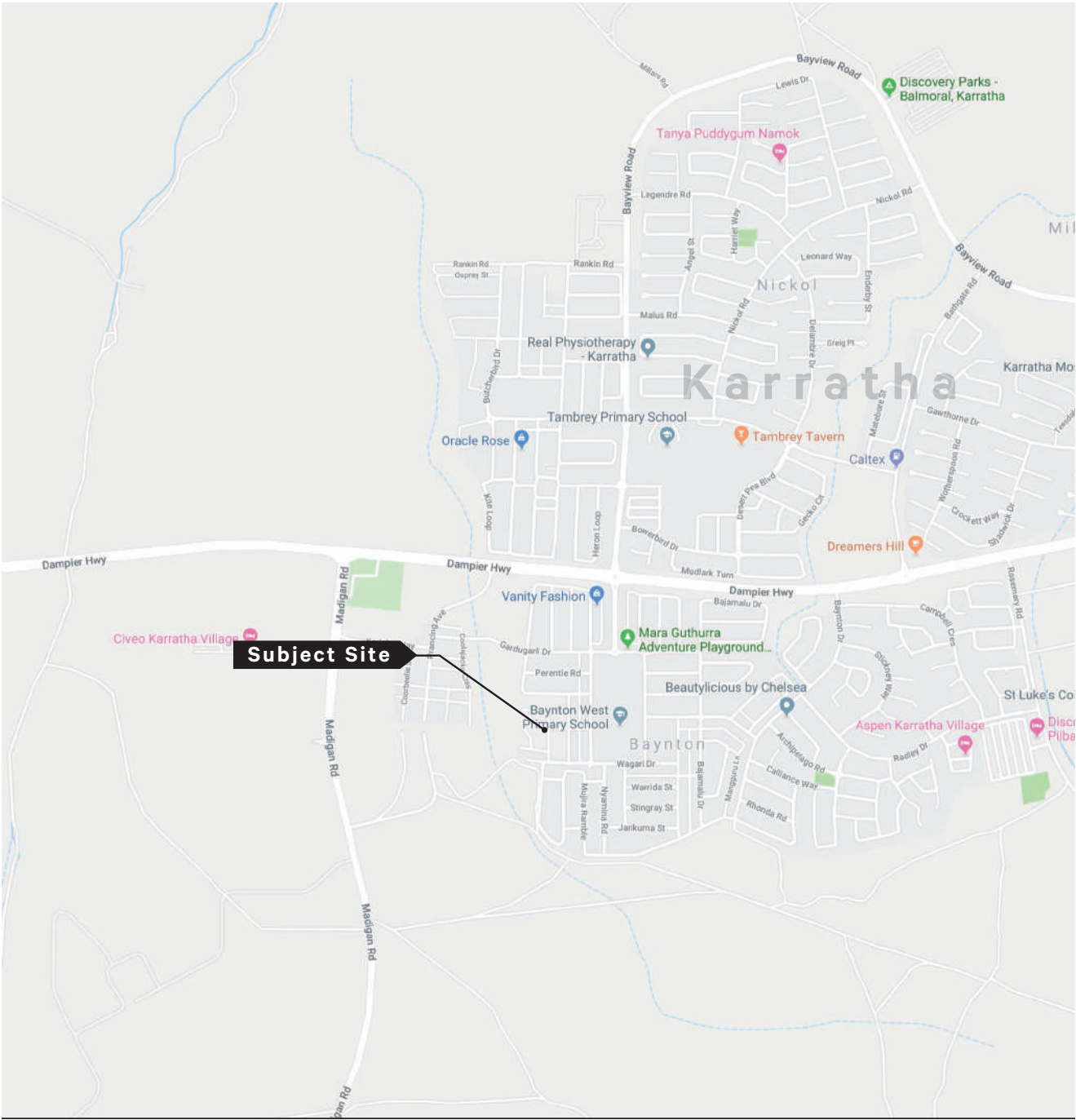



Figure 2. Location Plan



 Subject Site


source: nearmaps

Figure 3. Aerial Plan

2.3 Environmental and Heritage Considerations

2.3.1 Bushfire Risk

A desktop search of the Department of Fire and Emergency Services (DFES) State Map of Bushfire Prone Areas indicates that a portion of the subject site is designated as bushfire prone, as shown in Figure 4 (below).

Refer to Figure 4 - Extract of DFES State Map of Bushfire Prone Areas

Accordingly, this report is accompanied by a Bushfire Management Plan (BMP) prepared by Eco Logical Australia, which considers the suitability of the site for residential development. A copy of the BMP is enclosed at Appendix B.

2.3.2 Acid Sulphate Soils Risk

Department of Water and Environmental Regulation (DWER) mapping indicates that a portion of the subject site is identified as having a moderate to low risk of acid sulphate soils occurring within 3 metres of the natural soil surface, as shown in Figure 5 (below).

Refer to Figure 5 - Acid Sulphate Soils Risk Mapping

2.3.3 Contaminated Sites

A desktop search of DWER's Contaminated Sites Database indicates that the subject site is not a registered contaminated site.

2.3.4 Heritage

A desktop search of the Aboriginal Heritage Inquiry System (AHIS) indicates that the subject site is not affected by any registered Aboriginal heritage sites.

Similarly, the subject site does not contain any places of identified European heritage significance.

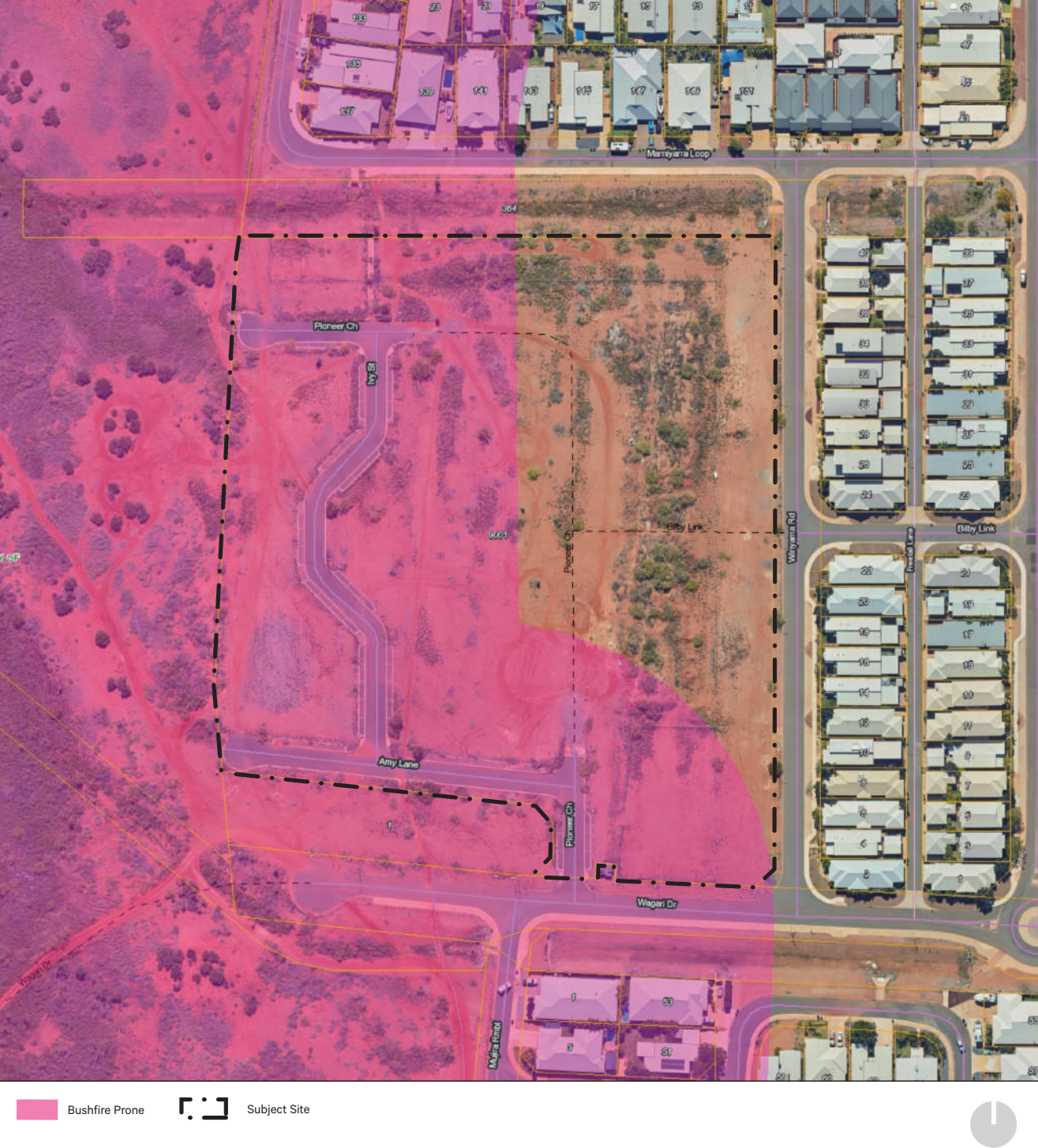


Figure 4. Extract of DFES State Map of Bushfire Prone Areas



Figure 5. Acid Sulphate Soils Risk Mapping

3. Existing Development Plan

The existing Baynton West Development Plan was initially prepared in 2008 and subsequently amended in 2011. The Development Plan operates as a Structure Plan under Part 4 of the Deemed Provisions contained within the *Planning and Development (Local Planning Schemes) Regulations 2015*, and is the primary document guiding future land use and development outcomes in the Baynton West region.

The primary purpose of the Development Plan is to facilitate the subdivision and development of the Baynton West area for residential purposes, with the majority of the Development Plan area identified for residential development at densities of between R10 and R40.

Pursuant to the existing Development Plan, the subject site is currently identified as 'Special Use' and allocated a residential density code of R60. The Special Use zoning that applies to the subject site was originally intended to facilitate a range of housing types (including townhouses, apartments and grouped dwellings) at the R60 density, specifically to accommodate resource industry and government staff. The objectives for this Special Use zone under the existing Development Plan are as follows:

- *Minimising crossovers onto the key east-west neighbourhood road and maximising shared access arrangements to all surrounding roads to minimise the potential for traffic conflict;*
- *Maximising future development frontages to the surrounding public roads and drainage areas to encourage passive surveillance of the public domain from habitable rooms and assisting in creating an attractive streetscape;*
- *Appropriately maximising the use of the site area to achieve a mix of housing density across the site in accordance with the R60 density code requirements and other objectives for the site;*
- *Encouraging dwelling orientation and dwelling type that will best suit the local climate and local breezes;*
- *Encouraging both visual and pedestrian connections through the site for the benefit of future residents of the development and the broader locality;*
- *Ensuring the orientation, built form, road and pedestrian networks and landscaping are appropriately designed to achieve integration with surrounding land uses and residential lots.*

4. Proposed Development Plan Amendment

4.1 Overview of Requested Amendments

The requested amendments to the Baynton West Development Plan relate primarily to the zoning applicable to Lot 9001 Winyama Road, Baynton, and seeks to replace the current 'Special Use' zoning with a 'Residential R15' zoning.

The requested amendments also reflect the proposed internal road network within the subject site. This includes the intent to construct a new public road over the existing drainage reserve to the north of the subject site at Lot 364 Marniyarra Loop, to operate as a secondary vehicle access point for the purpose of compliance with the WAPC's Guidelines for Planning in Bushfire Prone Areas.

Refer to Figure 1 – Amended Development Plan

As there is no demand for resource industry and government staff accommodation in the locality, as envisaged under the original Development Plan, the aforementioned amendments to the Development Plan are intended to facilitate the delivery of a residential product that aligns with current market demand for larger residential lots in the locality.

The remainder of the Development Plan shall be retained in its approved state, with the majority of the Development Plan area having already been subject to subdivision and development for residential purposes.

4.2 Land Use

As noted above, the proposal seeks to facilitate the development of the subject site for residential purposes, which remains fundamentally consistent with the intent of the Development Plan to further the continued development of the Baynton West area as a predominantly residential suburb.

The resultant land use allocation across the entire Baynton West Development Plan area following inclusion of the requested amendment is summarised in Table 2 below.

Table 2 – Land Use Summary

Land Use	Area
Baynton West Development Plan Area	96.3 ha
Subject Site Area	3.90 ha
Residential R10	2.01 ha
Residential R15	3.91 ha
Residential R17.5	31.74 ha
Residential R30	10.78 ha
Residential R40	2.71 ha
Residential R40/80	0.92 ha
Special Use Site	0.28 ha
Primary School Site	4.50 ha

Land Use	Area
Community Purpose Site	0.85 ha
Drainage Reserves	8.55 ha
Public Open Space	7.15 ha
Total Subvisible Area	83.25 ha

The requested amendment to the Development Plan will facilitate the development of approximately 38 single residential lots at the R15 density, with 12 of these lots to be delivered as part of the Stage 1 subdivision that has been lodged with the WAPC. This is consistent with current market demand for larger residential lots in the locality and represents a logical extension of surrounding residential development in the Baynton West area. The provision of large lot sizes, direct road access and proximity to a range of commercial, educational, medical and recreational facilities will also provide a high level of amenity for future residents.

The balance of Lot 9001 will be given over to the provision of new public road reserves to service the proposed residential lots in an efficient manner, as shown on the amended Development Plan map at Figure 1. Access to the proposed internal road network will be available from Wagari Drive to the south and Marniyarra Loop to the north, via the new public road reserve proposed on Lot 364 Marniyarra Loop.

With respect to the provision of public open space (POS), this has been dealt with holistically through the existing Development Plan and therefore no additional POS is proposed to be provided as part of the future subdivision of the subject site.

4.3 Access

The amended Development Plan retains all existing road connections within the existing Development Plan, which have already been constructed as part of the subdivision and development of the surrounding area. Accordingly, the only proposed change to the existing road network is the inclusion of the proposed internal road network within the subject site, and a section of additional public road reserve over Lot 364 Marniyarra Loop, connecting the proposed internal road network within the subject site to Marniyarra Loop to the north.

The proposed internal road network within the subject site presents as a logical extension of the existing road network in the immediate locality of the subject site and will enable:

- The minimisation of crossovers to existing east-west neighbourhood roads to the north and south of the subject site, as envisaged under the existing Development Plan; and
- The provision of appropriate pedestrian connections through the site for the benefit of future residents and the broader locality.

The provision of a secondary access point over Lot 364 Marniyarra Loop is also necessary to achieve compliance with the WAPC's Guidelines for Planning in Bushfire Prone Areas, which requires the provision of two access and egress points for sites located within bushfire prone areas under the DFES State Map of Bushfire Prone Areas.

4.4 Servicing

All residential lots will be serviced with water, power, sewer, drainage and telecommunications, as extensions of the existing infrastructure in surrounding residential areas, in the same manner as envisaged under the existing Development Plan.

The suitability of the land for residential development has also been considered holistically as part of the adoption of the original Development Plan.

It is also noted that the requested amendment to the Development Plan envisages a lower density of development than the existing Development Plan. Therefore, the proposal will not place any additional pressure on servicing infrastructure in the locality that is over and above what is envisaged under the existing Development Plan.

5. Planning Context

The following sections provide an analysis of the consistency of the proposed amendment to the Development Plan with the key statutory and strategic planning documents applicable to the Development Plan area.

5.1 Pilbara Planning and Infrastructure Framework (2012)

The Pilbara Planning and Infrastructure Framework (the Framework) sets out the strategic direction for the future development of the Pilbara region over the next 25 years.

Karratha is identified as one of the two primary cities in the region, which will form key regional focal points that provide a range of regional centre facilities and services to surrounding towns, and support significant population growth.

More specifically, the Framework identifies the subject site as a suitable area for new residential development to assist in meeting the identified growth targets under the Framework. As such, the proposal to reclassify the subject site under the existing Development Plan from 'Special Use' to 'Residential' is entirely consistent with the strategic direction established under the Framework.

5.2 City of Karratha Draft Local Planning Strategy (2015)

The City of Karratha draft Local Planning Strategy (the draft Strategy) has been prepared to guide and facilitate the long-term growth and development of the entire local government area including the towns of Dampier, Karratha, Roebourne, Wickham, Point Samson and Cossack.

Pursuant to the draft Strategy, Karratha is identified as the primary focal point for population growth within the City, with an anticipated total of 5,728 additional dwellings being required to accommodate forecast population growth to 2031. As part of this residential growth objective, Baynton West (inclusive of the subject site) is identified as a key Urban Expansion Area that is earmarked for future residential development and is intended to cater for 1,010 additional dwellings by 2031.

The draft Strategy also advocates for the provision of additional housing choice in the locality to cater for a diverse range of lifestyles, as part of a broader objective to promote the City of Karratha as Australia's most liveable regional city.

In accordance with the above, the requested amendment to the Development Plan is observed to be consistent with the provisions of the draft Strategy, on the basis that the proposal:

- Will facilitate the subdivision and development of the subject site for residential purposes, in accordance with the identified strategic land use direction for the Baynton West area;
- Will assist in meeting the identified dwelling targets for the Baynton West area and the township of Karratha as a whole; and
- Will contribute to the provision of a diverse range of residential accommodation in the region through the provision of a larger lot product that aligns with current market demand in the locality and provides a point of difference to the surrounding residential areas, which typically exhibit maximum single residential lot sizes of approximately 600m².

5.3 City of Karratha Local Planning Scheme No. 8

The City of Karratha Local Planning Scheme No. 8 (LPS8) is the primary statutory document guiding land use and development within the City.

Pursuant to LPS8, the subject site is zoned 'Urban Development' and is located within the Karratha Precinct, and within an identified Structure Plan Area (Development Area 9).

Refer to Figure 6 - Extract of LPS8

Under LPS8, the development and use of land in the Urban Development zone is to be in accordance with an approved structure plan prepared in accordance with Part 4 of the Deemed Provisions contained within the *Planning and Development (Local Planning Schemes) Regulations 2015*. This is reiterated in Appendix 5 of LPS8, which indicates that development within Development Area 9 is to be in accordance with an approved structure plan that guides subdivision, land use and development outcomes, with the existing Development Plan having been adopted to satisfy the requirement for a structure plan prior to subdivision and development.

Appendix 5 of LPS8 also notes that the primary focus for Development Area 9 is the provision of new residential uses, which is reiterated in the existing Development Plan. As such, the proposal to reclassify the subject site from 'Special Use' to 'Residential' is entirely consistent with the stated land use intent for Development Area 9.

Furthermore, the proposed amendment to the existing Development Plan is observed to be consistent with the general objectives applicable to development within the Karratha Precinct, which include an intent to facilitate residential development that caters for a range of lifestyles and reflects the needs of a broadening population base.

5.4 Lot 365 Wagari Drive, Baynton West Detailed Area Plan

In addition to the existing Development Plan, a Detailed Area Plan (DAP) for the subject site was adopted by the City in July 2011. The DAP sets out a range of development provisions pertaining to future residential development on the subject site, including provisions relating to setbacks, open space, building height, fencing, landscaping and the like.

However, the existing DAP is based on the Special Use R60 designation under the Baynton West Development Plan and was aimed at facilitating a mix of single, grouped and multiple dwelling development at the R60 density. Noting that this application seeks to apply a lower density residential across the subject site, to respond to market demand in the locality, it is intended that the existing DAP will be revoked.

5.5 State Planning Policy 3.7 – Planning in Bushfire Prone Areas

As noted previously, a portion of the subject site is identified as being within a bushfire prone area under the DFES State Map of Bushfire Prone Areas, which will trigger the application of the requirements under State Planning Policy 3.7 – Planning in Bushfire Prone Areas (SPP3.7) and the associated WAPC Guidelines for Planning in Bushfire Prone Areas (the Guidelines) at the subdivision stage.

Accordingly, this report is supported by a Bushfire Management Plan (BMP) prepared by Eco Logical Australia, a copy of which is enclosed at Appendix B.

The BMP is based on an indicative subdivision layout and identifies that all of the indicative residential lots will be subject to a BAL rating of BAL-19 or lower, with the majority subject to a BAL-12.5 rating. The rating for those lots identified as BAL-19 can also be readily reduced to BAL-12.5 through the provision of appropriate building setbacks.

Refer to Figure 7 - BAL Contour Map

Based on the above BAL ratings, the BMP contains a preliminary assessment against the Bushfire Protection Criteria contained within the Guidelines and concludes that the indicative subdivision layout is fully compliant with the relevant acceptable solutions, subject to the inclusion of a secondary vehicle access route to Marniyarra Loop via the provision of a new public road reserve on Lot 364 Marniyarra Loop.

In accordance with the above, the BMP identifies that the future subdivision of the site will appropriately address the identified bushfire risk to the site, and is consistent with the aims and objectives of SPP 3.7, and the associated Guidelines.

For further details, please refer to the accompanying BMP at Appendix B.

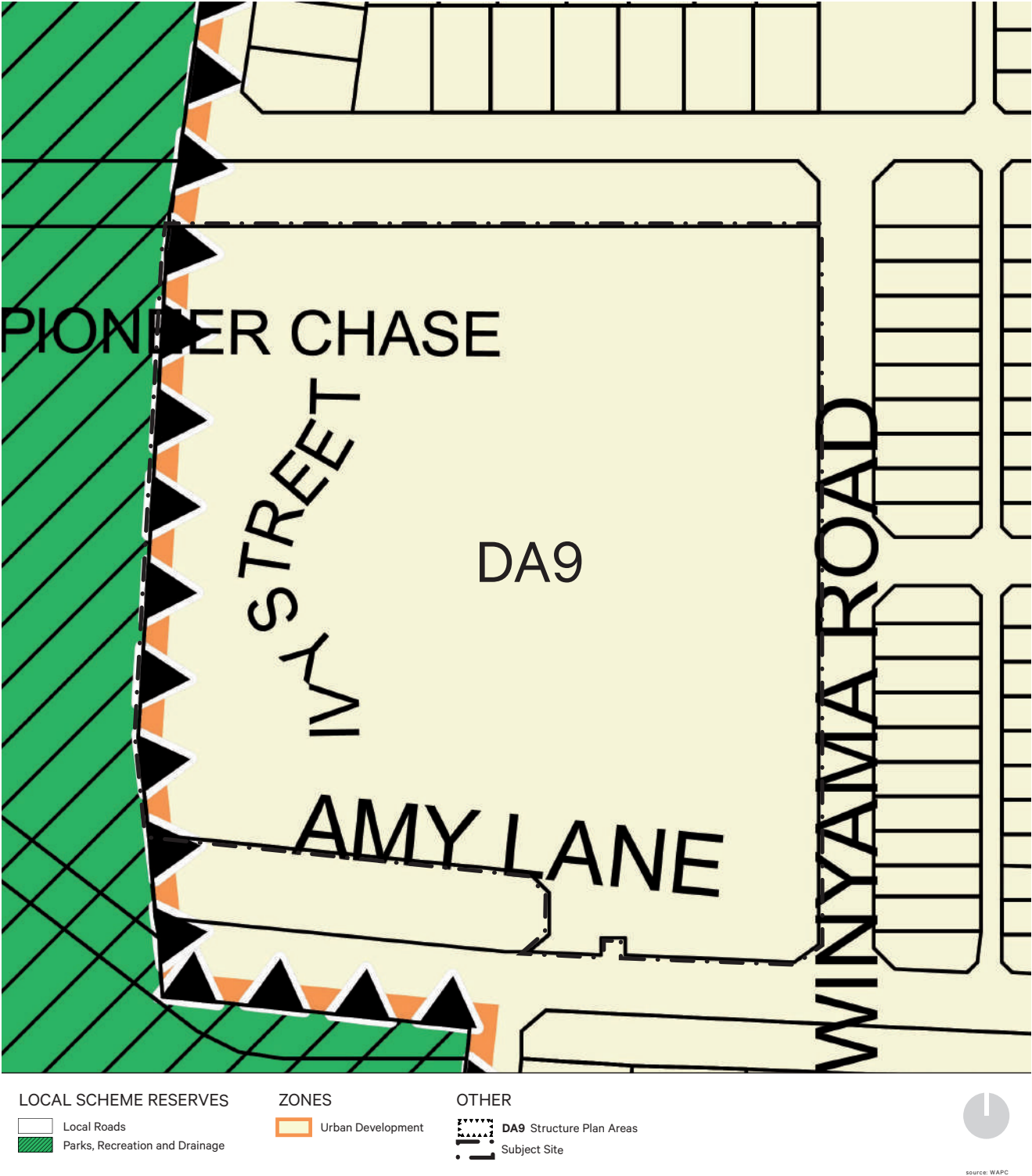


Figure 6. Extract of DFES State Map of Bushfire Prone Areas

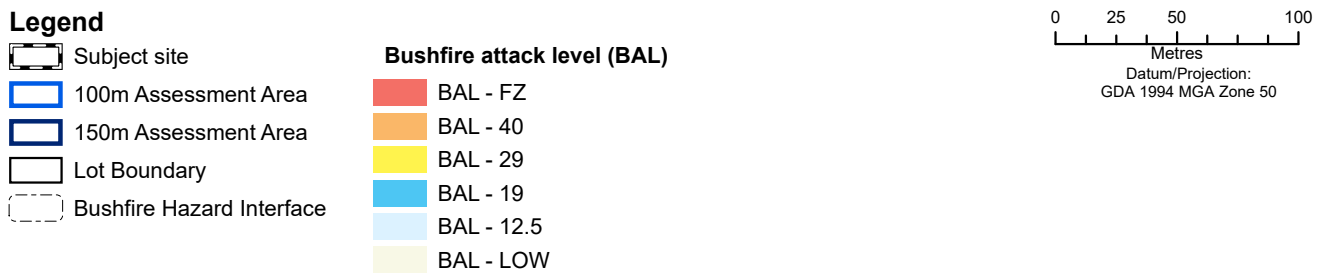
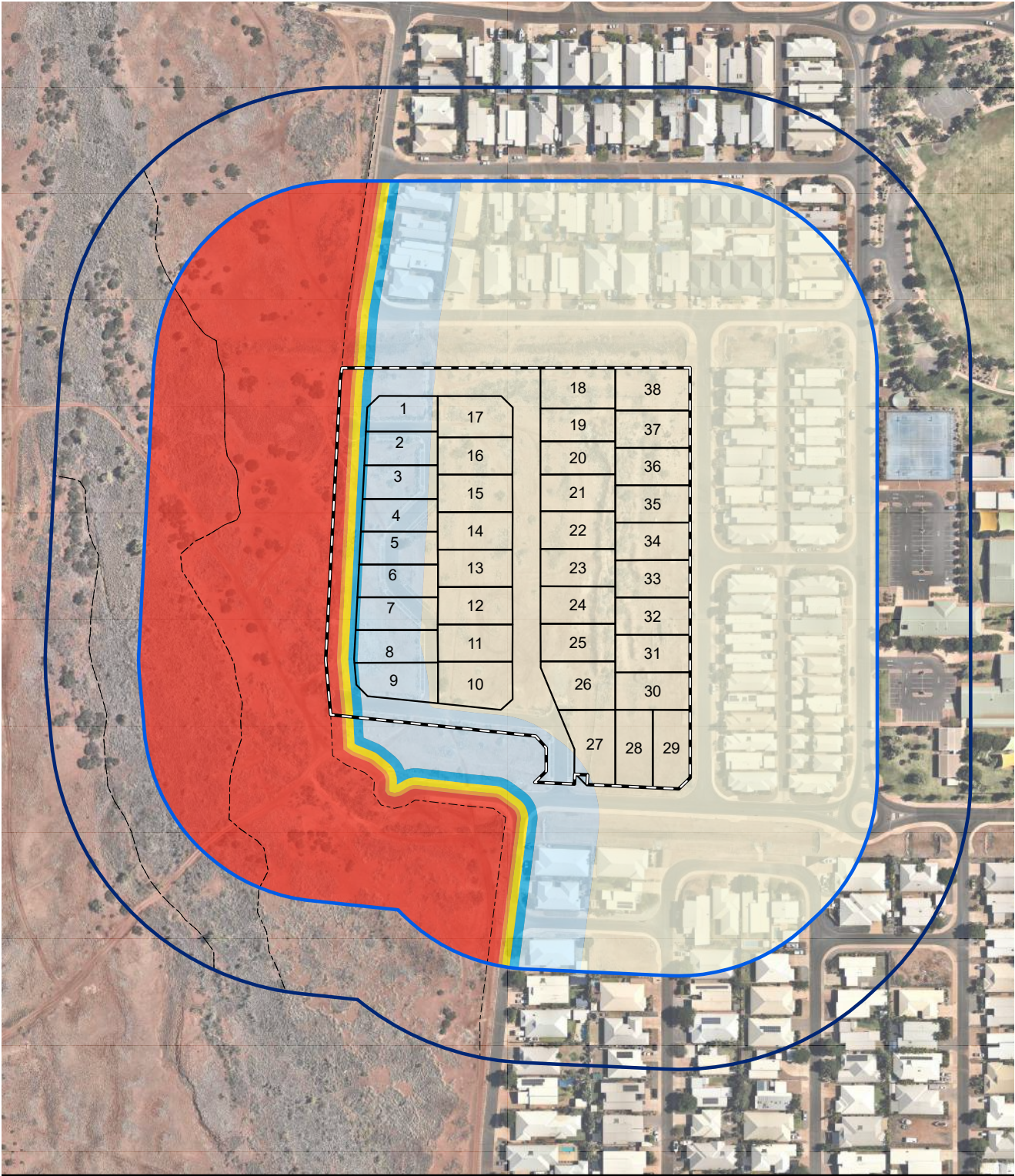


Figure 7. BAL Contour Map

6. Conclusion

This report has been prepared by **element**, on behalf of DevelopmentWA, to request an amendment to the Baynton West Development Plan (the Development Plan) in relation to Lot 9001 Winyama Road, Baynton, which will:

- Replace the current 'Special Use' zoning that applies to the subject site with a 'Residential' zoning at a density of R15; and
- Including the proposed internal road network within the subject site, and a portion of new public road reserve over the existing drainage reserve to the north of the subject site at Lot Lot 364 Marniyarra Loop.

The proposed amendments are reflective of the purpose and intent of the existing Development Plan as a whole, and the Stage 1 subdivision application that has been lodged for the site. As there is no demand for resource industry and government staff accommodation in the locality, the proposal seeks to facilitate the provision of a residential product that aligns with current market demand for larger residential lots in the locality, which remains fundamentally consistent with the intent of furthering the continued development of the Baynton West area for residential purposes.

This report has demonstrated that the proposed amendment to the Development Plan is consistent with the high level statutory and strategic planning framework applicable to the subject site at both a State and local level, and the proposed Residential zoning represents a logical extension of surrounding land uses. As such, the proposal is observed to be consistent with the principles of orderly and proper planning, and therefore warrants approval.

The existing Development Plan appropriately considers the suitability of the site for residential development and all required utility service connections, including water, sewer, power and telecommunications, are also available to the subject site, as extensions of the existing infrastructure in adjacent residential areas. This ensures that the site is capable of accommodating residential development of the type envisaged under the proposed amendment to the Development Plan.

The requested amendment will help facilitate additional housing opportunities in the emerging Baynton West community, in area that is well serviced by commercial, recreational, educational and community facilities.

In accordance with the above, we respectfully request the City's support for the proposed amendment to the existing Development Plan, and the approval of the WAPC.

7. Appendix A

Certificates of Title

WESTERN



AUSTRALIA

REGISTER NUMBER

9001/DP71830DUPLICATE
EDITION**1**

DATE DUPLICATE ISSUED

1/12/2011VOLUME
2781FOLIO
895

RECORD OF CERTIFICATE OF TITLE

UNDER THE TRANSFER OF LAND ACT 1893

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



REGISTRAR OF TITLES

LAND DESCRIPTION:

LOT 9001 ON DEPOSITED PLAN 71830

REGISTERED PROPRIETOR:
 (FIRST SCHEDULE)

WESTERN AUSTRALIAN LAND AUTHORITY OF LEVEL 3, 40 THE ESPLANADE, PERTH
 (AF L773463) REGISTERED 30/11/2011

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

- EASEMENT BURDEN CREATED UNDER SECTION 167 P. & D. ACT FOR SEWERAGE PURPOSES TO WATER CORPORATION - SEE DEPOSITED PLAN 71830 AS CREATED ON DEPOSITED PLAN 61450.

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

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

STATEMENTS:

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

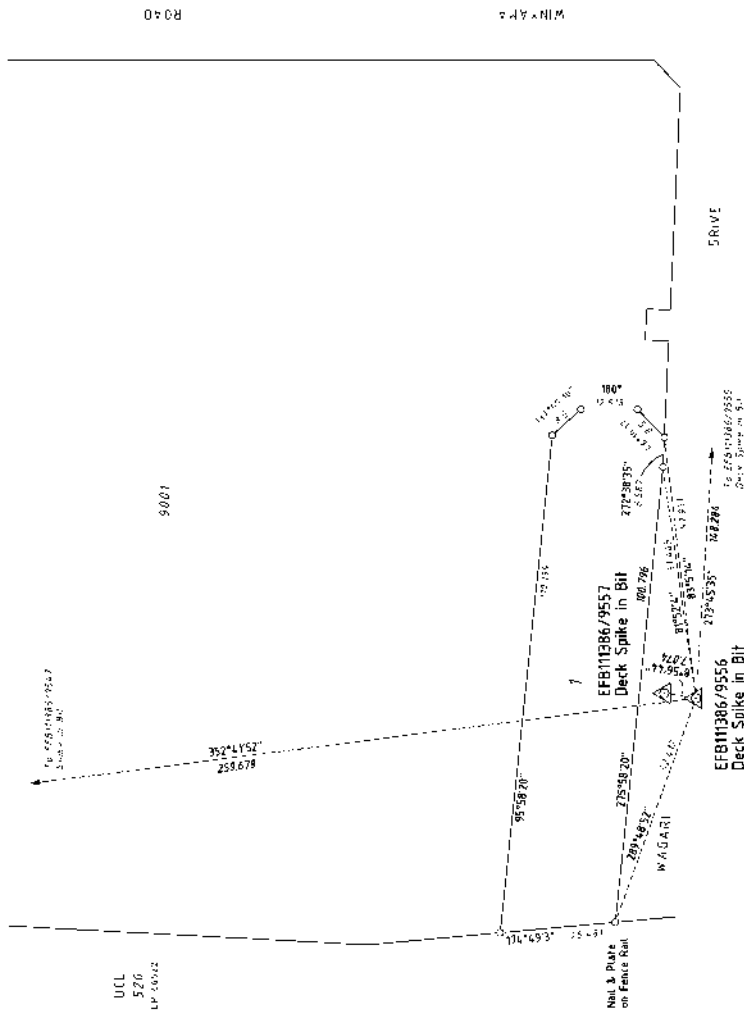
SKETCH OF LAND: DP71830
 PREVIOUS TITLE: 2716-848
 PROPERTY STREET ADDRESS: LOT 9001 WINYAMA RD, BAYNTON.
 LOCAL GOVERNMENT AUTHORITY: CITY OF KARRATHA
 RESPONSIBLE AGENCY: WESTERN AUSTRALIAN LAND AUTHORITY

NOTE 1: L942612 DEPOSITED PLAN 73695 LODGED.

LOTS 1 & 9001

HELD BY LANDGATE
IN DIGITAL FORM ONLY.

FOR HEADING SEE SHEET 1
FOR INTERESTS AND NOTIFICATIONS SEE SHEET 1



SURVEY SHEET ALDITED
DATE: 31/07/2012 RH

SURVEY INFORMATION ONLY

FINAL SURVEY SHEET
SURVEY CARRIED OUT UNDER REG26A
SPECIAL SURVEY AREA GUIDELINES

- ▲ Denotes Standard Survey Mark
- △ Denotes Permanent Survey Mark
- △ Denotes Permanent Control Mark
- △ Denotes Temporary Control Mark
- Denotes Peg
- × Spike

whelans

whelans
whelans Pty Ltd
1000 00 00 00 00

SCALE: 1:1000 AT A SIZE		ALL INTERESTS ARE IN THE	
SURVEYOR'S CERTIFICATE - Reg 54		Landgate	
I, MARIO PERER, being duly qualified as a Surveyor, do hereby certify that this is a correct and true plan of the land shown on the plan, and that it is in accordance with the provisions of the Survey Act 1968.		Western Australian Land Information Authority	
DEPOSITED PLAN		71830	
DATE: 31/07/2012		DATE: 31/07/2012	
SHEET 2		SHEET 2	
NUMBER 2		NUMBER 2	

THIS SUBDIVISION AT THE TIME OF SURVEY
MAY CONTAIN RETAINING WALLS WHICH
ARE ALL LOCATED WITHIN THE HIGH (OR LOW) LOT/S

PROJECT GRID IS KARRATHA 94

WESTERN



AUSTRALIA

REGISTER NUMBER

364/DP61450DUPLICATE
EDITION**N/A**

DATE DUPLICATE ISSUED

N/AVOLUME
LR3156FOLIO
683

**RECORD OF CERTIFICATE
OF
CROWN LAND TITLE
UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997
NO DUPLICATE CREATED**

The undermentioned land is Crown land in the name of the STATE OF WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

**LAND DESCRIPTION:**

LOT 364 ON DEPOSITED PLAN 61450

**STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)**

STATUS ORDER/INTEREST: RESERVE UNDER MANAGEMENT ORDER

PRIMARY INTEREST HOLDER: SHIRE OF ROEBOURNE OF POST OFFICE BOX 219, KARRATHA
(XE K963887) REGISTERED 5/6/2009

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

1. EASEMENT BURDEN CREATED UNDER SECTION 167 P. & D. ACT FOR SEWERAGE PURPOSES TO WATER CORPORATION - SEE DEPOSITED PLAN 61450.
2. K963886 RESERVE 50192 FOR THE PURPOSE OF DRAINAGE REGISTERED 5/6/2009.
K963887 MANAGEMENT ORDER. CONTAINS CONDITIONS TO BE OBSERVED. REGISTERED 5/6/2009.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
Lot as described in the land description may be a lot or location.

-----END OF CERTIFICATE OF CROWN LAND TITLE-----

STATEMENTS:

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

SKETCH OF LAND:	DP61450
PREVIOUS TITLE:	2099-647
PROPERTY STREET ADDRESS:	LOT 364 MARNIYARRA LOOP, BAYNTON.
LOCAL GOVERNMENT AUTHORITY:	CITY OF KARRATHA
RESPONSIBLE AGENCY:	DEPARTMENT OF PLANNING, LANDS AND HERITAGE (SLSD)

END OF PAGE 1 - CONTINUED OVER

ORIGINAL CERTIFICATE OF CROWN LAND TITLE

REGISTER NUMBER: 364/DP61450

VOLUME/FOLIO: LR3156-683

PAGE 2

NOTE 1: K963886 CORRESPONDENCE FILE 00354-2009-01RO

DP 61450 (02)



Scale 1:1000
 AT ALL SIZES
 ALL DIMENSIONS IN METRES



Landgate
 Western Australian Land Information Authority

REPORTED PLAN

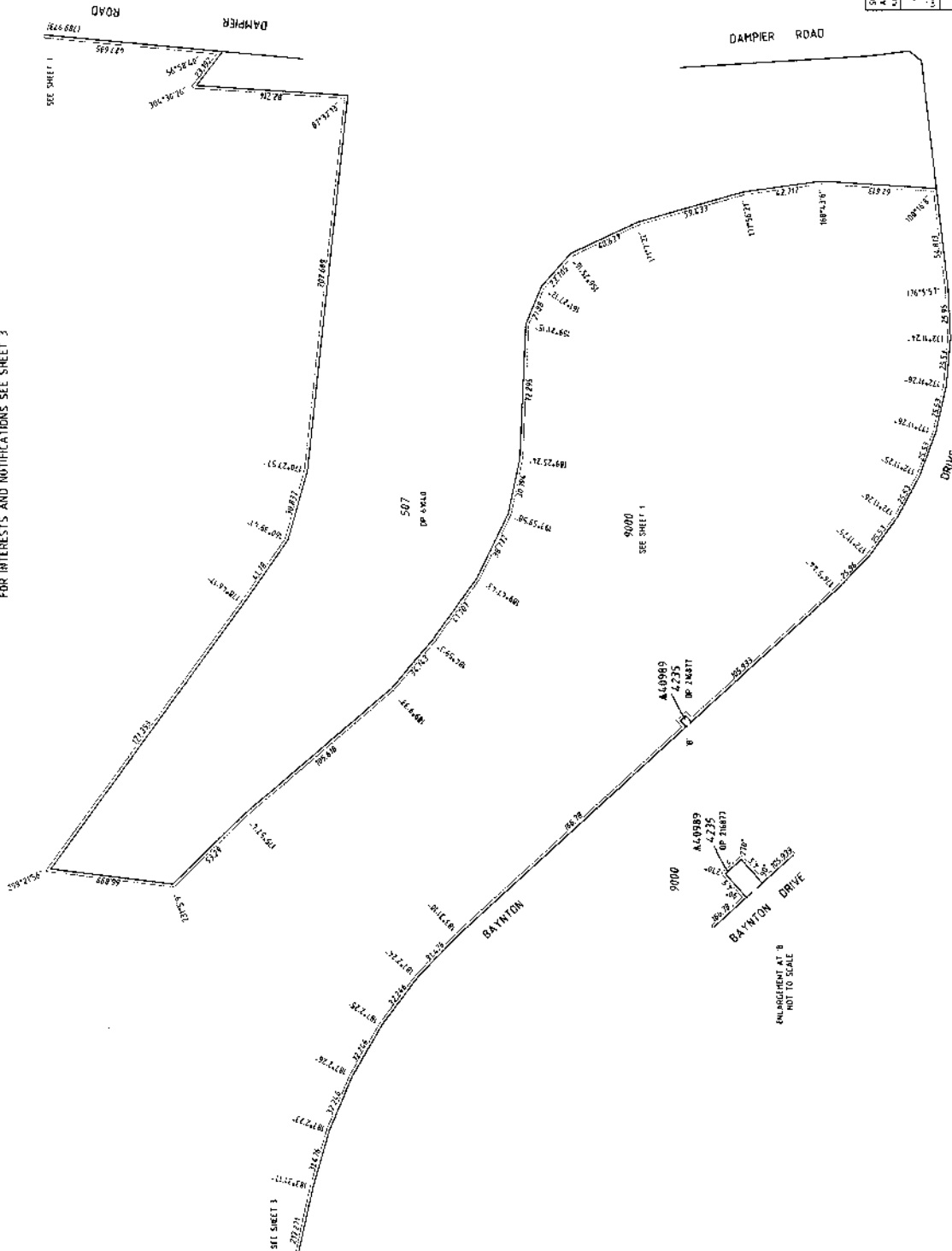
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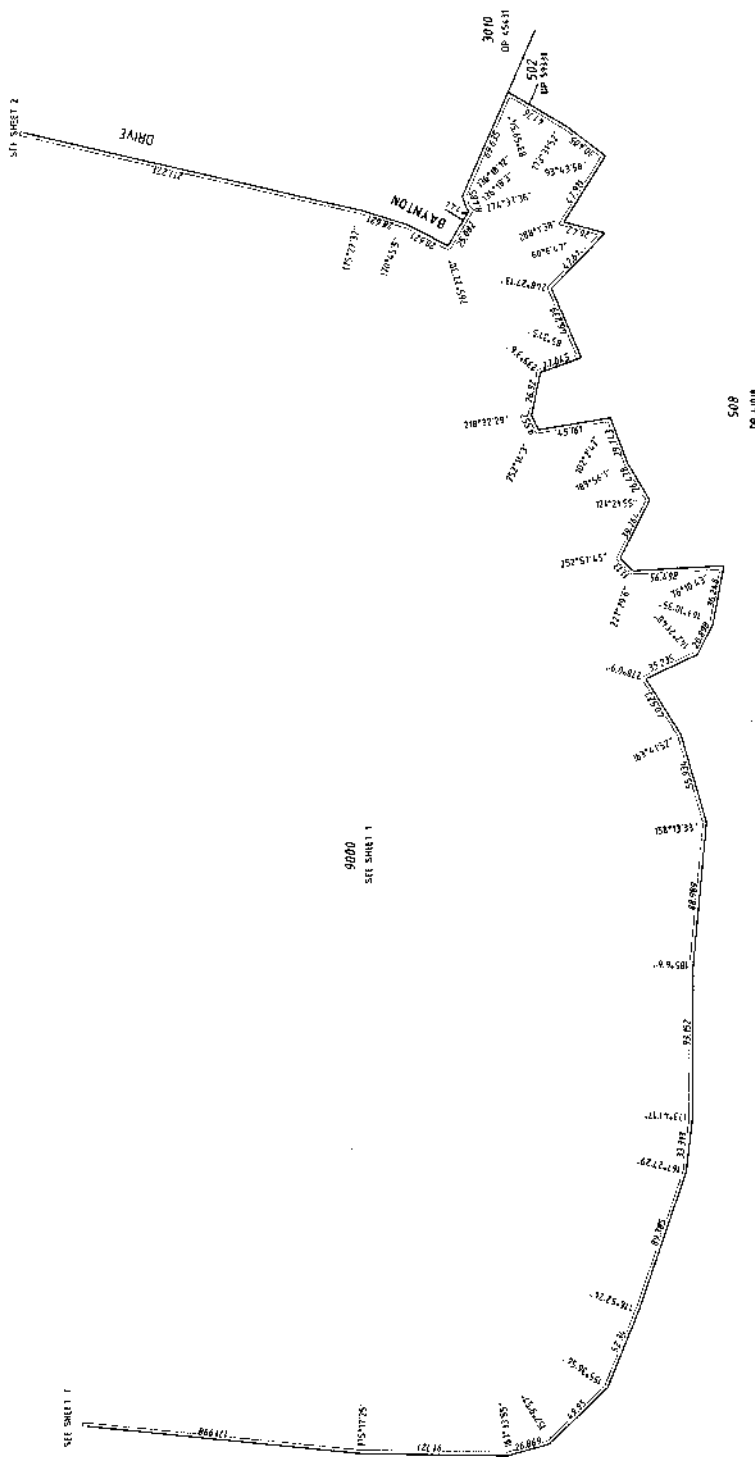
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Sheet 2 of 3

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DP 61450 (03)



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1	EASEMENT (EASEMENT)	SEC 107 OF THE P & D ACT REEF 6	THIS PLAN	LOTS 155, 164, 165 & 166	WATER CORPORATION	RESTRICTION OF ACCESS
2	EASEMENT (EASEMENT)	SEC 107 OF THE P & D ACT REEF 6	THIS PLAN	LOT 165	WATER CORPORATION	RESTRICTION OF ACCESS
3	EASEMENT (EASEMENT)	SEC 107 OF THE P & D ACT REEF 6	THIS PLAN	LOTS 155, 164, 165 & 166	ELECTRICITY CORPORATION	RESTRICTION OF ACCESS
4	EASEMENT (EASEMENT)	SEC 107 OF THE P & D ACT REEF 6	THIS PLAN	LOT 166	ELECTRICITY CORPORATION	RESTRICTION OF ACCESS
5	RESTRICTION OF THE TLA	SEC 107 OF THE P & D ACT REEF 6	DOC K 924230	LOTS 155, 164, 165 & 166	SHIRE OF PRESTON	RESTRICTION OF ACCESS
6	RESTRICTION OF THE TLA	SEC 107 OF THE P & D ACT REEF 6	DOC K 924230	LOTS 155, 164, 165 & 166	SHIRE OF PRESTON	RESTRICTION OF ACCESS
7	RESTRICTION OF THE TLA	SEC 107 OF THE P & D ACT REEF 6	DOC K 924230	LOTS 155, 164, 165 & 166	SHIRE OF PRESTON	RESTRICTION OF ACCESS
8	RESERVE FOR DRAINAGE	SEC 107 OF THE P & D ACT REEF 6	THIS PLAN	LOTS 155, 164, 165 & 166	SHIRE OF PRESTON	RESTRICTION OF ACCESS

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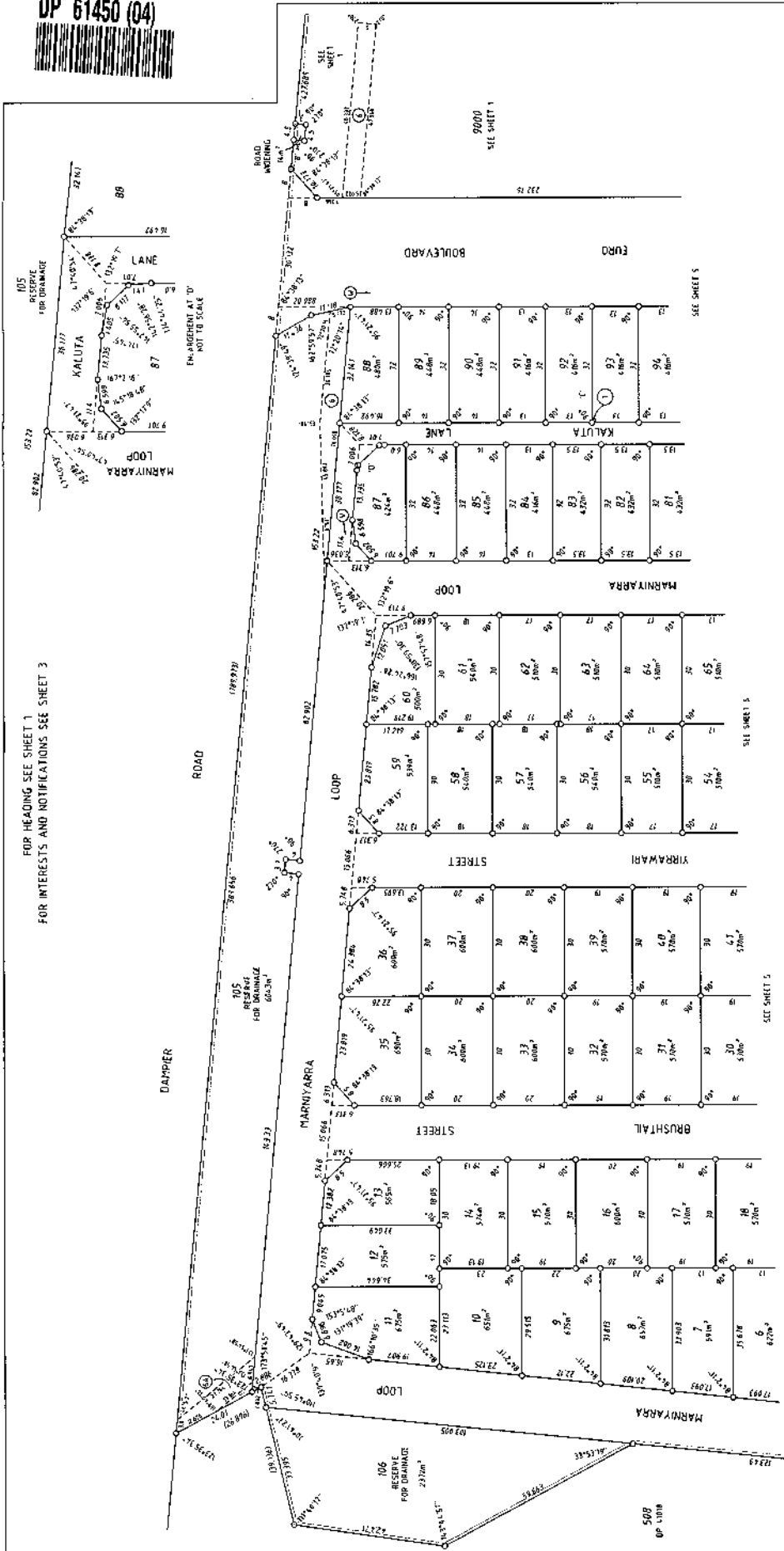
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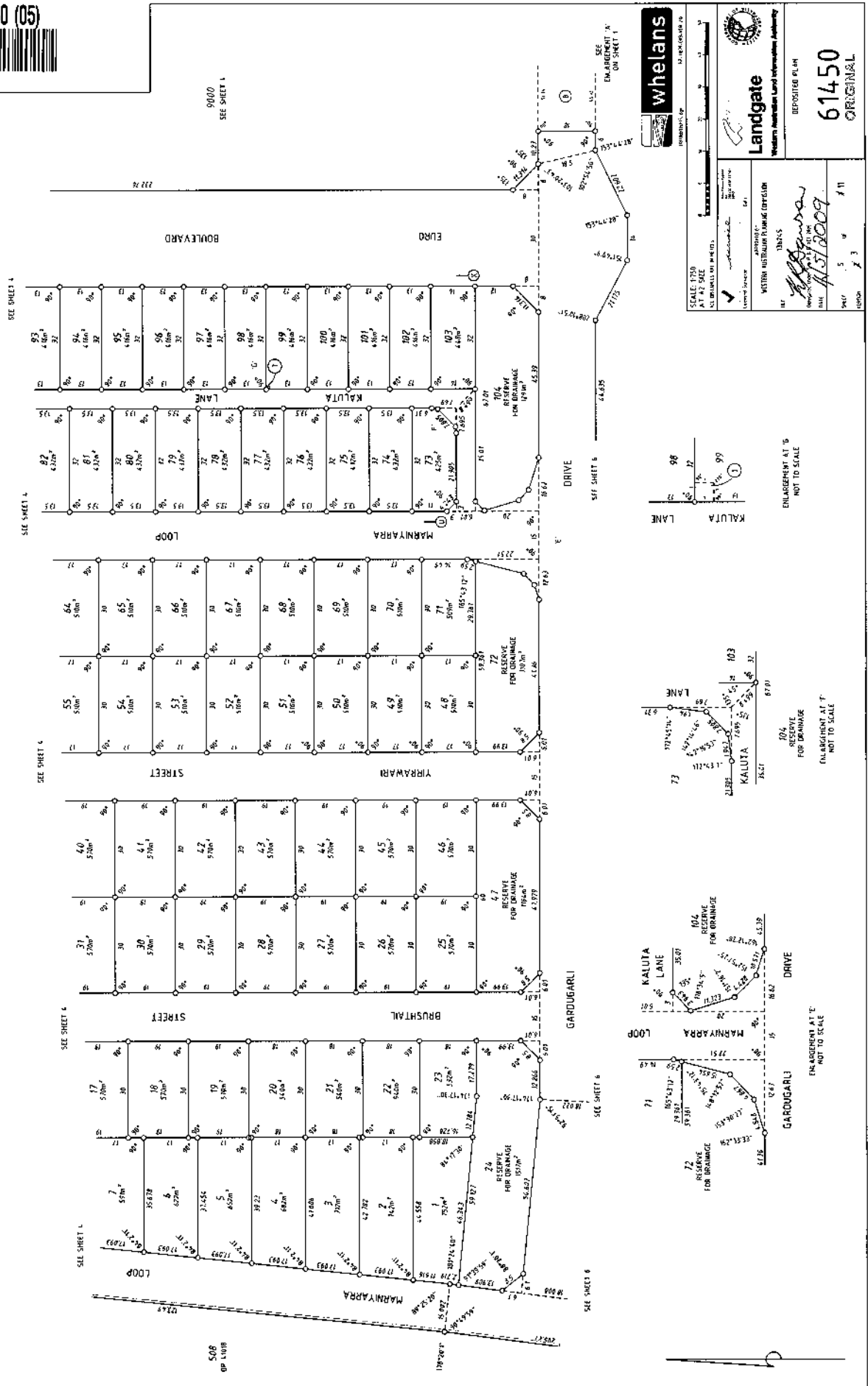
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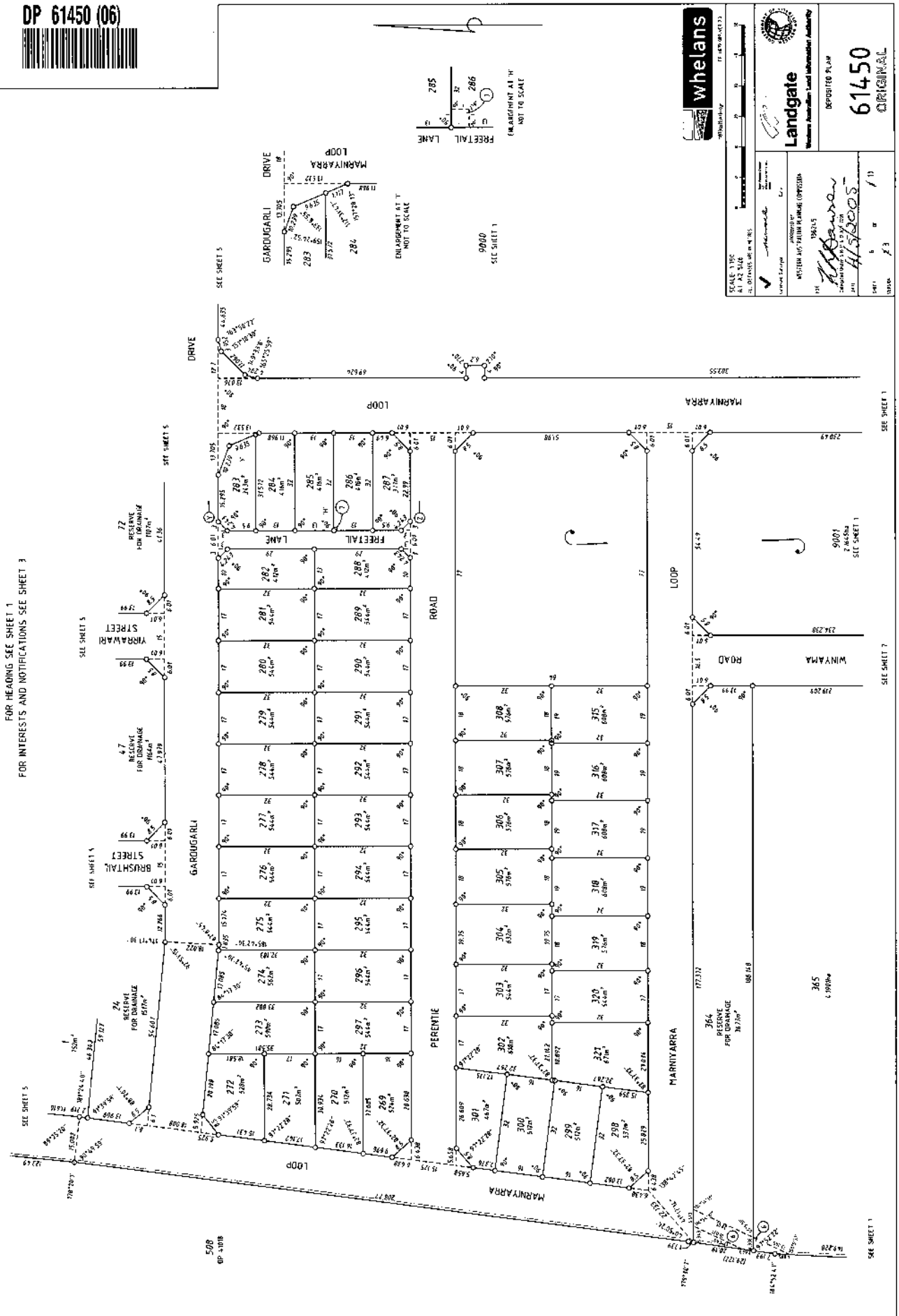
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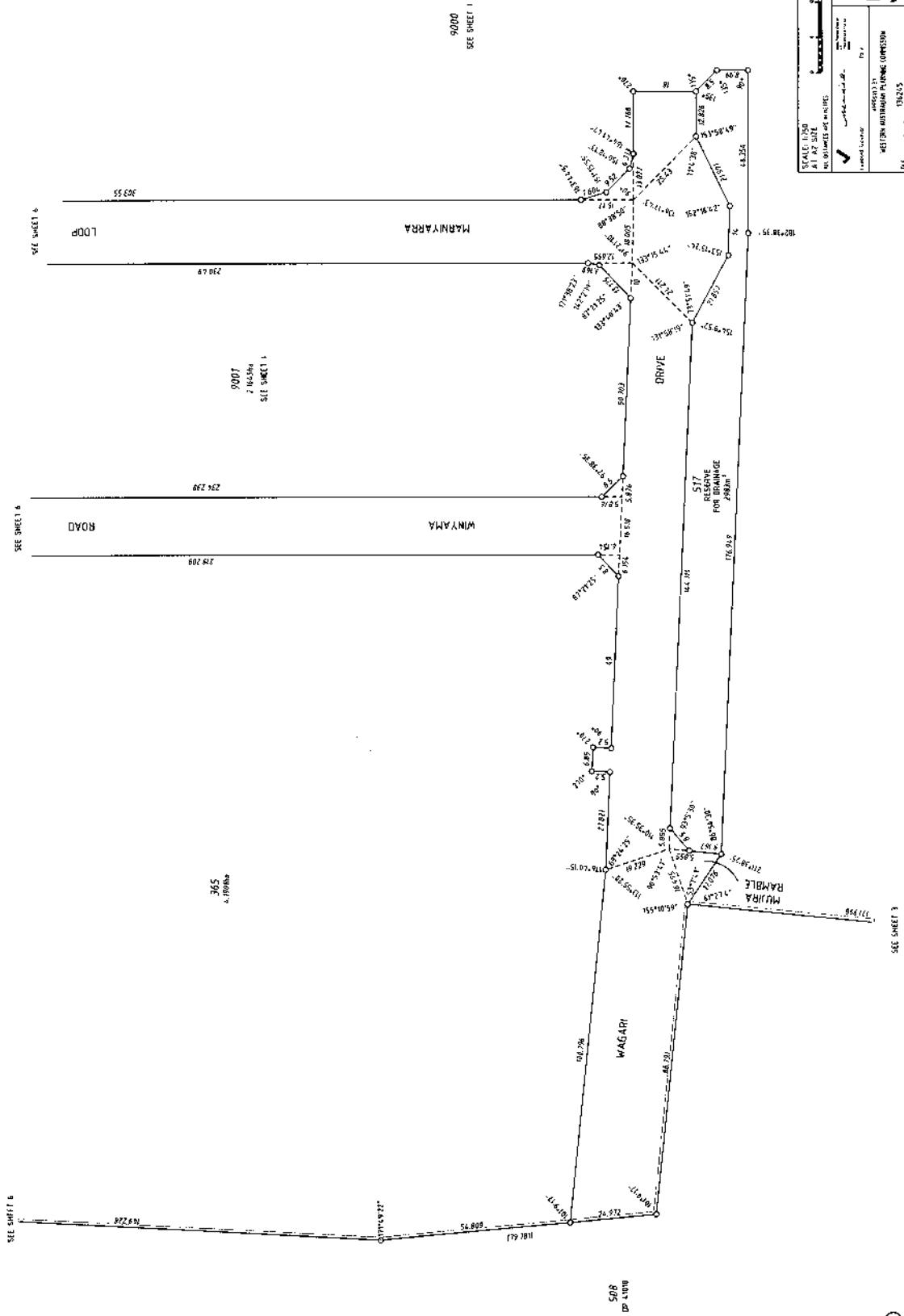
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SURVEY INFORMATION ONLY

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SPECIAL SURVEY AREA GUIDELINES

- ▲ Boundary Standard Survey Mark
- △ Boundary Permanent Survey Mark
- △ Boundary Permanent Central Mark
- △ Boundary Temporary Central Mark
- Boundary Peg
- ✕ Spike

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SSM DAM 245
Brass Plaque in Concrete

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THIS SHEET ALSO APPLIES TO IOTS
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SURVEY CARRIED OUT UNDER REG26A
SPECIAL SURVEY AREA GUIDELINES

	Denotes Standard Survey Mark
	Denotes Permanent Survey Mark
	Denotes Permanent Control Mark
	Denotes Temporary Control Mark
	Denotes Peg
	Spot

H-Hilf US - Deck Spike in Bar

8. Appendix B

Bushfire Management Plan

A stylized topographic map with grey contour lines is positioned on the left side of the page, extending from the top to the bottom. The lines represent elevation changes, with some circular features indicating peaks or depressions.

Bushfire Management Plan

Subdivision: Lot 9001 Winyama Road, Baynton

DevelopmentWA

DOCUMENT TRACKING

Project Name	Bushfire Management Plan Subdivision: Lot 9001 Winyama Rd, Baynton
Project Number	19PER-14443
Project Manager	James Leonard
Prepared by	James Leonard
Reviewed by	Daniel Panickar (BPAD37802-L2)
Approved by	Daniel Panickar (BPAD37802-L2))
Status	Draft
Version Number	v1
Last saved on	5 March 2020

This report should be cited as ‘Eco Logical Australia 2019. *Bushfire Management Plan: Subdivision: Lot 9001 Winyama Road, Baynton* . Prepared for Development WA.’

ACKNOWLEDGEMENTS

This document has been prepared by Eco Logical Australia Pty Ltd with support from Element and DevelopmentWA.

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Template 2.8.1

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1. Introduction

1.1 Proposal details

Eco Logical Australia (ELA) was commissioned by Element on behalf of DevelopmentWA to prepare a Bushfire Management Plan (BMP) to support a subdivision application being prepared for Lot 9001 Winyama Road, Baynton (hereafter referred to as the subject site, Figure 1 and Figure 2). ELA understand that Lot 9001 is to be subdivided into 38 Lots.

The subject site is within a designated bushfire prone area as per the *Western Australia State Map of Bush Fire Prone Areas* (DFES 2019; Figure 3), which triggers bushfire planning requirements under *State Planning Policy 3.7 Planning in Bushfire Prone Areas* (SPP 3.7; WAPC 2015) and reporting to accompany submission of the subdivision application in accordance with the associated *Guidelines for Planning in Bushfire Prone Areas v 1.3* (the Guidelines; WAPC 2017).

This assessment has been prepared by ELA Bushfire Consultant James Leonard with quality assurance undertaken by Senior Bushfire Consultant, Daniel Panickar (FPAA BPAD Level 3 Certified Practitioner No. BPAD37802-L3).

An initial assessment of the site was undertaken by Element and DevelopmentWA, with direction from ELA on the 13th of January 2020. A subsequent on-site assessment was undertaken by ELA on the 26th of February 2020.

1.2 Purpose and application of the plan

The primary purpose of this BMP is to act as a technical supporting document to inform planning assessment. This BMP is also designed to provide guidance on how to plan for and manage the bushfire risk to the subject site through implementation of a range of bushfire management measures in accordance with the Guidelines.

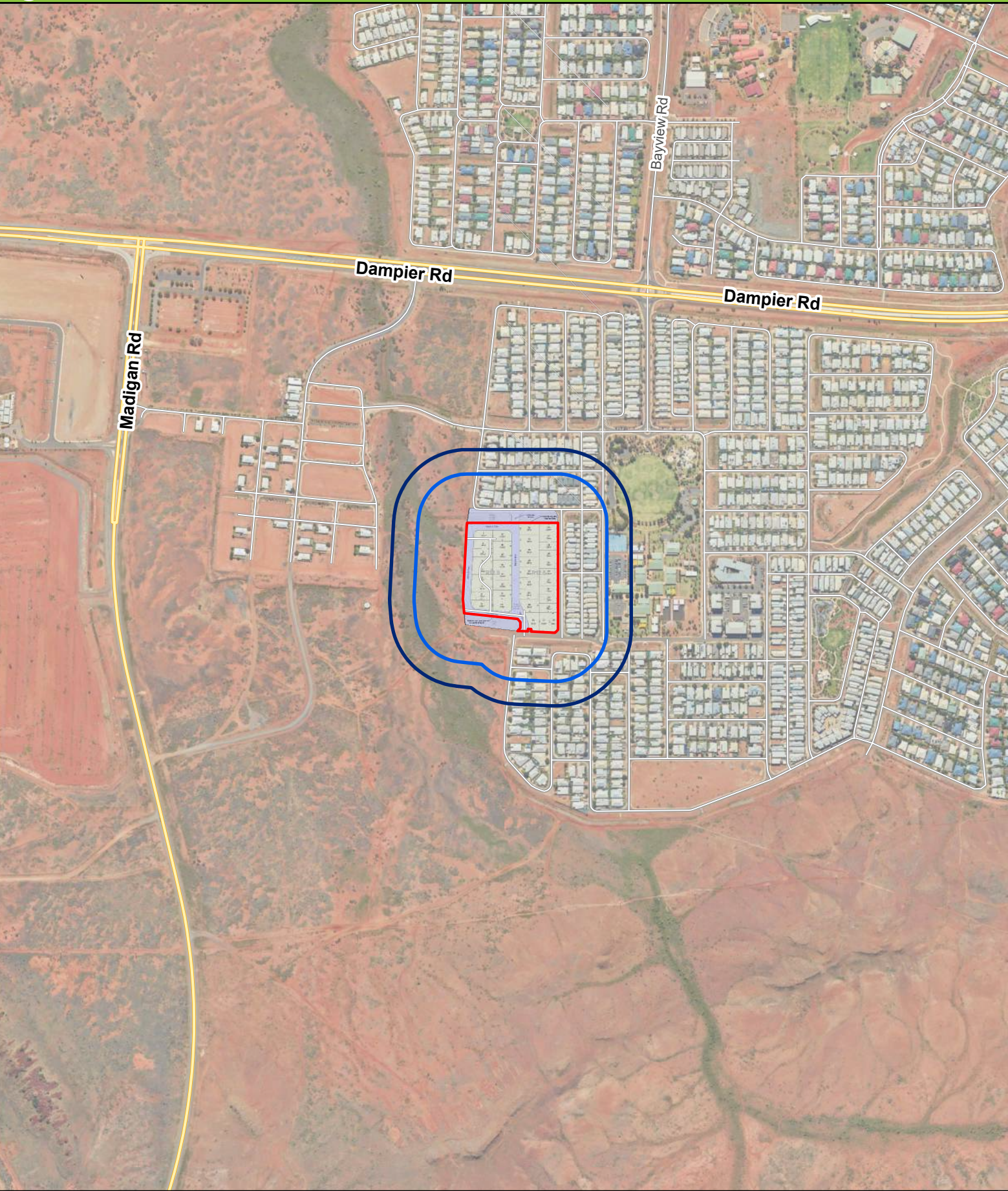
1.3 Environmental considerations

Some bushfire prone areas also have high biodiversity values. SPP 3.7 policy objective 5.4 recognises the need to consider bushfire risk management measures alongside environmental, biodiversity and conservation values.

The subject site has been historically cleared of native vegetation to facilitate development. ELA is not aware of any requirements for any environmental approvals for the development to proceed.

No revegetation is proposed within the development, however if this changes, it will be addressed in future BMPs.

Figure 1: Site Overview



Legend

- Subject site
- 100m Assessment Area
- 150m Assessment Area

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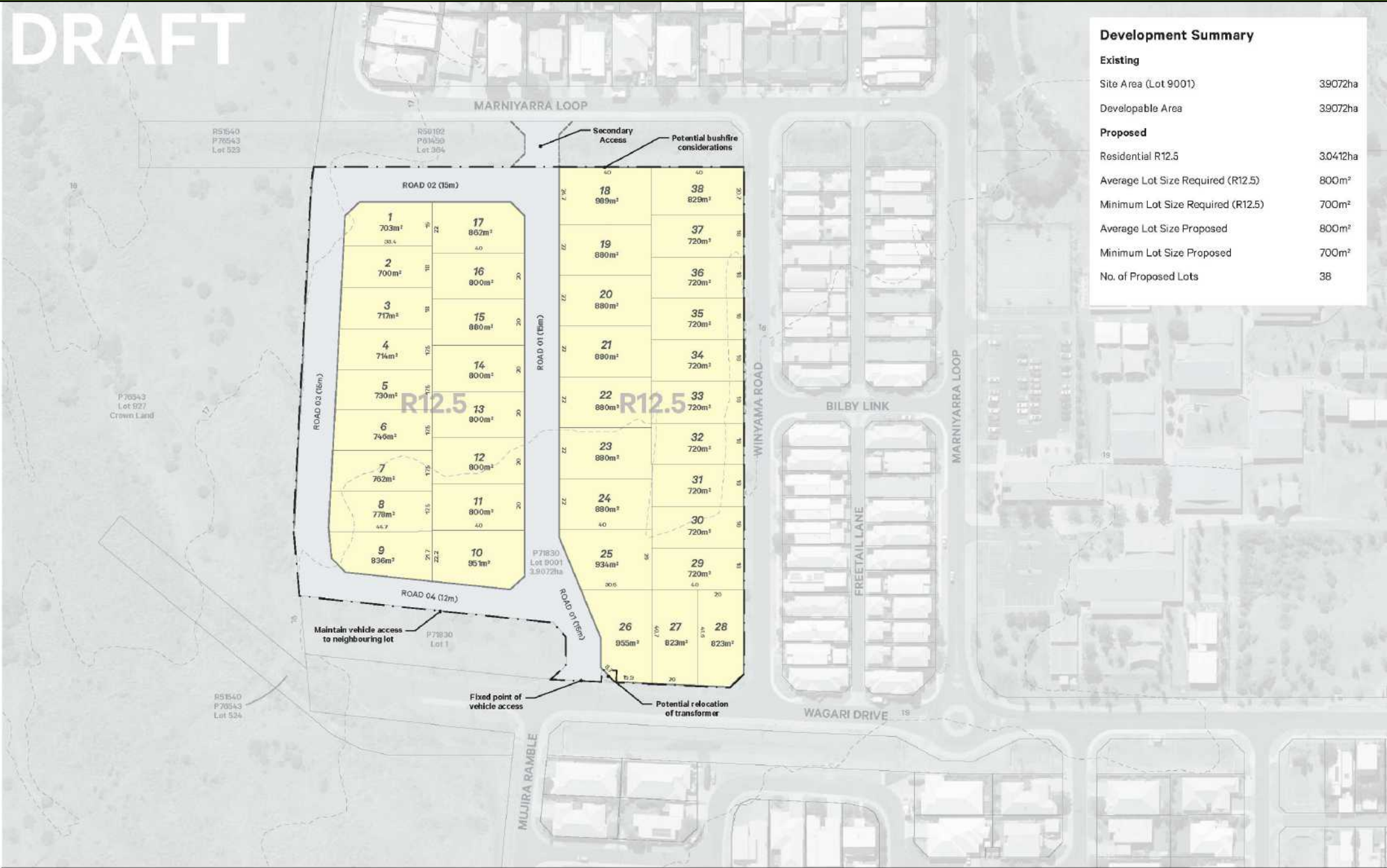
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Prepared by: GM Date: 04/03/2020

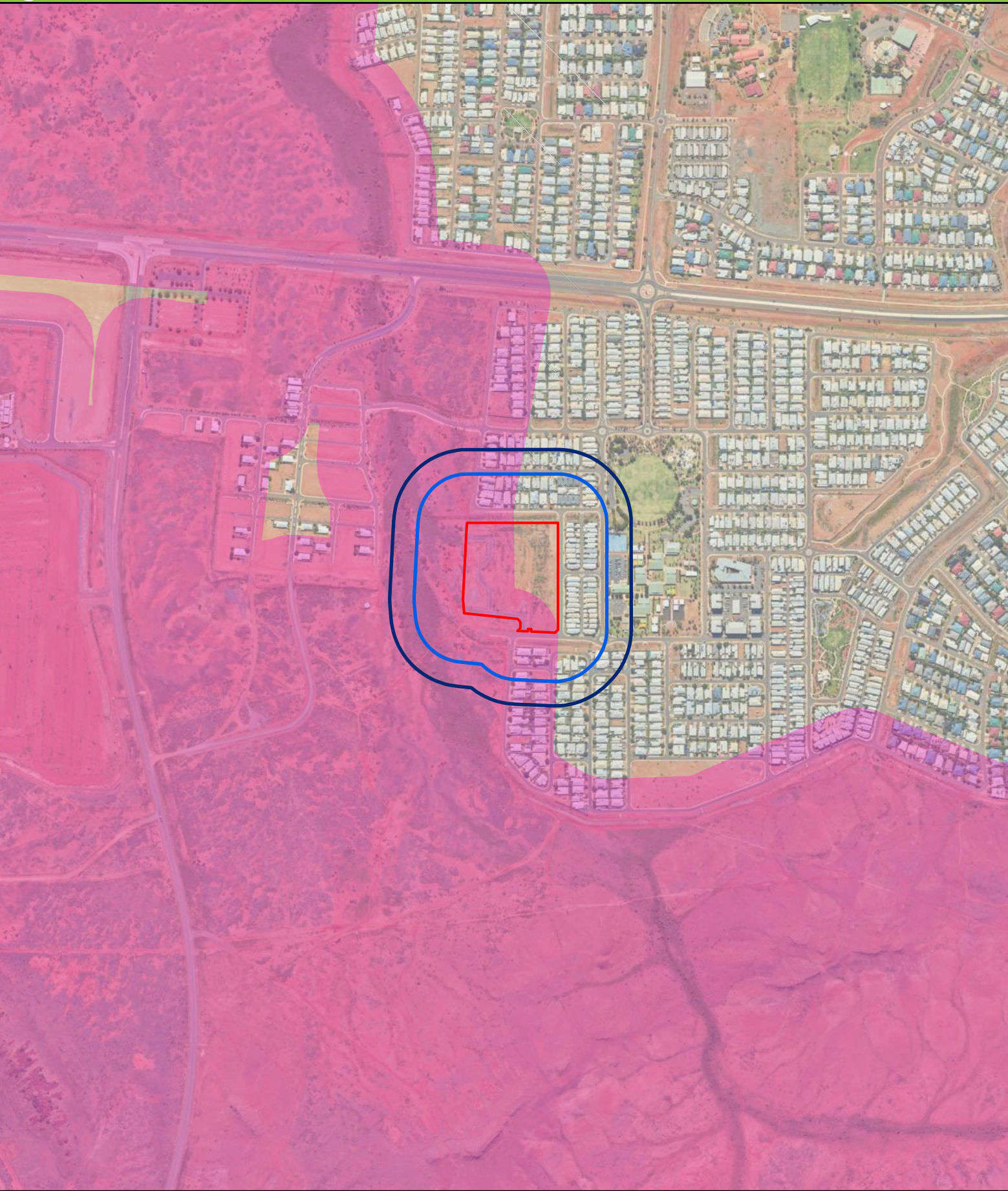
Figure 2: Proposed Subdivision

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Development Summary	
Existing	
Site Area (Lot 9001)	39072ha
Developable Area	39072ha
Proposed	
Residential R12.5	30412ha
Average Lot Size Required (R12.5)	800m²
Minimum Lot Size Required (R12.5)	700m²
Average Lot Size Proposed	800m²
Minimum Lot Size Proposed	700m²
No. of Proposed Lots	38

Figure 3: Bushfire Prone Areas



- Legend**
- Subject site
 - 100m Assessment Area
 - 150m Assessment Area
 - Bushfire Prone Mapping (DFES 2019)

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Metres
Datum/Projection:
GDA 1994 MGA Zone 50

2. Bushfire assessment results

2.1 Bushfire assessment inputs

The following section is a consideration of spatial bushfire risk and has been used to inform the bushfire assessment in this report.

2.1.1 Fire Danger Index

A blanket rating of FDI 80 is adopted for Western Australian environments, as outlined in AS 3959–2018 and endorsed by Australasian Fire and Emergency Service Authorities Council (AFAC).

2.1.2 Vegetation classification

Vegetation within the subject site and surrounding 150 m (the assessment area) was assessed in accordance with the Guidelines and *AS 3959-2018 Construction of Buildings in Bushfire Prone Areas* (SA 2018) with regard given to the *Visual guide for bushfire risk assessment in Western Australia* (DoP 2016).

An initial assessment of the site was undertaken by Element and DevelopmentWA, with direction from ELA on the 13th of January 2020. A subsequent on-site assessment was undertaken by ELA on the 26th of February 2020.

The following vegetation classes and exclusions were identified within the assessment area as depicted in Figure 4 and listed below.

- Class C shrubland;
- Class G grassland; and
- Exclusions as per clause 2.2.3.2 (e) and (f) (i.e. non-vegetated areas and low-threat vegetation).

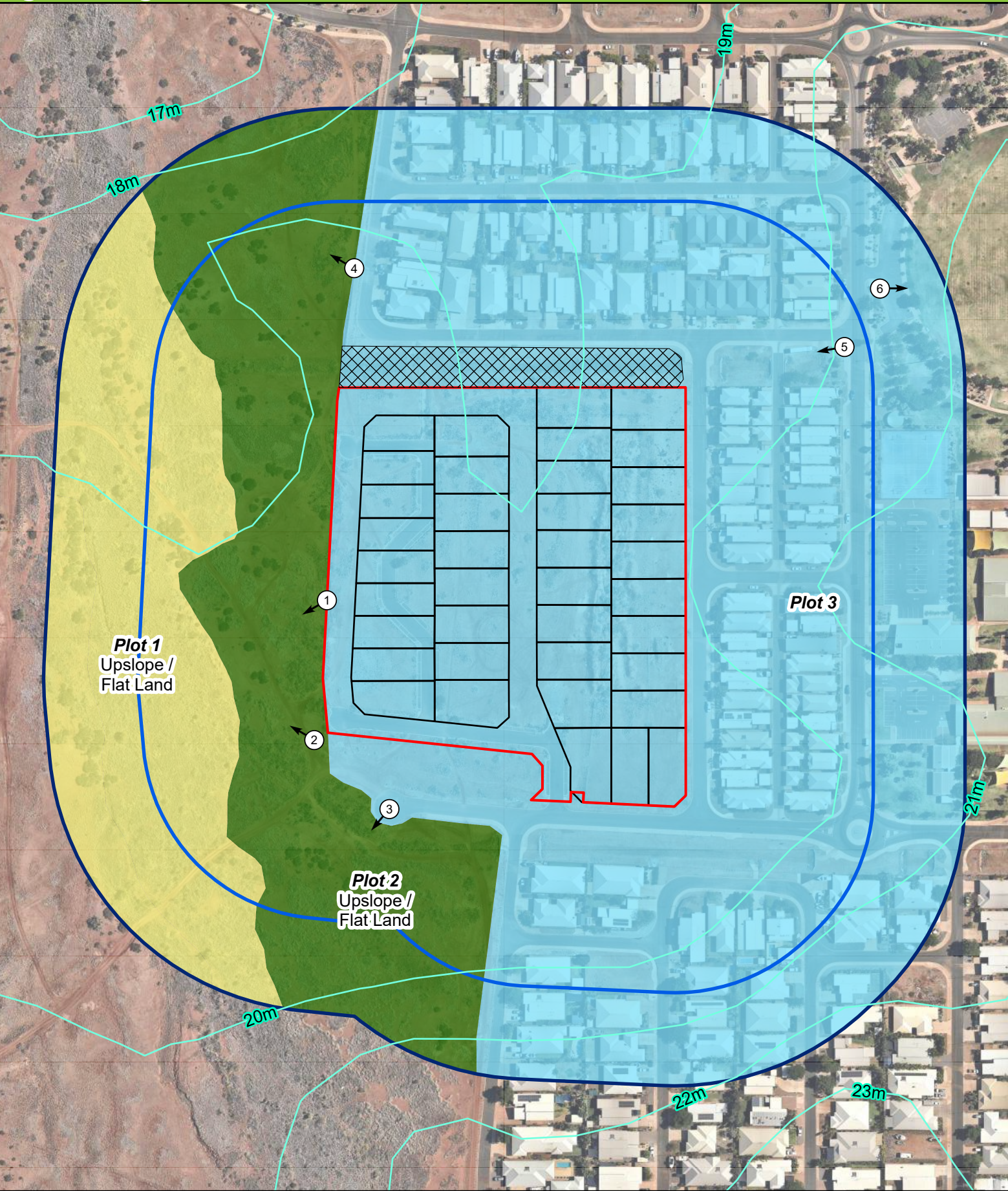
Photographs relating to each vegetation type are included in Appendix A.

A drainage swale was identified to the north of the subject site (Drainage Reserve 50192). It is understood that the drainage swale is under the management of the City of Karratha and is part of the identified works program. This area has been assessed as low threat vegetation (i.e. excluded as per clause 2.2.3.2 (f) of AS3959-2018).

2.1.3 Topography and slope under vegetation

Effective slope under vegetation was assessed for a distance of 150 m from the subject site in accordance with the Guidelines and AS 3959-2018 and is depicted in Figure 4. Slope under all classified vegetation was assessed as upslope / flat.

Figure 4: Vegetation Classification



Legend

- Subject site
- Lot Boundary
- 100m Assessment Area
- 150m Assessment Area
- Photo location

- Contour (1m)
- Drainage Swale (Drainage Reserve 50192)
- Vegetation classification**
- Class C shrubland
- Class G grassland
- Excluded as per clause 2.2.3.2 (e) and (f)

02550100

Metres

Datum/Projection:
GDA 1994 MGA Zone 50

N

eco
logical
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Prepared by: GM Date: 05/03/2020

2.2 Bushfire assessment outputs

A Bushfire Attack Level (BAL) assessment has been undertaken in accordance with SPP 3.7, the Guidelines, AS 3959-2018 and the bushfire assessment inputs in Section 2.1.

2.2.1 BAL assessment

All land located within 100 m of the classified vegetation depicted in Figure 4 considered bushfire prone and is subject to a BAL assessment in accordance with AS 3959-2018.

A Method 1 BAL assessment (as outlined in AS 3959-2018) has been completed for the proposed development and incorporates the following factors:

- State adopted Fire Danger Index (FDI) rating;
- Vegetation class;
- Slope under classified vegetation; and
- Distance between proposed development area and the classified vegetation.

Based on the identified BAL, construction requirements for proposed buildings can then be assigned. The BAL rating gives an indication of the expected level of bushfire attack (i.e. radiant heat flux, flame contact and ember penetration) that may be received by proposed buildings and subsequently informs the standard of construction required to increase building survivability.

2.2.2 Method 1 BAL assessment

Table 1 and Figure 5 displays the Method 1 BAL assessment (in the form of BAL contours) that has been completed for the proposed development in accordance with AS 3959-2018 methodology.

Table 1: Method BAL Calculation (BAL contours)

Plot and vegetation classification	Effective slope	Hazard separation distance	BAL rating	Comment
Plot 1 Class C Shrubland	Upslope Flat	0-<7	BAL-FZ	No residential lots proposed in this area
		7-<9	BAL-40	No residential lots proposed in this area
		9-<13	BAL-29	No residential lots proposed in this area
		13-<19	BAL-19	No residential lots proposed in this area
		19-<100	BAL-12.5	Residential lots proposed in this area
Plot 2 Class G Grassland	Upslope/flat	0-<6	BAL-FZ	No development proposed in this area
		6-<8	BAL-40	No development proposed in this area
		8-<12	BAL-29	No development proposed in this area
		12-<17	BAL-19	Residential lots proposed in this area*
		17-<50	BAL-12.5	Residential lots proposed in this area
Plot 3				
Excluded as per clause 2.2.3.2 (e) and (f) of AS 3959- 2018		N/A		

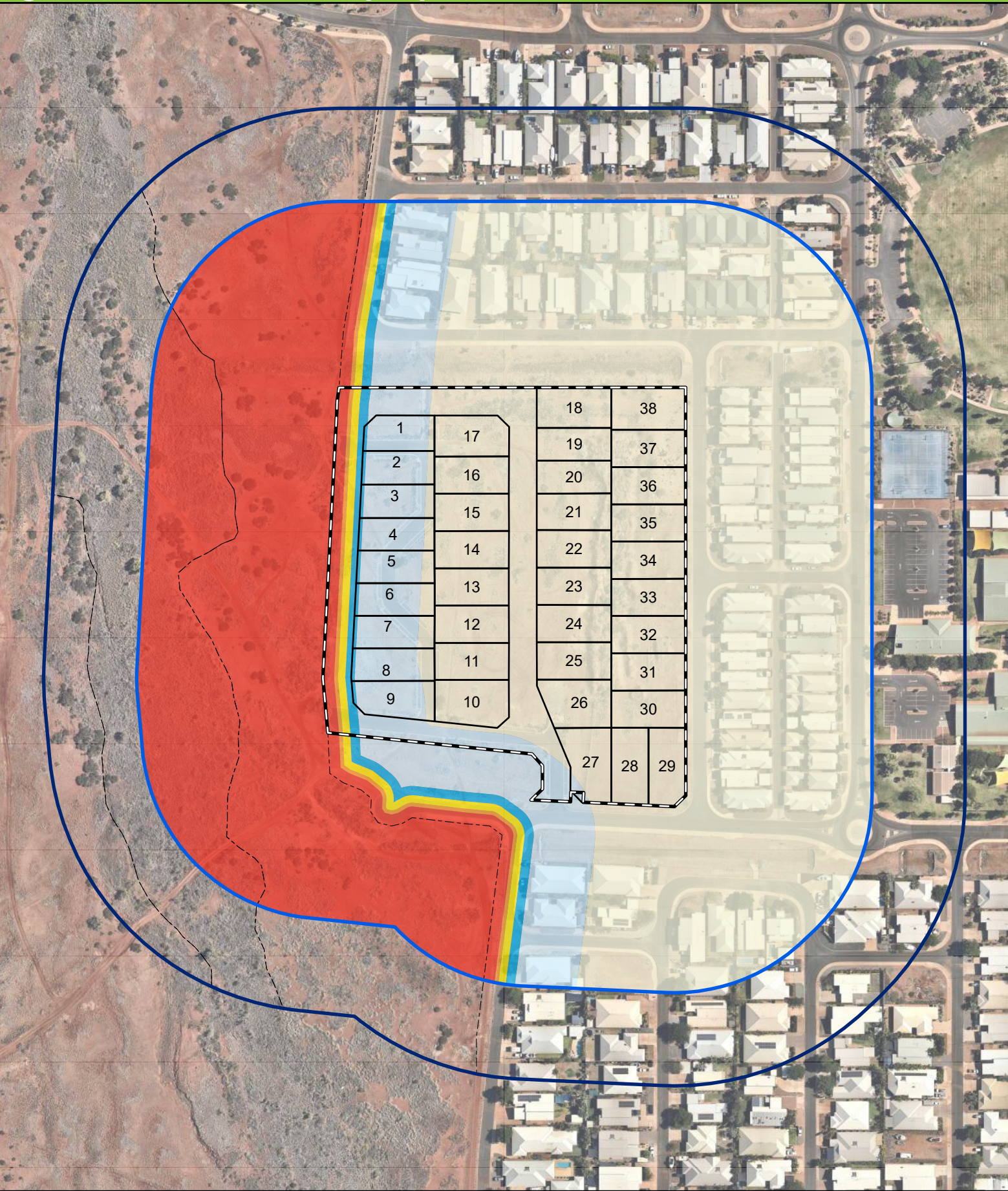
*a front of lot setback of 2m could result in a BAL-12.5 rating

2.3 Identification of issues arising from the BAL assessment

All of the 38 proposed residential lots are located in areas that will be subject to a BAL rating of BAL-19 or lower, post-development of the subject site. The current BAL rating of BAL-19 may not apply to future buildings if a 2 m front of lot setback is applied, which would result in a reduced rating of BAL-12.5.

Should there be any changes in development design or vegetation/hazard extent that requires a modified bushfire management response, then the above BAL ratings will need to be reassessed for the affected areas and documented in a brief addendum to this BMP.

Figure 5: Bushfire Attack Level (BAL) Contours



Legend

- Subject site
- 100m Assessment Area
- 150m Assessment Area
- Lot Boundary
- Bushfire Hazard Interface

Bushfire attack level (BAL)

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

0 25 50 100

Metres

Datum/Projection:
GDA 1994 MGA Zone 50

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logical
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Prepared by: GM Date: 04/03/2020

3. Assessment against the Bushfire Protection Criteria

3.1 Compliance

The proposed subdivision is required to comply with policy measures 6.2 and 6.4 of SPP 3.7 and the Guidelines. Implementation of this BMP is expected to meet objectives 5.1 5.4 of SPP 3.7.

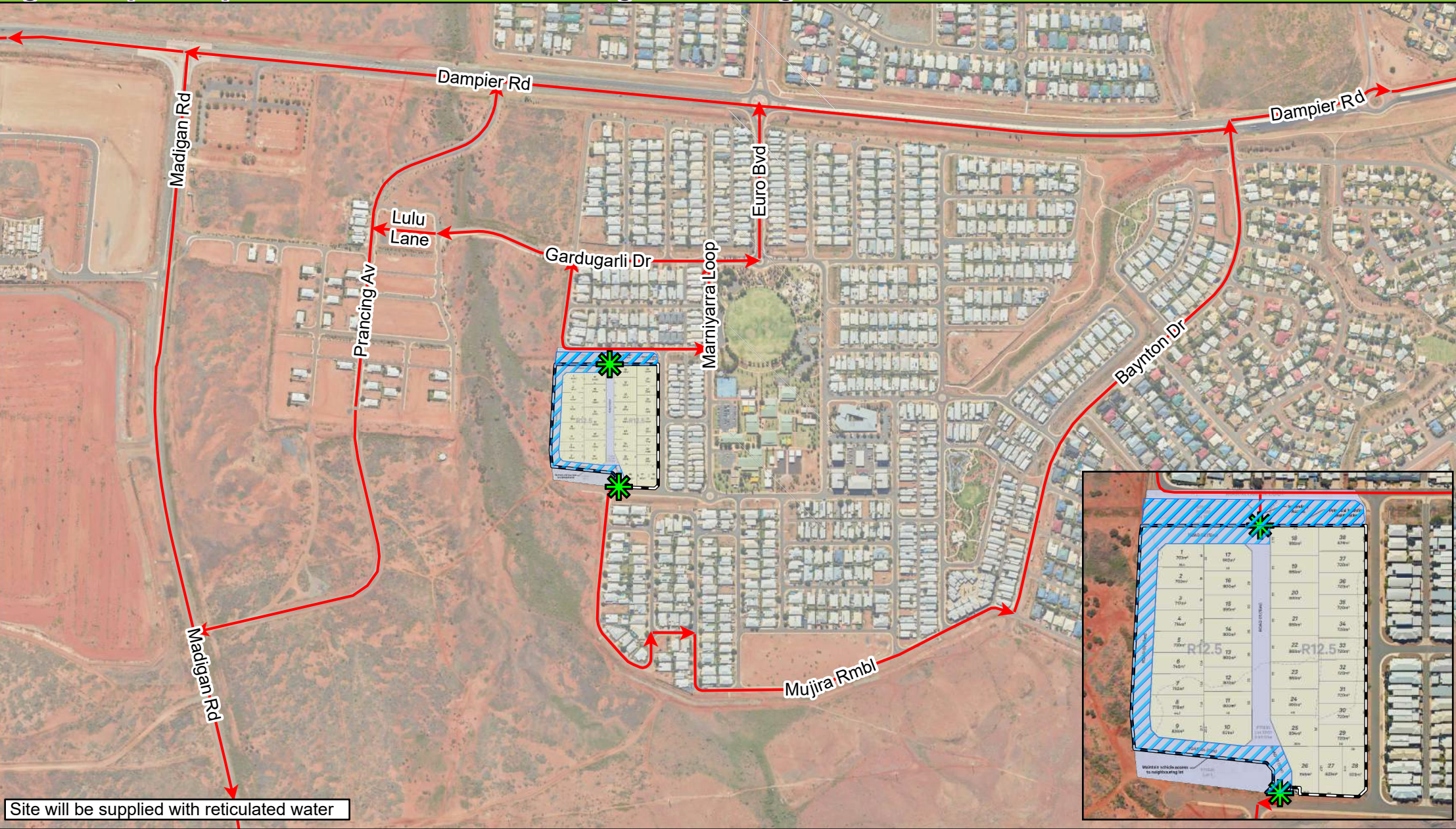
In response to the above requirements of SPP 3.7 and the Guidelines, bushfire management measures, as outlined, have been devised for the proposed development in accordance with Guideline acceptable solutions to meet compliance with bushfire protection criteria.

Table 2: Summary of solutions used to achieve bushfire performance criteria

Bushfire Performance Criteria	AS	PS	N/A	Comment
Element 1: Location				
A1.1 Development location	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Post-development of the subject site, all proposed residential lots are will be located in areas subject to BAL ratings of BAL-29 or lower. The proposed development is considered to be compliant with A1.1.
Element 2: Siting and design of development				
A2.1 Asset Protection Zone (APZ)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	APZs can be maintained between all proposed dwellings and classified vegetation in the form of roads, managed drainage swales and other non-vegetated and landscaped areas (refer to Figure 6) All APZs will be managed in accordance with the requirements of 'Standards for Asset Protection Zones' (WAPC 2017; Appendix B) The proposed development is considered to be compliant with A2.1.
Element 3: Vehicular access				
A3.1 Two access routes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Two access routes to/from the subject site are available (Figure 6). All roads will comply with requirements outlined in the Guidelines (Appendix C). The proposed development is considered to be compliant with A3.1.
Element 3: Vehicular access	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All public roads will comply with vehicular access requirements (Appendix C).
A3.2 Public road				
Element 3: Vehicular access	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No cul-de-sacs are proposed.
A3.3 Cul-de-sac				
Element 3: Vehicular access	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No battle axe lots are proposed.
A3.4 Battle-axe				
Element 3: Vehicular access	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No private driveways longer than 50 m are proposed.
A3.5 Private Driveway longer than 50 m				
Element 3: Vehicular access	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No Emergency Access Way is proposed as part of this development.
A3.6 Emergency Access way				
Element 3: Vehicular access	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No fire service access routes are required or proposed.
A3.7 Fire-service access routes				

Bushfire Performance Criteria	AS	PS	N/A	Comment
Element 3: Vehicular access A3.8 Firebreak width	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	None of the proposed lots are greater than 2,024 m ² and therefore firebreaks are not required (CoK 2020).
Element 4: Water A4.1 Reticulated areas	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>The subject site has a reticulated water supply that will be extended to all proposed lots.</p> <p>The proposed development is considered to be compliant with A4.1.</p> <p>A4.2 and A4.3 are not applicable to this proposed development. .</p>

Figure 6: Spatial representation of the bushfire management strategies



Legend

- Access point
- Subject site
- Asset Protection Zone (APZ)
- Access / egress route



0 75 150 300
Metres

Datum/Projection:
GDA 1994 MGA Zone 50



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4. Implementation and enforcement

Implementation of the BMP applies to the developer and the City of Karratha to ensure bushfire management measures are adopted and implemented on an ongoing basis. A summary of the bushfire management measures described in Section 3, as well as a works program, is provided in Table 3. These measures will be implemented to ensure the ongoing protection of life and property assets is achieved. Timing and responsibilities are also defined to assist with implementation of each measure.

Table 3: Proposed works program

No	Bushfire management measure	Responsibility
Prior to issue of Titles		
1	Clear and maintain APZ depicted in Figure 6.	Developer
2	Place Section 70A on title of all lots within Bushfire Prone Areas	Developer
Prior to sale or occupancy		
3	Maintain the drainage swale to the north of the subject site, to APZ standards as part of the ongoing maintenance schedule	City of Karratha
4	Maintain the subject site to APZ standards	Developer until development completion.
5	Implement increased building construction standards as per AS3959-2018	Builders
6	Provide reticulated water supply	Developer
7	Comply with current fire control order	Developer
Ongoing management		
8	Maintain vegetation to APZ standard	Individual landowners (within property) City of Karratha (within public reserves)

5. Conclusion

In the author's professional opinion, the bushfire protection requirements listed in this assessment provide an adequate standard of bushfire protection for the proposed development. As such, the proposed development is consistent with the aim and objectives of SPP 3.7 and associated guidelines and is recommended for approval.

6. References

City of Karratha (CoK). 2020. *City of Karratha Fire Break Requirements*. Available from: <https://karratha.wa.gov.au/local-fire-information>

Department of Fire and Emergency Services (DFES). 2019. *Map of Bush Fire Prone Areas, [Online]*, Government of Western Australia, available from: <http://www.dfes.wa.gov.au/regulationandcompliance/bushfireproneareas/Pages/default.aspx>.

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


Standards Australia. 2018. *Construction of buildings in bushfire-prone areas, AS 3959-2018*. SAI Global, Sydney.

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

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

Appendix A – Plates

Plot	Photo ID	Photo and vegetation classification
1	1	<p>Class C shrubland (background of photo)</p>
1	2	<p>Class C shrubland (background of photo)</p>
2	3	

Plot	Photo ID	Photo and vegetation classification
		 <p>Class G grassland – open tussock grassland with less than 10%</p>
2	4	 <p>Class G grassland</p>
3	7	 <p>Excluded under clause 2.2.3.2 (e) and (f)</p>

Plot	Photo ID	Photo and vegetation classification
3	9	<div><div><div>NEESES180</div><div>306090120150180</div><div>109°E (T) -20.751244, 116.798547 ±6m</div><div><div>Site 42</div><div>15218</div><div>26 Feb 2020, 12:26:15</div></div></div><div>Excluded under clause 2.2.3.2 (e) and (f)</div></div>

Appendix B – Standards for Asset Protection Zones

The following standards have been extracted from the *Guidelines for Planning in Bushfire Prone Areas v 1.2* (WAPC 2017).

Every habitable building is to be surrounded by, and every proposed lot can achieve, an APZ depicted on submitted plans, which meets the following requirements:

a. Width: Measured from any external wall or supporting post or column of the proposed building, and of sufficient size to ensure the potential radiant heat impact of a fire does not exceed 29kW/m^2 (BAL 29) in all circumstances.

b. Location: the APZ should be contained solely within the boundaries of the lot on which a building is situated, except in instances where the neighbouring lot or lots will be managed in a low-fuel state on an ongoing basis, in perpetuity (see explanatory notes).

c. Management: the APZ is managed in accordance with the requirements of 'Standards for Asset Protection Zones' (below):

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

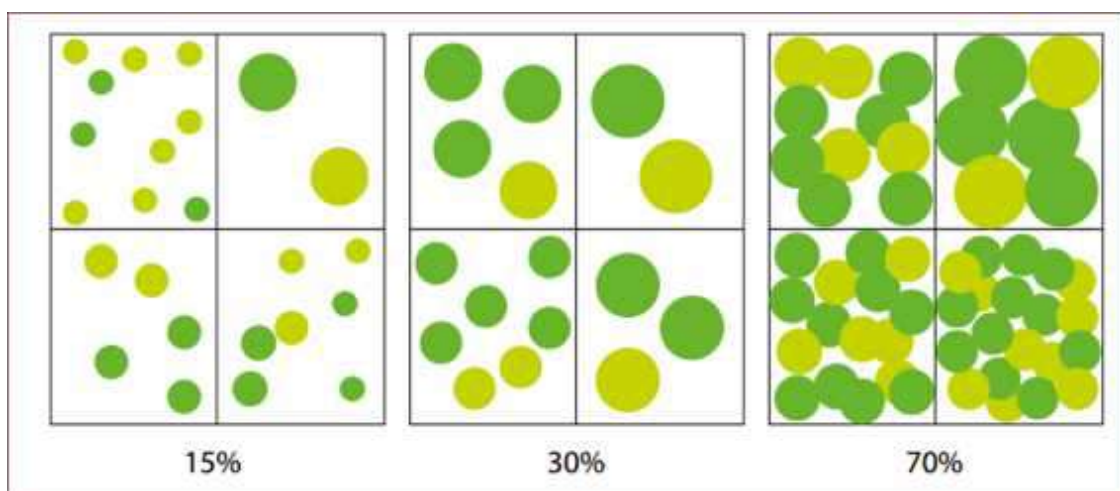


Figure 7: Illustrated tree canopy cover projection (WAPC 2017)

- **Shrubs (0.5 metres to 5 metres in height):** should not be located under trees or within 3 metres of buildings, should not be planted in clumps greater than 5m² in area, clumps of shrubs should be separated from each other and any exposed window or door by at least 10 metres. Shrubs greater than 5 metres in height are to be treated as trees
- **Ground covers (<0.5 metres in height):** can be planted under trees but must be properly maintained to remove dead plant material and any parts within 2 metres of a structure, but 3 metres from windows or doors if greater than 100 millimetres in height. Ground covers greater than 0.5 metres in height are to be treated as shrubs
- **Grass:** should be managed to maintain a height of 100 millimetres or less.

Additional notes

The Asset Protection Zone (APZ) is an area surrounding a building that is managed to reduce the bushfire hazard to an acceptable level. Hazard separation in the form of using subdivision design elements or excluded and low threat vegetation adjacent to the lot may be used to reduce the dimensions of the APZ within the lot.

The APZ should be contained solely within the boundaries of the lot on which the building is situated, except in instances where the neighbouring lot or lots will be managed in a low-fuel state on an ongoing basis, in perpetuity. The APZ may include public roads, waterways, footpaths, buildings, rocky outcrops, golf courses, maintained parkland as well as cultivated gardens in an urban context, but does not include grassland or vegetation on a neighbouring rural lot, farmland, wetland reserves and unmanaged public reserves.

Appendix C - Vehicular access technical requirements (WAPC 2017)

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



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