



LOCAL STRUCTURE PLAN – AUGU / 2016/ 00
HAMELIN BAY ENCLAVE – LOT 21 CAVES ROAD, HAMELIN BAY

Prepared by Calibre Professional Services Pty Ltd and *Across Planning*
for PA & M Wren

June 2020
14122
REV B



COMMERCIAL IN CONFIDENCE

All intellectual property rights, including copyright, in designs developed and documents created by Calibre Consulting remain the property of this company. Any use made of such design or document without the prior written approval of Calibre Consulting will constitute an infringement of the rights of the company which reserves all legal rights and remedies in respect of any such infringement.

The information, including any intellectual property, contained in this proposal is confidential and proprietary to the Company. It may only be used by the person to whom it is provided for the stated purpose for which it is provided and must not be imparted to any third person without the prior written approval of the Company. The Company reserves all legal rights and remedies in relation to any infringement of its rights in respect of its confidential information.

Calibre Professional Services Pty Ltd
Level 1, Unit 5
53 Victoria Street
Bunbury WA 6230
Tel: (08) 9791 4411

© 2015

DOCUMENT CONTROL				
Issue	Date	Issue details	Author	Checked
Original	08.06.2016	Draft for Client review	LG	KS
A	12.07.2016	Draft for Advertising	LG	AR
B	02.06.2020	Modified as per WAPC requirements	LG	LG

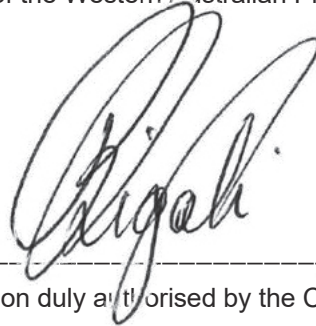
ENDORSEMENT PAGE

This structure plan is prepared under the provisions of the Shire of Augusta-Margaret River Local Planning Scheme Number 1.

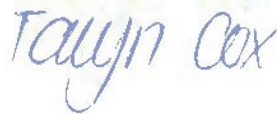
IT IS CERTIFIED THAT THIS STRUCTURE PLAN WAS APPROVED BY RESOLUTION OF THE WESTERN AUSTRALIAN PLANNING COMMISSION ON:

26 June 2020

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

29 June 2020

Date

26 June 2030

Date of Expiry

Table of Amendments

Amendment No.	Summary of the Amendment	Amendment Type	Date approved by the WAPC

EXECUTIVE SUMMARY

Calibre Professional Services Pty Ltd and subsequently Across Planning have been engaged by PA and M Wren to prepare a Structure Plan (and associated rezoning amendment) over Lot 21 Caves Road, Hamelin Bay.

The subject land is located to the south of the junction of Caves Road and Hamelin Bay Road West some 3km (by road) south-east of Hamelin Bay and 3km (by road) south-west of Old Karridale in the Shire of Augusta-Margaret River.

The subject land comprises 211.47ha and adjoins the Leeuwin-Naturaliste National Park on its northern, western and southern boundaries. Although the majority western portion of the land has previously been grazed, stock has been excluded over several decades resulting in significant regrowth of the land, which now exhibits high landscape and conservation values.

The eastern portion of the subject land has previously been used for agricultural pursuits following clearing of the predominant peppermint woodland, apart from vegetation associated with the steeper parts of the site. The predominant use is grazing, which has been carried out for many years.

Due to the varied landform, areas of remnant vegetation and existing land use, the eastern portion of the subject land exhibits a landscape ranging from undulating cleared farmland with wide-open views to steep, vegetated ridges and semi-enclosed vistas.

There is no other existing approved structure plan over the subject land. The proposed structure plan is limited to Lot 21 and does not overlap with any other structure plan.

The structure plan proposal (refer *Figure 1: Structure Plan*) is for an 'Enclave' development (clustered Rural Residential) over the eastern portion of the subject land consistent with 'Table 1: Settlement Hierarchy' in State Planning Policy 6.1 Leeuwin Naturaliste Ridge (SPP6.1) and 'Development Investigation Areas – Residential Enclaves' under the Shire of Augusta-Margaret River's Local Planning Strategy (2011).

The eastern portion of Lot 21 proposed for the 'Enclave' (inclusive of proposed 'Vegetation Protection' areas) comprises 71.72ha.

The larger, western portion of the subject land is proposed to be gifted to the Crown by the landowners and included in a 'National Parks and Nature Reserves' reservation under the Shire's Local Planning Scheme No 1 (LPS1). This area comprises 138.64ha.

In being prepared to cede the western portion of the subject land to the Crown for conservation and landscape purposes in perpetuity, an important principle for the landowners is enabling permanent public access to a limited number of walking trails through the land.

Informal tracks already exist through the subject land and link with the Cape to Cape Walk Trail that passes close-by to the west. Permanently securing these tracks as walk trails will not only enable residents and visitors of the 'Enclave' to walk to the Cape to Cape Walk Trail and the coast, but also enable the general public to visit and enjoy this natural asset.

As mentioned, areas of 'Managed Bushland' are proposed in several rural residential lots comprising most of the northern portion of the 'Enclave' development area in order to conserve the existing topography and remnant vegetation and in accordance with the 'Leeuwin Naturaliste Ridge Landscape Amenity' designation under SPP6.1 and LPS1.

A total of 36 lots ranging from 3231m² to 6.47ha are proposed, with the average lot size being approximately 1.7ha. Each lot has a designated building envelope of 1,000m² - 2000m².

Based on the relatively low numbers of persons per dwelling and the relatively high vacancy factor

EXECUTIVE SUMMARY CONTINUED

anticipated in this location, the estimated permanent population of the ‘Enclave’ is 50 persons, consistent with SPP6.1.

The ‘Enclave’ comprises three distinct cells that respond to the unique landscape of the site and conform to the existing planning framework.

The south-eastern cell adjoins Caves Road where four larger lots of 3-4ha are proposed. Together with limited planting to semi-screen building envelopes, these larger lots will protect the rural landscape values of the Caves Road ‘Travel Route Corridor’. These lots are well suited to ‘hobby farm’ uses that maintain a rural amenity. Their proximity to Caves Road makes them ideal for use by artisans, combining a dwelling and studio from which direct sales to tourists can be made, controlled by suitable scheme provisions.

The western portion of this cell comprises a further seven ‘traditional’ rural residential lots of approximately 1.5-2ha. Designated building envelopes will result in dwellings being largely in-evident from Caves Road due to retention of vegetated, undulating topography and carefully placed screen planting.

To the west of this cell lies a narrow, prominent and densely vegetated ridge that distinctly separates and defines the other two development cells. The

south-western cell proposes 11 lots ranging in size from approximately 8,000m² to 1.7ha, with the larger lots containing sections of the vegetated ridge within proposed ‘Managed Bushland’ areas. This cell is suited to semi-clustered rural residential development.

The northern cell comprises the most clustered portion of the Enclave, with lots ranging from around 3,200m² to 6.47ha, with the larger lots predominantly allocated to substantial areas of ‘Managed Bushland’. Building envelopes are closer together than in the other cells in order to satisfy landscape and bushfire protection requirements while providing a more clustered precinct. Dwellings constructed on building envelopes in this cell will enjoy attractive internal site views, together with limited external views and vistas.

Two new road access points will be provided off Caves Road and have been located on sections with appropriate sight lines and with intersection designs acceptable to Main Roads WA.

An Emergency Accessway connection to Caves Road is also proposed to supplement road access and provide alternatives in the case of emergency.

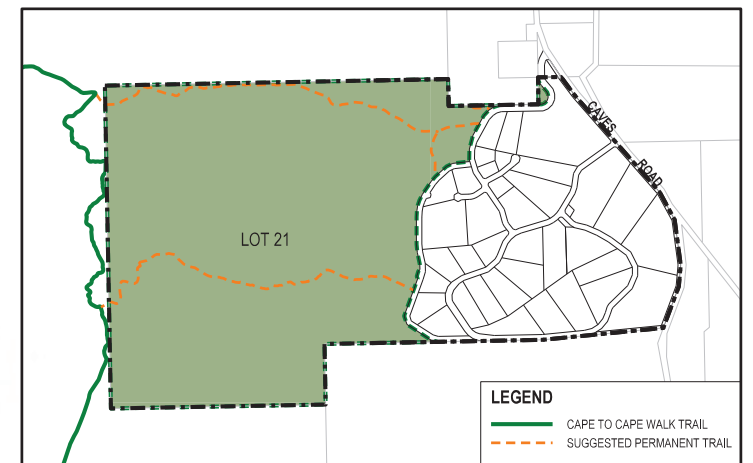
The Emergency Accessway has been planned in consultation with the Department of Fire and

Emergency Services (DFES), Main Roads WA and the Shire.

Table 1: Structure Plan Summary

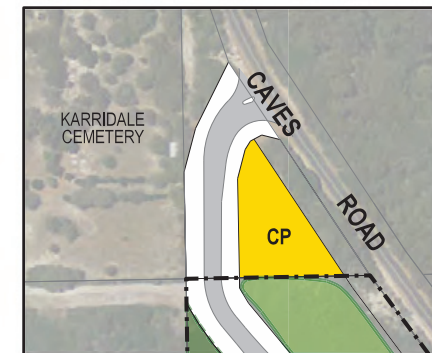
Item	Data
Total area covered by Structure Plan	211.47 ha
Area of proposed Clustered Rural Residential land use (Enclave)	71.72 ha
Road widening (Caves Road)	1.10ha
Total estimated lot yield	36
Estimated number of dwellings	36
Average lot size (excluding proposed conservation area)	1.73 ha
Estimated population (permanent)	50 (1)
Estimated area and percentage of public open space given over to Conservation Area/National Park	138.64 ha 65.6%
Estimated area and percentage of natural area: <ul style="list-style-type: none">• Conservation Area/National Park)• Vegetation Protection (on private lots)	138.64 ha 65.6% 17.53 ha 8.3%

(1) Refer to Section 3.3 of the report



BALANCE OF STRUCTURE PLAN

SCALE: N.T.S.



DETAIL A INSET

SCALE: N.T.S.

LEGEND

	EXISTING CADASTRE		WALKING TRACK
	SUBJECT LAND		PROPOSED ROAD PAVEMENT
	PROPOSED CADASTRE		INDICATIVE DRAINAGE ATTENUATION FOOTPRINT
	PROPOSED CONSERVATION AREA		CONTOURS - 2m INTERVALS
	SCREENING VEGETATION TO BE PLANTED		BUILDING ENVELOPE (Max. 2000m ²)
	MANAGED BUSHLAND		PROPOSED WATER TANK RESERVE
	VEGETATION TO BE RETAINED (SUBJECT TO FINAL DETAILED DESIGN)		PROPOSED RURAL RESIDENTIAL
	EMERGENCY ACCESSWAY		PROPOSED ROAD RESERVE
	FIRE SERVICE ACCESS		FUTURE CAR PARK (BY OTHERS)

STRUCTURE PLAN

Hamelin Bay Enclave - Lot 21 Caves Road, Hamelin Bay

Plan No: 14122P-SP-01N

Date: 11.08.2017
Rev: N
Scale: A1 @ 1:2500, A3 @ 1:5000
Co-ords: MGA
Aerial: ECW DEC 2013



CONTENTS

PART ONE: IMPLEMENTATION	1
1.1 Structure Plan Area	2
1.2 Operation.....	2
1.3 Staging	2
1.4 Subdivision and development requirements.....	2
1.5 Local Development Plans.....	3
1.6 Scheme Amendment	3
1.7 Other requirements.....	4
1.7.1 Developer contribution scheme	4
PART TWO: EXPLANATORY REPORT.....	5
1 PLANNING BACKGROUND	6
1.1 Introduction and purpose.....	6
1.2 Land description	6
1.2.1 Location	6
1.2.2 Area and land use.....	6
1.2.3 Legal description and ownership	6
1.3 Planning framework.....	8
1.3.1 Zoning and reservations	8
1.3.2 State Planning Policy 6.1	8
1.3.3 Planning strategies	11
1.3.4 Planning policies	12
1.3.5 Other approvals and decisions	14
1.3.6 Pre-lodgement consultation	14
2 SITE CONDITIONS AND CONSTRAINTS.....	15
2.1 Biodiversity and natural area assets.....	15
2.1.1 Flora and vegetation assessment	15
2.1.2 Fauna assessment.....	17
2.3 Landform and soils	18
2.3.1 Landform.....	18
2.3.2 Geotechnical	18

2.4 Goundwater and surface water	21
2.4.1 Groundwater	21
2.4.2 Surface Water	21
2.5 Landscape evaluation.....	23
2.6 Bushfire hazard	23
2.7 Heritage	26
2.8 Context and other land use constraints and opportunities	26
3 LAND USE AND SUBDIVISION REQUIREMENTS	28
3.1 Land use.....	28
3.2 Public open space	28
3.3 Residential	28
3.4 Additional uses	31
3.5 Movement networks	32
3.6 Visual impact management	32
3.7 Water management.....	35
3.7.1 Drainage management strategy.....	35
3.7.2 Groundwater management strategy	35
3.7.3 Water quality management	35
3.7.4 Wetland and waterway management.....	35
3.7.5 Water servicing and sustainability.....	36
3.7.6 Key elements	36
3.8 Bushfire management	39
3.9 Infrastructure coordination, servicing and staging.....	42
3.9.1 Earthworks	42
3.9.2 Internal roads	42
3.9.3 Drainage	42
3.9.4 Power.....	42
3.9.5 Telecommunications	43
3.10 Developer contribution arrangements	43
3.11 Other requirements	43
4. TECHNICAL APPENDICES	44

FIGURES

Figure 1: Structure Plan.....	vi
Figure 2: Location Plan.....	6
Figure 3: Aerial Photograph.....	7
Figure 4: Existing and Proposed Zoning	9
Figure 5: SPP 6.1 Land Use Strategy Plan	10
Figure 6: Local Planning Strategy Land Use Strategy Map 1 – extract.....	13
Figure 7: Vegetation types, conditions and complexes	16
Figure 8: Topography.....	19
Figure 9: Geotechnical bore holes and test pits	20
Figure 10: Pre-development Surface Water Conditions	22
Figure 11: Local Planning Strategy Visual Management Areas – extract.....	24
Figure 12: Landscape character.....	25
Figure 13: Bushfire hazard levels.....	27
Figure 14: Structure Plan.....	29
Figure 15: Proposed walk trails	30
Figure 16: Photo location plan.....	34
Figure 17: New habitats and waterways.....	37
Figure 18: Water management – key elements.....	38
Figure 19: BAL contour map.....	40
Figure 20: Northern earthworks area.....	42
Figure 21: Southern earthworks area	42

TABLES

Table 1: Structure Plan Summary.....	v
Table 2: Growth Based on WA Tomorrow	31

APPENDICES

APPENDIX A: CERTIFICATE OF TITLE	45
APPENDIX B: TECHNICAL APPENDICES INDEX.....	47

PART ONE: IMPLEMENTATION

1.1 Structure Plan Area

The Structure Plan applies to the whole of Lot 21

Caves Road Hamelin Bay being the land contained within the boundary marked 'Subject Land' on the Structure Plan map and having an area of 211.47ha (refer *Figure 1: Structure Plan*).

1.2 Operation

This Structure Plan is enabled by State Planning Policy 6.1: Leeuwin-Naturaliste Ridge (SPP6.1) and the Shire of Augusta-Margaret River Local Planning Scheme No. 1 (LPS1) both of which specifically identify the subject land for an 'Enclave' development (clustered rural residential).

The Structure Plan comes into effect on the date it is approved by the Western Australian Planning Commission.

1.3 Staging

Any staging of the structure plan will be determined by specific subdivision applications in response to market demand. The design of distinct cells lends itself to staged subdivision, if required.

1.4 Subdivision and development requirements

This Structure Plan provides a basis for zoning and subdivision of land and will be given due regard when determining applications within the Structure Plan area, including consideration of the objectives and requirements of the Scheme zones proposed by the Structure Plan.

The following subdivision and development requirements are to be implemented in conjunction with the Structure Plan map:

- 1) Subdivision, development and land use within the Structure Plan area is to be generally in accordance with the Structure Plan.
- 2) No further subdivision to that shown on the Structure Plan map will be recommended by the local government.
- 3) The area identified as proposed 'National Parks and Nature Reserves' reservation is to be ceded to the Crown free of cost at the first stage of subdivision.
- 4) In the ceding of land for addition to 'National Parks and Nature Reserves', suitable arrangements to be made with the National Parks and Nature Conservation Authority for permanent establishment of the proposed walk trails linking the Enclave with the Cape to Cape Walk Trail (refer *Figure 15: Proposed Walk Trails*).
- 5) The areas identified as proposed 'Managed Bushland' are to be fenced with a suitable standard of rural fencing to protect vegetation and landscape values as a condition of subdivision approval.
- 6) Retention of the areas identified as 'Vegetation to be retained' is subject to final detailed design at the subdivision stage.
- 7) Planting of the areas identified as 'Screening vegetation to be planted' will be required as a condition of subdivision approval.
- 8) Suitable rural standard fencing will be required for all lots as a condition of subdivision approval.
- 9) Land for a 10m widening of Caves Road will be required to be ceded to the Crown free of cost as a condition of subdivision approval.
- 10) Creation of drainage swales, attenuation basins and ephemeral habitat will be required at the subdivision stage.
- 11) An approved Bushfire Management Plan to the satisfaction of the local government and Department of Fire and Emergency Services is to be implemented as a condition of subdivision approval.
- 12) A notification shall be placed upon the Certificate of Title of all lots pursuant to Section 70A of the Transfer of Land Act advising landowners of the Bushfire Management Plan and Bushfire Emergency Evacuation Plan.
- 13) Construction of emergency accessways, fire service accessways and two water tanks on the proposed water tank reserve will be required at the subdivision stage.
- 14) At the development stage, all dwellings will require a static water supply tank having a minimum capacity of 10,000L with associated firefighting equipment.
- 15) The proposed roads and emergency access way intersections with Caves Road are to be constructed to the specification and satisfaction of Main Roads WA at the subdivision stage.

- 16) Preparation of a plan detailing the maximum height of buildings for all building envelopes located within visually sensitive areas will be required at the subdivision stage.
- 17) Preparation of an Urban Water Management Plan will be required to be prepared and implemented as a condition of subdivision approval.
- 18) Any dwelling on Lots 1-3, 11-12 and 18-20, as outlined on the Structure Plan Map is to be constructed to a minimum BAL-29 rating, in accordance with the requirements of the Bushfire Management Plan.

1.5 Local Development Plans

A requirement for Local Development Plans (LDP) is not anticipated due to the relatively straightforward nature of the clustered rural residential development as set out in the Structure Plan. Any specific design issues for particular areas of development are to be addressed at subdivision and development stages.

The Council or the WAPC may, by notice in writing, require a proponent to prepare and submit to the Council an LDP to enhance, elaborate or expand the details or provisions contained in the Structure Plan.

1.6 Scheme Amendment

The advertised Structure Plan provided a basis for a related rezoning amendment (Amendment No. 49) to TPS1 to appropriately apportion and designate a proposed 'Rural Residential' area over the eastern portion of the subject land (for

the Enclave), together with setting aside the larger, western portion of the subject land for inclusion in a 'National Parks and Nature Reserves' reservation.

The Structure Plan and scheme amendment will inform subdivision and development of the subject land, including proposed ceding of the major conservation area. Land use permissibility will be determined by TPS1, as amended.

LPS1 contains a number of provisions applying to subdivision and development in the Rural Residential Zone, including clause 4.22 "Development in the Rural Residential Zone".

Amendment No. 49 has introduced specific conditions and requirements into Schedule 11 of LPS1 – Special Provisions Relating to Development on Land Zoned "Rural Residential Zone". In addition to the subdivision and development requirements listed at 1.4 above, the following specific conditions and requirements apply under LPS1:

- 1) The following uses are not permitted on Lots 1-14 in the Structure Plan map: Home Business, Guest House, Convenience Store, Industry – Cottage, Agriculture-extensive and Dam.
- 2) As a variation to LPS1, clearing of land outside the building envelope is permitted to the extent necessary to comply with the approved Bushfire Management Plan forming part of the adopted Structure Plan. Consistent with this, clearing of land is prohibited in the following areas shown on the adopted Structure Plan, except for the

purposes of constructing and maintaining boundary fencing:

- Proposed Conservation Area
- Managed Bushland
- Vegetation to be Retained
- Screening Vegetation

- 3) Any dwelling located on Lots 1-3, 11-12 and 18-20, as outlined on the Structure Plan Map is to be constructed to a minimum BAL-29 rating, in accordance with the requirements of the Bushfire Management Plan.
- 4) At the development stage, building setbacks are to comply with the BAL contour map forming part of the Bushfire Management Plan.
- 5) All applications for residential development are to be supported by information confirming their consistency with the approved landscape assessment including having particular regard to the maximum height of building pads.
- 6) In addition to boundary fencing, any fencing of building envelopes shall be visually permeable, unobtrusive and sensitive to the objective of maintaining the rural character and visual amenity of land within the Zone. Solid fencing such as corrugated fibro cement and iron is prohibited.
- 7) No direct access to Caves Road will be permitted from proposed lots adjoining Caves Road.

- 8) At the time of subdivision and development, the approved Landscape Management Plan will be required to be implemented.

1.7 Other requirements

1.7.1 Developer contribution scheme

The construction of infrastructure, such as services, drainage, roads, emergency accessways and water tanks for the proposed water tank reserve will be guided by the Structure Plan and implemented by subdivision conditions, where appropriate.

PART TWO: EXPLANATORY REPORT

1 PLANNING BACKGROUND

1.1 Introduction and purpose

Calibre Professional Services Pty Ltd and subsequently Across Planning have been engaged by PA and M Wren to prepare a Structure Plan over Lot 21 Caves Road, Hamelin Bay for the purpose of facilitating the rezoning, subdivision and development of the eastern portion of the subject land for an 'Enclave' (Clustered Rural Residential).

1.2 Land description

The subject land comprises the whole of Lot 21 P22155 Caves Road, Hamelin Bay.

1.2.1 Location

The subject land is located to the south of the junction of Caves Road and Hamelin Bay Road West 3km (by road) south-east of Hamelin Bay and 3km (by road) south-west of Old Karridale in the Shire of Augusta-Margaret River (refer *Figure 2: Location Plan*).

1.2.2 Area and land use

The subject land comprises 211.47ha and adjoins the Leeuwin-Naturaliste National Park on its northern, western and southern boundaries. Although the majority western portion of the land has previously been grazed, stock has been excluded over recent decades resulting in significant regrowth of the land, which now exhibits high landscape and conservation values (refer *Figure 3: Aerial Photograph*).

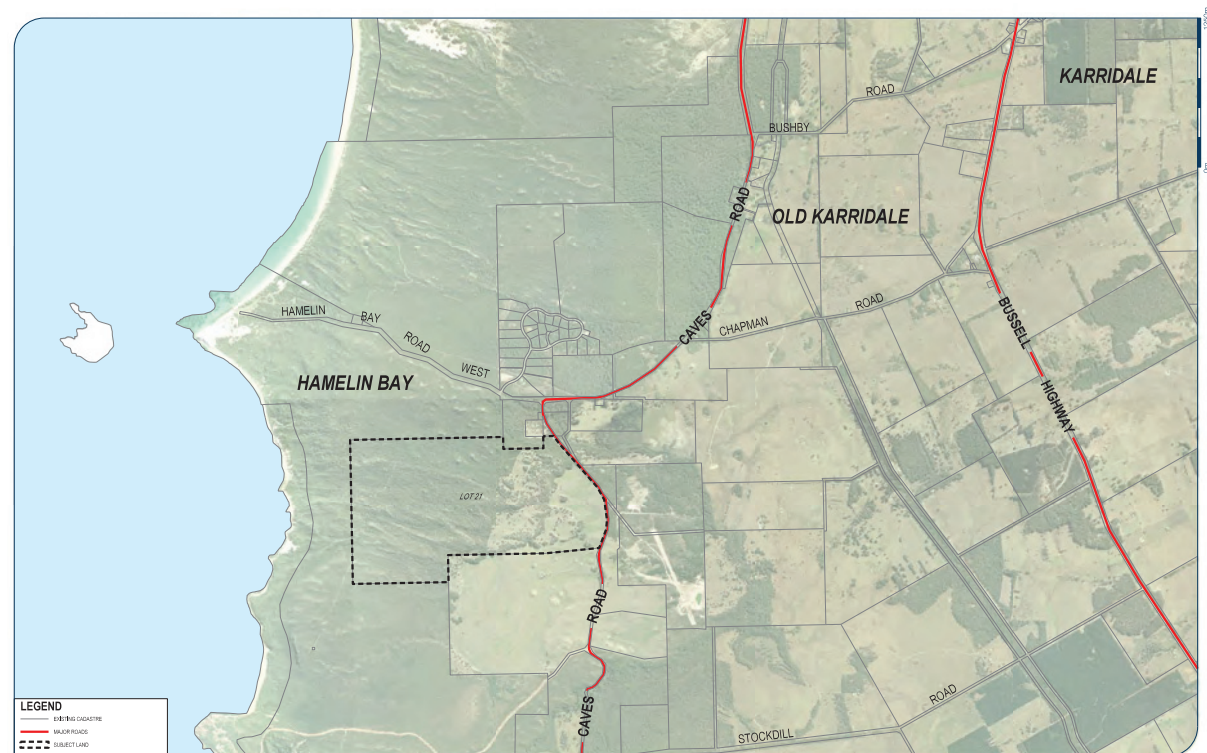


Figure 2: Location Plan

The eastern portion of the subject land has previously been used for agricultural pursuits following clearing of the predominant peppermint woodland, apart from vegetation associated with steeper areas.

The predominant use is grazing, which has been carried out for many years. Due to the varied landform, areas of remnant vegetation and existing land use, the eastern portion of the subject land exhibits a landscape ranging from undulating cleared farmland with wide-open views to steep, vegetated ridges and semi-enclosed vistas.

1.2.3 Legal description and ownership

The legal description of the subject land is Lot 21 on Plan 22155 (Vol 2215 Folio 210) Caves Road, Hamelin Bay. It is owned by Manya Wren and Peter Alex Wren of Deepdene. A copy of the Certificate of Title can be found at Appendix A, together with previous title showing that Lot 21 comprises Sussex Location 246 and Portion of Sussex Location 251.



Figure 3: Aerial Photograph

1.3 Planning framework

Following is a description of the principal planning framework that provides a context for the proposed Structure Plan.

1.3.1 Zoning and reservations

At the time of advertising of the Structure Plan, the subject land contained three zonings under the Shire of Augusta-Margaret River Local Planning Scheme No. 1 (LPS1). These were:

- 'General Agriculture'
- 'Leeuwin Naturaliste Ridge Conservation'
- 'Leeuwin Naturaliste Ridge Landscape Amenity'

The advertised Structure Plan helped inform Scheme Amendment No.49 to LPS1 to facilitate development of the Enclave on the eastern portion

of the subject land (primarily on the existing General Farming portion) and to protect the conservation and landscape values of the western portion in perpetuity by including it in a 'National Parks and Nature Reserves' reservation with the intention that it be ceded to the Crown free of cost at the first stage of subdivision.

Final approval of Amendment No. 49 to LPS1 was Gazetted on 8 May 2020

Figure 4 shows the existing and proposed zoning (refer *Figure 4: Existing and Proposed Zoning*).

1.3.2 State Planning Policy 6.1

The subject land is included in the area covered by SPP 6.1. Being a high order policy, due regard

must be given to SPP6.1 in any planning decision-making for the area.

The Land Use Strategy Plan under SPP 6.1 identifies the subject land within three land use categories, being:

- 'Agriculture and Rural Landscape' (mainly cleared eastern portion of the subject land)
- 'Ridge Landscape Amenity Area' (a landscape and environmental 'linkage' area in the north- eastern part of the subject land)
- 'Principal Ridge Protection' (western portion of the subject land with the highest landscape and environmental values).

Figure 5 shows the categories under the Land Use Strategy Plan (refer *Figure 5: SPP 6.1 Land Use Strategy Plan*).

A number of the provisions of SPP 6.1 are generally relevant to the subject land including those applying to Natural Landscape Amenity, National Park Influence Area, Agriculture and Rural Landscape, and Primary Transport Network. These are mentioned in the relevant sections later in this report.

The most specific reference to the subject land in SPP 6.1 occurs in relation to 'Enclaves' (Clustered Rural Residential Development).

SPP 6.1 defines these as follows:

"A new form of Rural Residential subdivision and development, which encourages a clustering or grouping of dwellings into Enclaves, surrounded by larger lots,

sometimes managed as common property. This approach has been adapted in an

Australian context by Cuming and Francis (1996) and offers an alternative approach to traditional dispersed Rural Residential subdivision that is more efficient in use of rural land resources and has a design and focus more responsive to the natural environment.

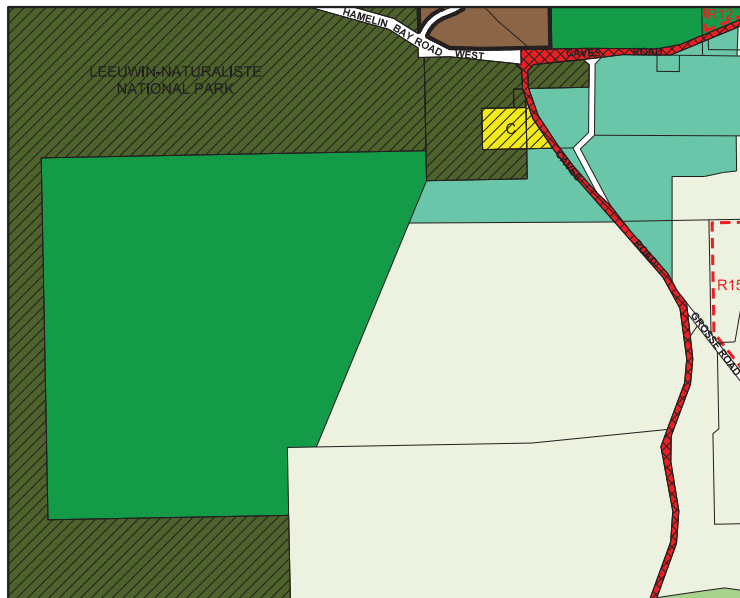
Clustered Rural Residential subdivisions may offer rural living with a common interest which may focus, for example, on an agricultural pursuit, conserving a conservation feature or permaculture farming. Enclaves should be within easy walking or cycling distance of Hamlets or Villages for provision of community facilities.

Although there may be linkages between clusters, they should be discrete, identifiable Enclaves separated by rural or conservation uses."

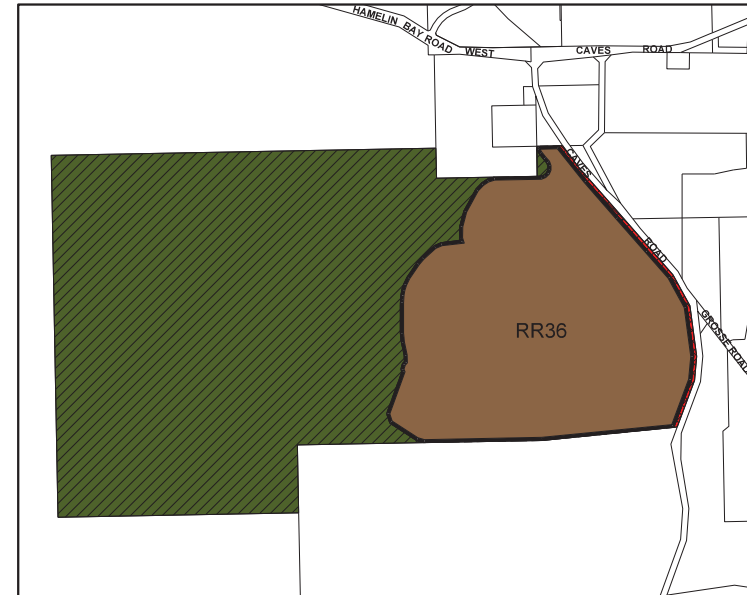
Under Table 1 – Settlement Hierarchy, the relevant criteria set out for 'Enclaves' includes:

- Permanent population of less than 50 (this is footnoted as a guide, subject to demonstrated compliance with relevant Settlement Policies of the SPP)
- Innovative on-site water supplies, effluent disposal and power on an individual site or cooperation basis will be considered
- Enclaves may take the form of clustered rural living or specialised developments and may include low-impact tourist development.

SHIRE OF AUGUSTA-MARGARET RIVER



EXISTING ZONING



PROPOSED ZONING

LOCAL PLANNING SCHEME No. 1

Amendment No. 49

LOCAL SCHEME RESERVES

	HIGHWAYS AND MAIN ROADS
	LOCAL ROADS
	NATIONAL PARKS AND NATURE RESERVES
	PUBLIC PURPOSE (DENOTED AS FOLLOWS:
	CEMETERY

ZONES

	GENERAL AGRICULTURE
	LEEUVIN NATURALISTE RIDGE CONSERVATION
	LEEUVIN NATURALISTE RIDGE LANDSCAPE AMENITY
	RURAL RESIDENTIAL

OTHER

	RESTRICTED AREAS
	RURAL RESIDENTIAL AREA

Figure 4: Existing and Proposed Zoning

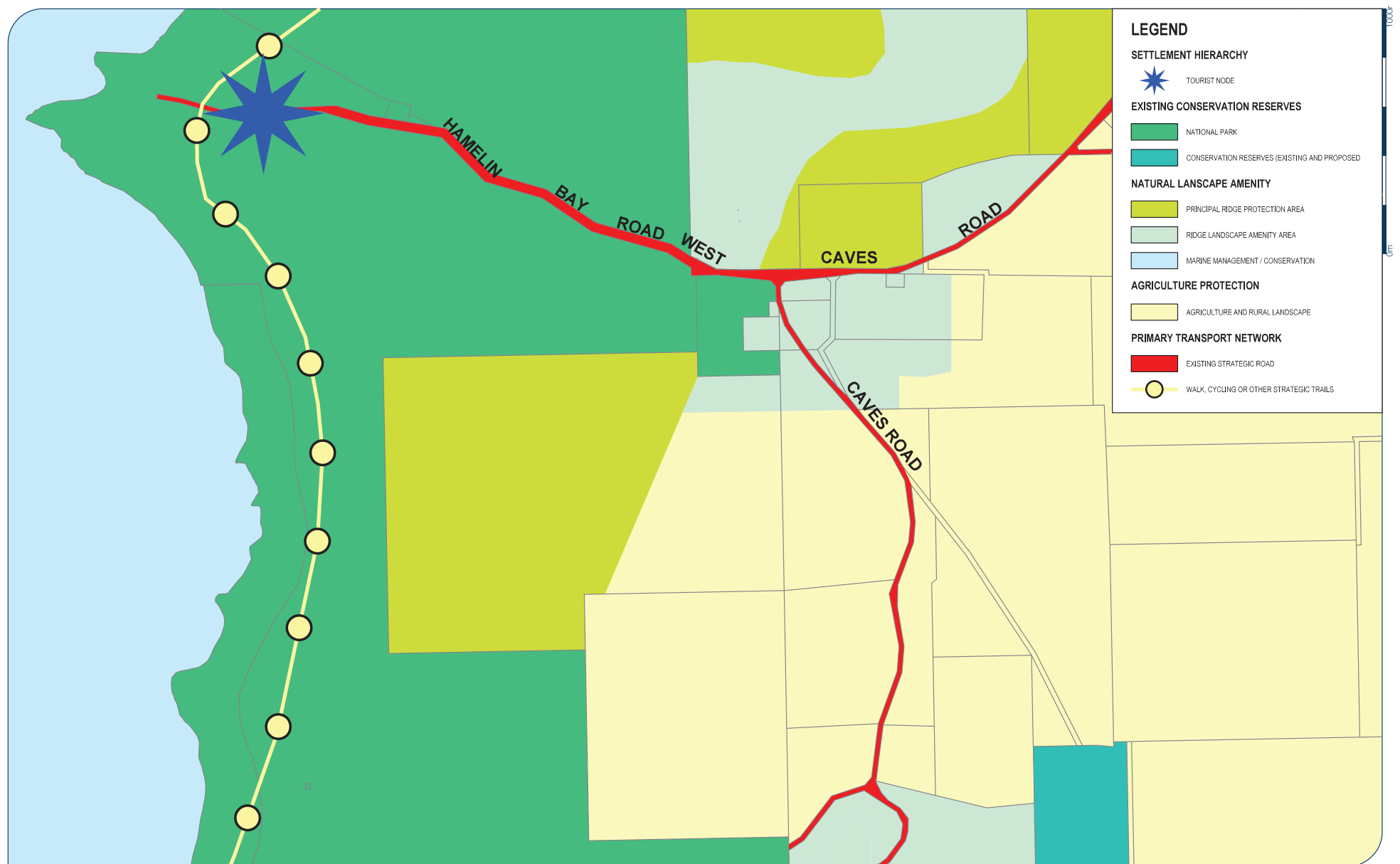


Figure 5: SPP 6.1 Land Use Strategy Plan

Importantly, the subject land is specifically identified in Table 1 as an 'Enclave', as follows:

"With respect to Karridale, an Enclave may be developed at "Old Karridale" and at part Sussex Location 1362, part Sussex Location 246 and part Sussex Location 251".

As mentioned at 1.2.3 above and shown in the existing and previous Certificates of Title (refer: *Appendix A*), the subject land comprised Sussex Location 246 and Portion of Sussex Location 251 being Lot 21 Caves Road at the time of Gazettal of SPP6.1, hence is specifically identified for development of an Enclave.

Policy LUS 1.14 under SPP 6.1 (Hamlet with Enclaves) states:

"Karridale is designated as a Hamlet with Enclaves. Nominated Enclaves further away from the Hamlet than the normal criteria for Enclaves under the Settlement Strategy may be permitted in accordance with Table 1 (Settlement Hierarchy)".

The description of lower-order settlements explains that:

"The location of the Enclaves near "Old" Karridale are nominated in the Settlement Hierarchy Table to recognise the merits and special circumstances of those particular sites, but to avoid ad hoc proposals for Enclaves that would conflict with the wider Agricultural and Rural Landscape area".

1.3.3 Planning strategies

The Shire of Augusta-Margaret River Local Planning Strategy (LPS) was endorsed by the WAPC on 14 April 2011.

The LPS provides the strategic planning direction for the Local Government, sets out the planning rationale for specific zones and gives effect to the provisions of LPS1. The LPS's purpose is to provide a medium to long-term planning strategy.

Enclaves

The LPS states that 'Enclaves' that form part of any settlement should be designed to be responsive to the local characteristics and environment and based on a clustered settlement pattern which achieves sustainable and liveable neighbourhoods, interconnected movement networks, and appropriate open space.

It also says that the Enclave should encourage mixed use activities to provide for limited commercial services such as cottage industries that may be related to the productive use of the surrounding rural land.

Under the LPS, Enclaves will only be considered where they are in accordance with the criteria identified in the LNRSP (SPP 6.1) or any local government and WAPC endorsed townscape strategy.

Development Investigation Area

The LPS identifies a number of areas as a Development Investigation Area (DIA). The identification of land for DIA signals that it will

require detailed investigation and assessment to determine its suitability for that use.

Together with structure planning which includes, inter alia, detailed sit- specific assessment and structure planning incorporating sustainable design and servicing solutions, a scheme amendment (rezoning) will also be required for DIA prior to their subdivision and development.

The LPS requires justification for such scheme amendment of LPS1 based on the:

- demand/need for the intended land use;
- consistency with any relevant townscape strategy
- proposed form, function and design of the subdivision/development;
- sustainability of use and design;
- protection of amenity/character considerations (desirability); and
- demonstration that the proposal will result in a net community benefit, support existing communities and provide and have access to appropriate community services and infrastructure.

The LPS states that as far as possible planning for settlement expansion should minimise the potential for land use conflict by:

- providing adequate separation distance between potential conflicting land uses;
- introducing management requirements that protect existing agricultural land uses, where applicable;

- identifying areas that are suitable and capable for intensive agricultural pursuits as agricultural priority areas; and
- not locating new rural settlements in areas that are likely to create conflict with established or proposed agricultural priority areas.

DIA - Residential Enclaves

In the Karridale/Hamelin Bay and Kudardup localities, the LPS identifies DIA areas as possible future 'residential enclaves' which will need to be consistent with the relevant policies and settlement hierarchy table of SPP 6.1.

The LPS states that these areas will be subject to detailed planning consideration and assessment through the required rezoning and structure planning process and will need to demonstrate to the satisfaction of the local government and WAPC that their proposed development will not prejudice the future development of the Karridale and Kudardup townsites.

Enclaves have been identified on the LPS maps near Hamelin Bay and Old Karridale in recognition of these specific sites being identified in SPP 6.1.

Development Investigation Area KE2

The subject land is identified in the LPS as DIA KE2. The relevant policy provision states:

"Investigation into an 84ha area comprising of part of Lot 21 Cosy Corner Road, Karridale for purposes of an enclave to Karridale may be investigated. See Map 1 near Karridale."

An extract of Map 1 is shown in Figure 6 (refer *Figure 6: Local Planning Strategy Land Use Strategy Map 1 – extract*).

The Enclave development on the subject land proposes 35 lots. It is considered that this relatively small number of lots with an estimated permanent population of 50 people will not prejudice the future development of the Karridale and Kudardup townsites, both of which are nominated as 'Hamlets' with a permanent population of 500 people.

The type of lots and lifestyles offered by the Enclave will complement the closer settlement of the Hamlets while providing custom to small businesses. Apart from artisan studios, no commercial land uses are proposed in the Enclave.

1.3.4 Planning policies

There are a number of policies in the LPS that are relevant to the proposed Structure Plan, including the following:

Clause 3.1.1 lists requirements for rezoning of land from a rural zone to an urban zone (i.e. residential, commercial or industry zones). Although the Enclave development is proposed to be rezoned to Rural Residential, some of the items listed under 3.1.1 are also appropriate to the proposal, including:

- is on land within a Development Investigation Area (DIA);
- is consistent with the Strategy's 'Settlement Hierarchy' and/or Land Use Strategy Plan;

- creates compact walkable/cycle able communities;
- incorporates best practice innovation in sustainable land use, development and infrastructure provision/servicing;
- responds to and maintains existing natural features, creeklines, contours and established trees;
- includes implementation plans/strategies on the extent to which future development will not only minimize the impact on the landscape and environment but also enhance and regenerate the environment by setting aside land for open space, conservation, restoring creek lines, replanting vegetation and retaining/maintain existing native vegetation; and
- includes mechanisms to ensure the delivery of infrastructure, open space and services in a timely and efficient way.

Under Clause 3.1.5, Structure Plans for DIA's need to address:

- a) design aspects that develop and enhance the unique local character of the settlement and where applicable their surrounding rural and natural attributes;
- b) avoid repetitive and characterless suburban forms; and
- c) implementable sustainability principles and measures.

Under Clause 3.1.7, the local government shall encourage design tailored to the specific climatic conditions of the South-West including:

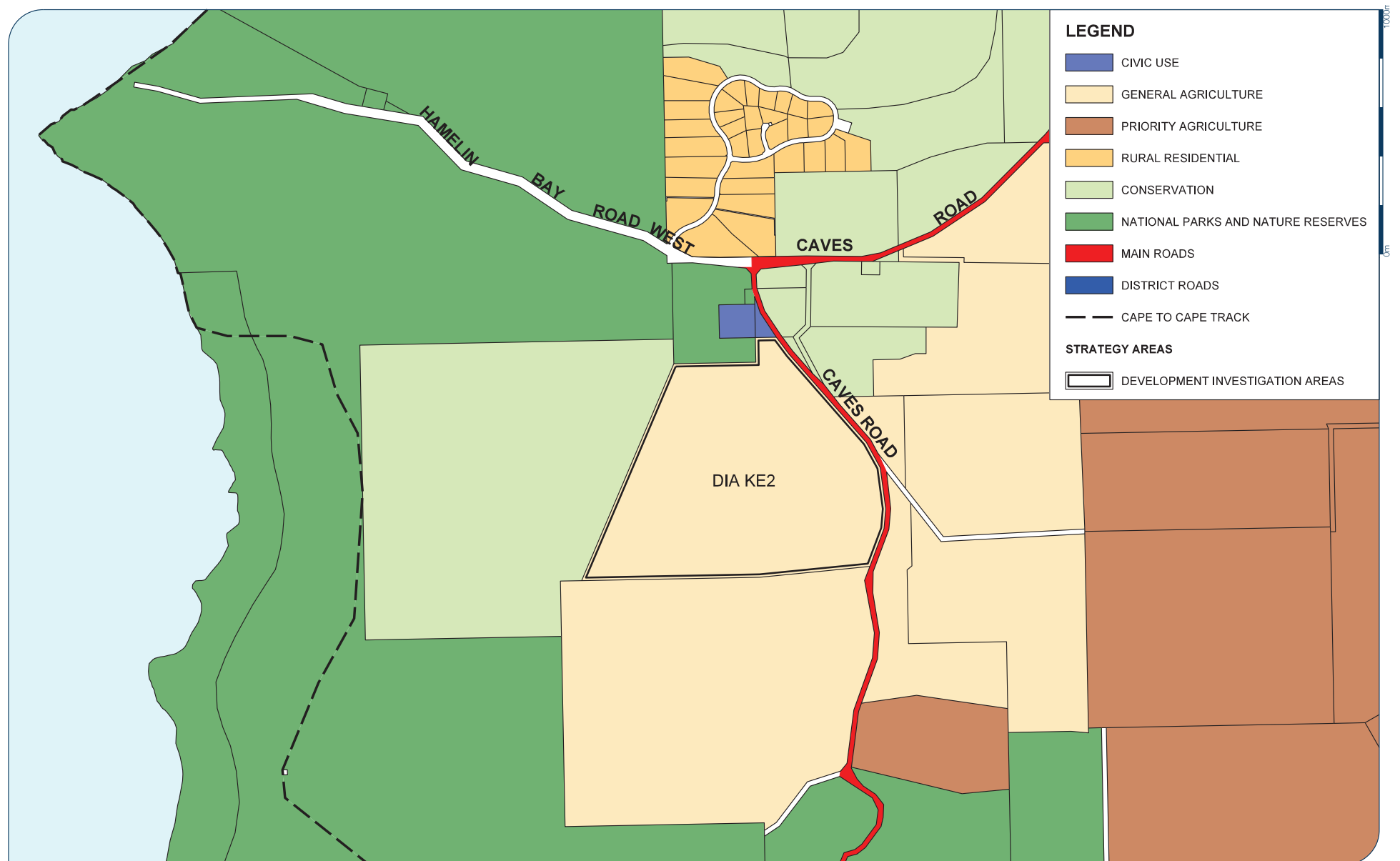


Figure 6: Local Planning Strategy Land Use Strategy Map 1 – extract

- a) Solar Passive Building Design;
- b) Water Sensitive Urban Design;
- c) Design that is sympathetic, and not intrusive, to surrounding landscapes;
- d) Assessment of environmental opportunities and constraints;
- e) Engineering solutions to potential environmental problems;
- f) Use of appropriate urban development to repair the landscape; and
- g) Community involvement in the management of development.

Under Clause 3.3.1, rural residential proposals will only be supported in areas designated as 'Rural Residential' in the LNRSP and the LPS maps.

Under Clause 3.3.2, clustered rural residential will be favoured where a significant portion of land can be permanently held for landscape protection, creek rehabilitation, recreation and/or biodiversity values. The 'non-developed' land can be held in common, Shire or private ownership and must have a notification on title stating that no further subdivision will be considered. Density shall be generally 1 lot per hectare.

Under clause 3.3.3, Rural residential subdivision and development shall be designed and implemented to protect the environmental and landscape values of the subject land and its locality.

Under Clause 3.3.4, uses permitted and development control standards are as prescribed in LPS1.

The manner in which the proposed Hamelin Bay Enclave on the subject land responds to these strategies and policies is set out in later sections of this report.

1.3.5 Other approvals and decisions

There are no other known approvals and decisions applying to the subject land.

There is an existing extractive industry in operation on Lot 61 Grosse Road to the south-east of the subject land and east of Caves Road. The quarry operates under an EPA License for Prescribed Premises (Category 12 uses).

In 2015, the operators of the quarry sought approval for expansion. The owners of Lot 21 made a submission on the advertised Extractive Industry License proposal which did not object to the proposed quarry expansion, but asked that Council take into account the designations of Lot 21 under the SPP 6.1 and LPS, and the possibility that two (2) additional dwellings may be proposed less than 500m from the proposed extractive industry expansion and these would be regarded as Sensitive Uses by the EPA.

This is a matter to be taken into account at the subdivision and development stages but is not regarded as a significant factor for the Structure Plan.

1.3.6 Pre-lodgement consultation

Pre-lodgement consultation has occurred over the Structure Plan itself (with the Shire, Department of Planning Lands and Heritage, and the Department of Biodiversity Conservation and Attractions),

as well as during preparation and preliminary assessment of the various technical reports. Pre-lodgement consultation is mentioned in several of the technical reports.

2 SITE CONDITIONS AND CONSTRAINTS

2.1 Biodiversity and natural area assets

2.1.1 Flora and vegetation assessment

In accordance with LPS1, a Level 1 flora and vegetation assessment was undertaken by Eco Logic Environmental services for the “Leeuwin Naturaliste Ridge Conservation’ portion of the subject land (identified as Area 1) and a Level 2 assessment of the two eastern portions of the subject land – identified as Area 2 and Area 3 (refer *Figure 7: Vegetation types, conditions and complexes*).

No TEC, PEC vegetation communities and no Threatened (Declared Rare) species were recorded within Areas 1, 2 or 3 of the study area.

The vegetation within the study area is associated with three vegetation complexes of the Leeuwin- Naturaliste Coast as described below (Mattiske and Havel, 1998).

- Kilcarnup (KE): Tall shrubland to closed heath of *Agonis flexuosa*-*Spyridium globulosum* on exposed slopes of calcareous dunes in the hyper-humid to humid zones;
- Kilcarnup (Kf): Tall shrubland of *Agonis flexuosa* on leese of dunes in hyperhumid zone; and
- Kilcarnup (KR): Tall shrubland of *Agonis flexuosa*-*Acacia saligna* on leese of

calcareous dunes in hyperhumid to humid zones.

In terms of vegetation condition, Area 1 recorded native vegetation in Excellent condition across all sites assessed. The vegetation structure was intact with a diversity of understorey species and few weeds. The vegetation was consistent and continuous with the native vegetation in the adjoining Leeuwin-Naturaliste National Park. This area forms part of a regionally significant corridor that provides ecological linkages of contiguous ecosystems.

The assessment concluded that the large area of vegetation within Area 1 represents an important remnant and vegetated corridor linkage in the regional area. It represents a unique natural landform feature that includes the parabolic dunes of the Kilcarnup Dunes land system and the Leeuwin-Naturaliste Ridge.

The assessment observed that the addition of this large block of native vegetation in Excellent condition would be an asset to the Leeuwin Naturaliste National Park. Area 1 is surrounded by National Park on three sides and would provide a widening of the generally narrow and often fragmented National Park.

Native vegetation within Area 2 was recorded to be in Degraded, Good, Good - Very Good and Excellent condition. The majority of the vegetation was recorded to be in Excellent condition with an intact vegetation structure, diverse understorey and few weeds.

Native vegetation in the western portion of Area 2 was generally in Excellent condition (vegetation types 9, 11, 13, 15) with a small pocket in the south in Good condition (vegetation type 14).

One priority species, a shrub *Acacia subracemosa* (Priority 3 listed species) was recorded in Area 2. Four plants of *Acacia subracemosa* were recorded, clumped together adjacent to the existing fenceline. Consultation should be undertaken with the Department of Parks and Wildlife (DPaW) on the management of the Priority 3 species *Acacia subracemosa*.

Within Areas 2 and 3, portions of native vegetation in Good or better condition included Vegetation type 5 in Very Good to Excellent condition in the north-eastern corner of the study area. There were also pockets of Good and Good to Very Good condition associated with sand crest and slopes of Vegetation type 3 and 8. A portion of Vegetation type 5 and 7 in the north-eastern corner is associated with the Kilcarnup (Kf) vegetation complex, which is just under the 30% retention target with 29.2% remaining in proposed and existing formal and informal reserves.

The vegetation condition in the majority of Area 3 was in a Degraded to Completely Degraded condition. The vegetation has been highly disturbed from past clearing and on-going sheep grazing. The basic vegetation structure is no longer intact with mostly peppermint trees (*Agonis flexuosa*) over some native shrubs and introduced pasture grasses.

The assessment advised that the proposed development design should ensure the protection and management of the site's environmental assets. This includes the protection of native vegetation, particularly vegetation in Good or better condition, which is recommended to be retained wherever possible.

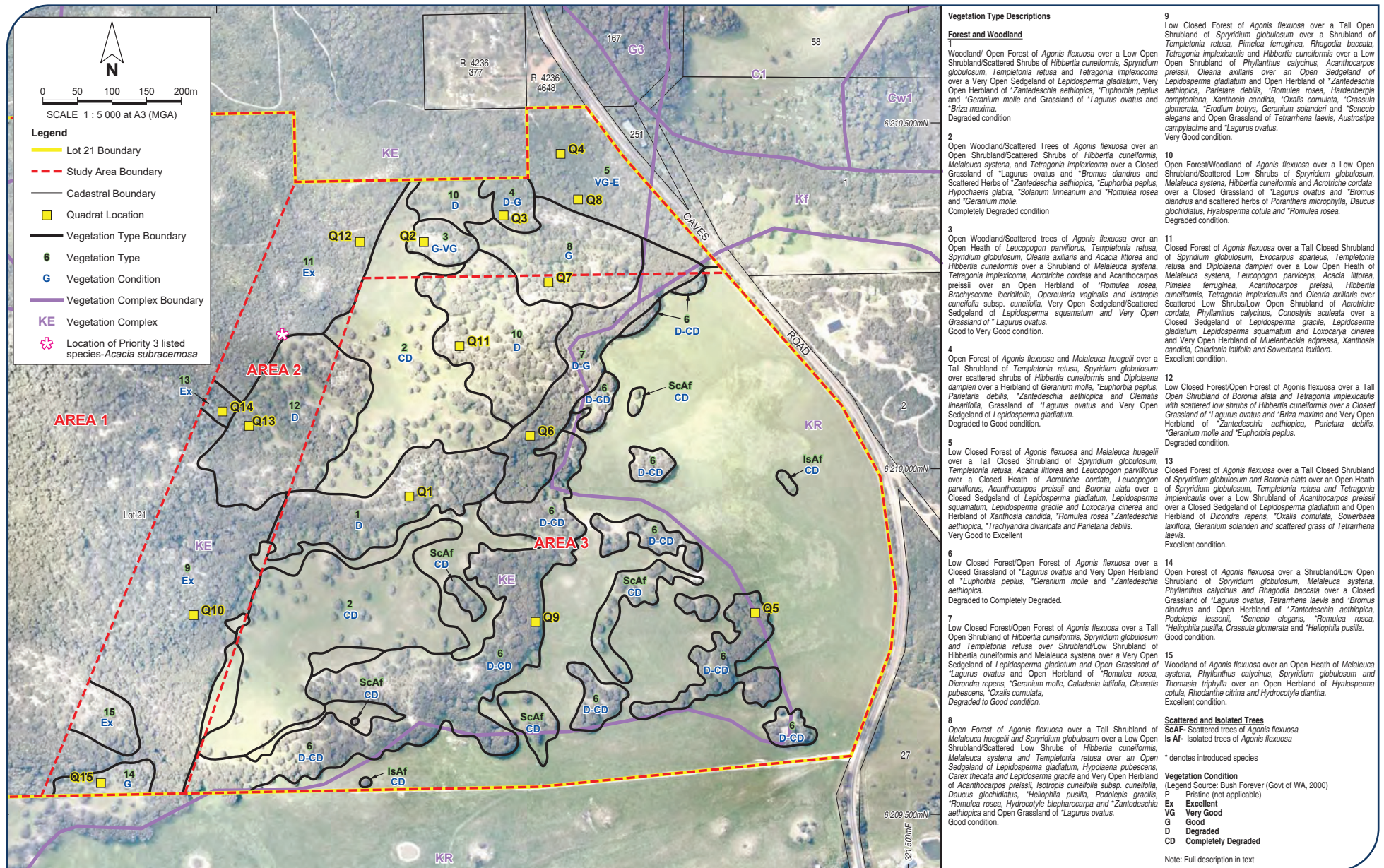


Figure 7: Vegetation types, conditions and complexes

The assessment also observed that due to the sandy nature of the soil of the Kilcarnup Dune land system at the site, and in particular the

sand dune landform, disturbance to the soil and/or vegetation clearing is likely to result in wind erosion. Native vegetation should be retained wherever possible.

For the full report on the assessment refer to *Appendix B*.

2.1.2 Fauna assessment

A fauna assessment of the subject land was undertaken by Greg Harewood, Zoologist using the same three study areas as the Eco Logic assessment (refer *Figure 7: Vegetation types, conditions and complexes*).

Harewood included use of Eco Logic's information for a habitat assessment to determine if it was likely that any species of conservation significance would be utilising the areas that may be impacted on as a consequence of development at the site.

Because the general area is known to be utilised by black cockatoos and western ringtail possums (WRP) the scope of the survey work was expanded to include an initial assessment of the site's significance to these species also. The fauna assessment therefore included:

- Level 1 Fauna Survey (to EPA standards);
- targeted daytime searches for evidence of WRP – dreys, scats and individuals (Area 2 and 3 only);
- targeted searches for black cockatoo foraging, nesting and roosting habitat (Area 2 and 3 only); and

- report summarising results, opportunities and constraints and potential state and federal legislative requirements.

No evidence of W R P utilising any section of Lot 21 was observed during the daytime survey of the site which included targeted daytime searches for scats, dreys and individuals of Areas 2 and 3. The results strongly suggest the species is absent from the area or only present in extremely low numbers at best.

Targeted searches of the Areas 2 and 3 failed to locate any tree that could be regarded as representing existing or potential black cockatoo breeding habitat. In addition, no foraging evidence that could be attributed to black cockatoos were observed, nor any existing roosting trees, and given the lack of large trees on site, Harewood considered it very unlikely that any vegetation on Lot 21 is used for this purpose.

A review of the relevant databases, unpublished reports and scientific publications identified over 33 specially protected, priority or migratory fauna species as potentially occurring in the general vicinity of the study area. Of these species, Harewood considered that most have no potential to utilise the study area for any purpose and were omitted from the potential list for the site.

For Area 1, Harewood commented that given its large size, continuity with the Leeuwin Naturaliste National Park and the presence of native vegetation in excellent condition (Eco Logic, 2014) Area 1 is very likely to support a high diversity of fauna species. He observed that Area 1 has a high ecological value and would be a valuable addition to the Leeuwin-Naturaliste National Park.

In Area 2, the assessment found the likely presence of some fauna species of conservation significance (e.g. quenda) in areas of better quality vegetation. Harewood advised that if development is proposed in Area 2, the potential impact of the removal or modification of these species' habitat will need to be taken into consideration prior to the development proceeding.

Harewood observed that this may constrain development to large lots with defined building envelopes being sited in existing cleared/degraded areas. The imposition of conservation covenants on areas of best quality vegetation may also need to be considered to ensure the long-term retention and management of these areas while still allowing development in other sections of each defined lot.

In Area 3, the assessment found the area to be degraded to highly degraded with very low fauna values.

The only species of conservation significance confirmed as using Area 3 is the rainbow bee-eater (migratory). Harewood commented that there is a possibility that this species also breeds within Area 3 (in burrows dug into sandy soil) but as they do not form colonies the number of individuals involved would be small. They are also known to utilise modified habitats. As such, no significant impact on this species was anticipated as a consequence of development proceeding.

Harewood concluded that no other fauna species of conservation significance is likely to be significantly impacted by the proposed development with Area 3, based on the fact that most species are unlikely to be present and the propose retention of the majority of the vegetation.

The assessment also concluded that referral of the project to the Commonwealth Department of the Environment is not considered necessary as “significant impact” on federally listed *EPBC Act* fauna species is considered very unlikely. This conclusion should be reviewed once planning for development is finalised and after consideration of any advice received from local and state regulatory authorities.

For the full report on the fauna assessment refer to *Appendix B*.

2.3 Landform and soils

2.3.1 Landform

The Busselton-Margaret River-Augusta Land Capability Study (Tille and Lantzke, 1990) describes the area as the Kilcarnup Dunes Land System of the Leeuwin-Naturaliste Coast. The Kilcarnup Dunes system is divided into specific land units including:

- Kilcarnup Exposed Dunes - steep dunes (usually in excess of 20%) exposed to prevailing winds coming directly off the ocean. Soils consist of deep pale calcareous sands with brown topsoil. This covers the majority of the western portion of Lot 21.
- Kilcarnup Rocky Dunes - low to steep dunes (gradients 5-10%) with dark calcareous sands containing limestone rubble. This covers the south-eastern corner of Lot 21 which is the subject of the proposed development.

The landform is dominated by a ridge that divides and transects the site from the north-east to south-west. The north-west corner above the ridge is predominantly steep sand dunes with rocky limestone outcrops (at 70-

60 mAHD) falling to the west. The ridge drops steeply down to sandy flats in the eastern part of the site adjacent to Caves Road (at 35-40 mAHD). The south-western corner of the site has a more undulating form above the ridge (refer *Figure 8: Topography*)

2.3.2 Geotechnical

A geotechnical investigation was undertaken by Douglas Partners in April 2016. The investigation included the excavation of 15 test pits, drilling of two boreholes, four in-situ permeability tests and laboratory testing of selected samples (refer *Figure 9: Geotechnical bore holes and test pits*).

Ground conditions encountered during the geotechnical investigation primarily consisted of sands with some silt content.

Sands containing clay were encountered in three test pits – TP4, TP9 and TP12 – extending beneath clay containing topsoil to depths of between 0.25m and 0.60m.

The investigation found the majority of the ground conditions are generally considered suitable for the proposed development and will not impose any significant geotechnical constraints. However, the loose sand encountered at BH16 and BH17 will require densification to form a suitable subgrade material for residential buildings and pavements.

In terms of site classification at the 18 test locations, 13 were classified as ‘Class A’. Each of the other 5 sites could be re-classified from ‘Class S’ or ‘Class P’ to ‘Class A’ following suitable site preparation, as recommended.

Soil Permeability

Ground conditions encountered at the test locations in the west generally comprised a lens of dark grey- brown sand with some silt overlying light yellow- brown sand with some silt. Ground conditions encountered at several test locations in the east included some shallow clayey sand and weakly cemented sand, overlying light brown sand which generally included more fines than the sand in the west. Dark grey silty sand was also encountered underlying the light brown sand at TP12 from 1.7 m depth.

Douglas Partners advises that the clayey materials and the silty sand should be considered as low permeability materials for drainage purposes. The results of their investigation suggest that on-site stormwater disposal using swales and sumps should generally be feasible where sufficient thickness of sand exists above any low permeability materials or groundwater. In particular, no notable constraints are anticipated in the western part of the site regarding the suitability of stormwater infiltration systems.

Owing to the occurrence of soils with major limitations on permeability and dispersion, Douglas Partners suggest that treatment of the primary effluent is undertaken to produce secondary quality effluent, prior to on-site disposal over the land surface.

Several treatment options are possible, although for the proposed rural residential subdivision Aerobic Treatment Unit (ATU) systems are most likely to be chosen by the future landowners.

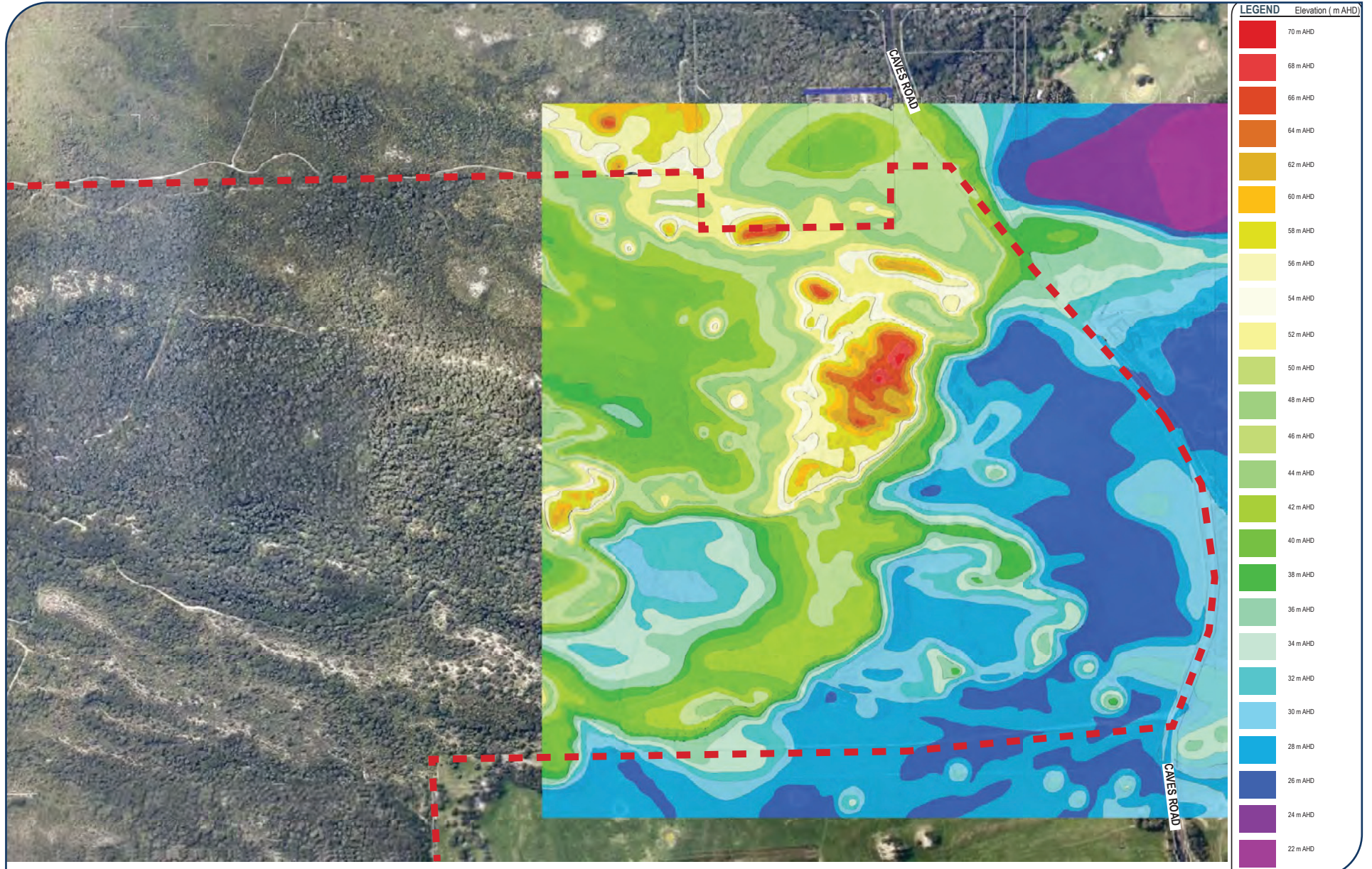


Figure 8: Topography

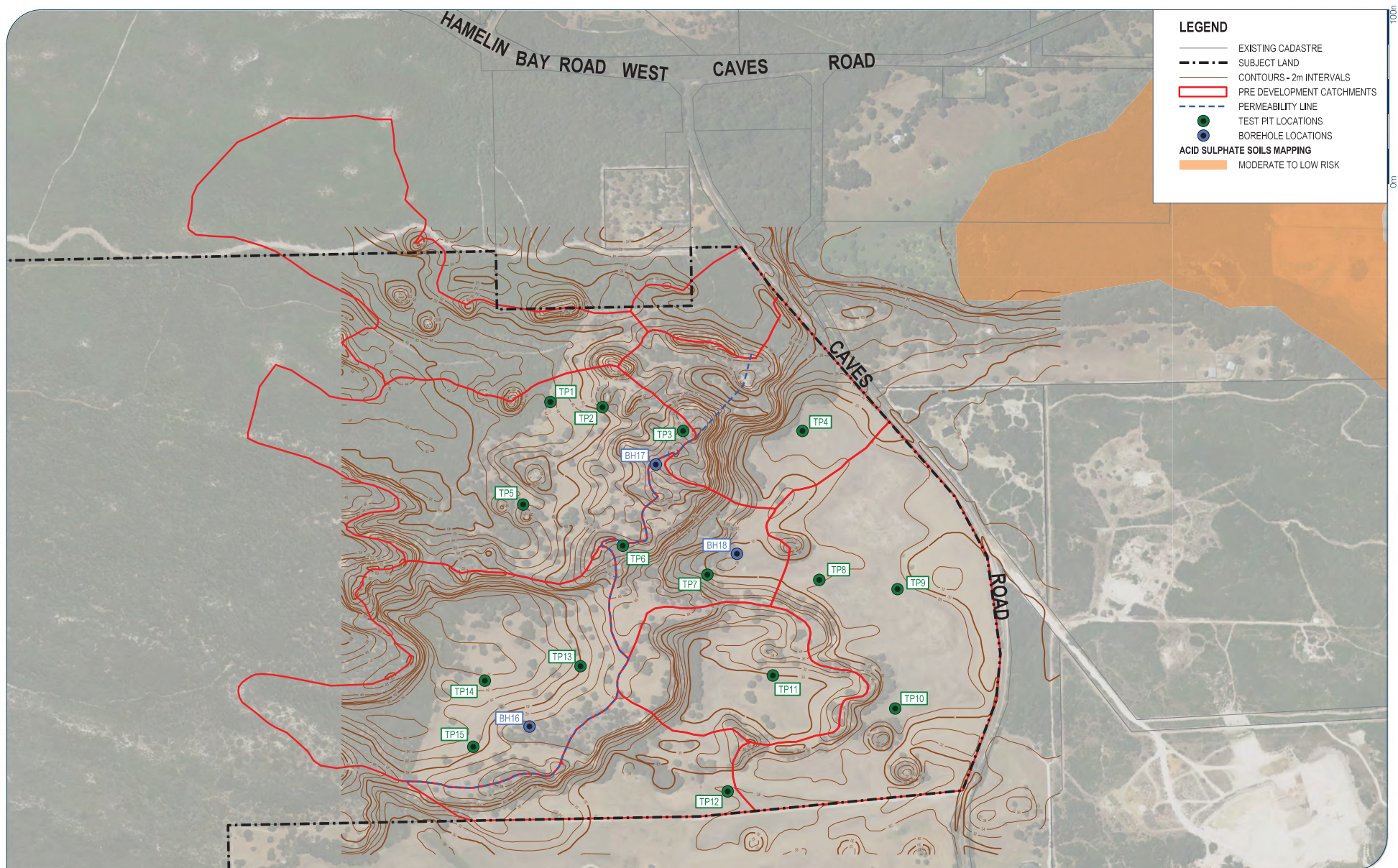


Figure 9: Geotechnical bore holes and test pits

Phosphorous Retention Index

Sampling for PRI testing was undertaken for test pits TP2 and TP11, with results of 14 mg/L and 17 mg/L respectively.

Soils with a PRI value of 2 – 20 mg/L are considered of moderate adsorbing qualities and inadequate for primary and secondary effluent disposal. Douglas Partners suggest further testing in order to better outline the phosphorus adsorption qualities for each lot to inform the need for fill materials at effluent disposal locations.

Acid Sulphate Soils

A preliminary desktop analysis of ASS conditions for the site was undertaken as part of the geotechnical investigation. The results of this analysis indicate

that the site is consistent with ASS mapping provided by DER, which categorises the site as moderate to low risk of ASS being encountered within 3m of the ground surface.

Karst Risk

Limestone caves are known to exist in the area, and occur in the same geological unit as the site. However, during Douglas Partners inspection of the site, no evidence was observed at ground surface level of notable karst features. Additionally, karst features would be anticipated in limestone, which was not encountered during Douglas Partners' investigation.

Based on the available information, the risk of damage to proposed dwellings from ground subsidence due to karst features is considered low to moderate in current conditions. Also, Douglas Partners anticipated that significant karst features could become evident during any

bulk earthworks that include heavy vibrating equipment and significant wetting of the ground. If such earthworks operations are proposed in some parts of the site, the areas where such operations were undertaken would be considered to have a low karst risk.

For the full report on the geotechnical investigation refer to *Appendix B*.

2.4 Goundwater and surface water

A District/Local Water Management Strategy (D/LWMS) has been prepared by Calibre Consulting (May, 2016) to inform and support the Structure Plan.

Along with five initial groundwater test pit locations excavated in September 2014, in preparing the D/LWMS Calibre has taken account of information from the geotechnical investigation undertaken by Douglas Partners (April, 2016).

2.4.1 Groundwater

The site is located on the limestone of the Cape-to-Cape region where there are no confined groundwater aquifers. The Department of Water advises that the site is within the Cape-to-Cape South Groundwater Sub-Area where groundwater availability is limited to localised dunal sands and fractured rock of the underlying granite bedrock.

A total of five test pits were excavated across the site's eastern sandy flats in September 2014 to depths of between 1.4mBGL to 2.05mBGL. Groundwater was encountered in three of these test pits between 1.14mBGL on the north eastern boundary and 1.90mBGL in the south

east (no groundwater was encountered in the remaining two test sites).

The timing of these excavations (late winter/ autumn) provides a strong likelihood of the observed groundwater levels being representative of the average annual maximum groundwater level. The groundwater levels are not regarded as a constraint to the proposed rural residential development.

2.4.2 Surface Water

There are no registered wetlands on the site according to the Augusta to Walpole Geomorphic Wetland Dataset (DEC). There is a wetland area approximately 300m to the north east on the adjacent land on the other side of Caves Road, which is mapped on the South Coast Geomorphic Wetlands dataset.

There are no defined watercourses, wetlands or drainage features on the subject land. A soak excavation has been constructed in the south of the site for stock watering and a well is located in the south-east corner of the site. There is a small drainage culvert under Caves Road on the north-east boundary, but this is related to localised drainage and does not convey significant surface water flows into or out of the site.

Nine pre-development catchments have been identified across the site. There are a number of areas on the site identified as a potential flooding risk due to trapped lows between surrounding dunes or within low-lying depressions. These catchments and the surface water features are shown on Figure 10 (refer *Figure 10: Pre-development Surface Water Conditions*).

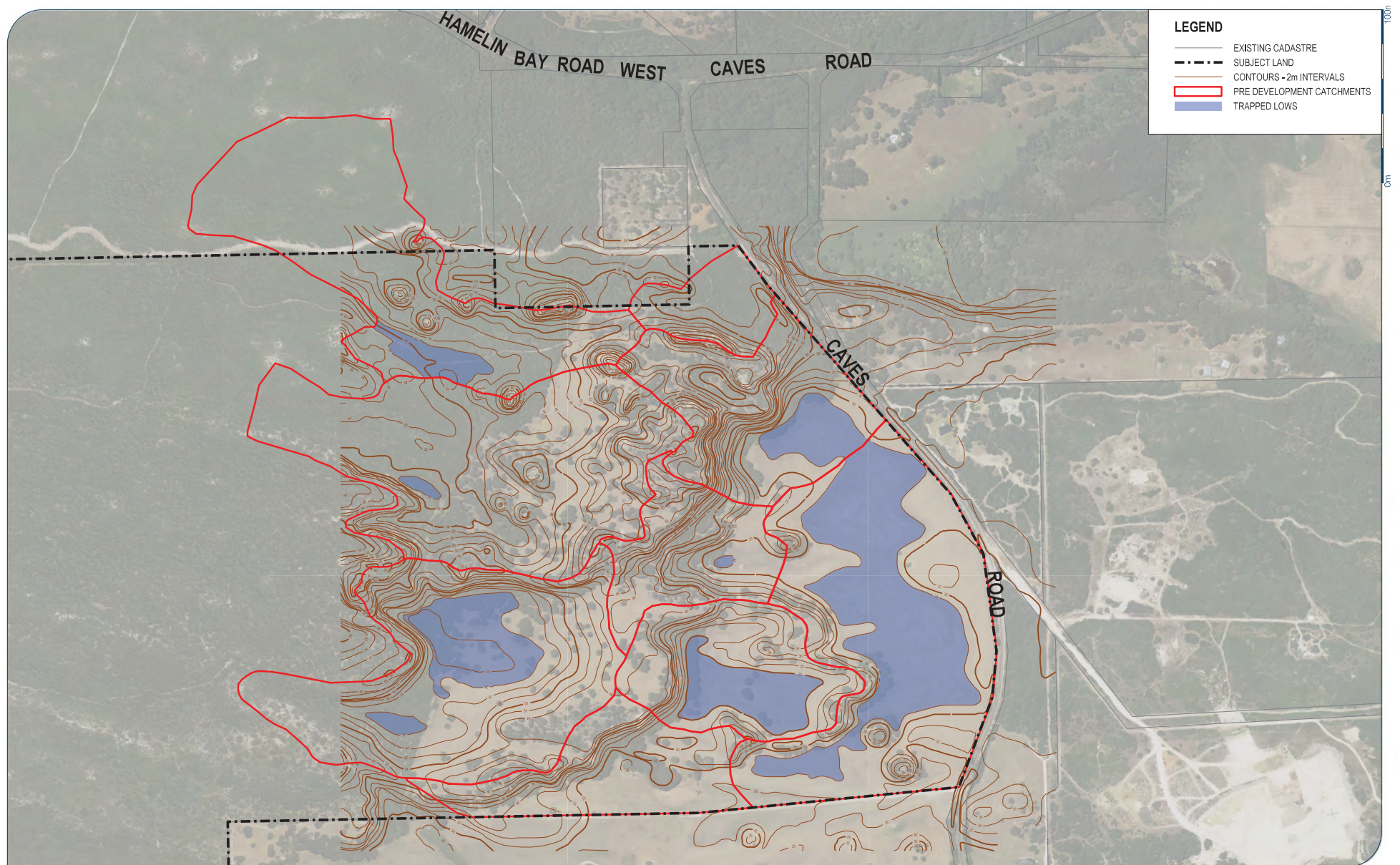


Figure 10: Pre-development Surface Water Conditions

Pre-development modelling of the site has been undertaken to evaluate inundation depths for the identified trapped lows by catchment under existing conditions. The inundation shown in the trapped lows on Figure 10 represents the results of an extreme event 1% AEP (previously referred to as a 1 in 100 year flood event).

Due to the highly permeable sands and limestone underlying the site, infiltration rates have been observed as being very high. Rainfall from the majority of storm events will infiltrate at-source and very little runoff is expected, as evidenced by the lack of watercourses being present.

For the full report on the D/LWMS refer to *Appendix B*.

2.5 Landscape evaluation

The landscape character of the site was assessed by Emerge & Associates at a regional and site-specific scale as part of a landscape evaluation and visual impact assessment.

At the regional scale, the Western Coastal Unit and Eastern Slope Units identified in SPP 6.1 are applicable.

These are reflected in the LPS as 'Visual Management Areas'. An extract of the relevant plan in the LPS is shown in Figure 11 (refer *Figure 11: Local Planning Strategy Visual Management Areas – extract*).

The subject land falls within 'Visual Management Area A'. Most of the western part of the site is also identified as 'Natural Landscape Significance' while the eastern portion is identified as 'Rural Landscape Significance'. The far eastern portion falls with

a 'Travel Route Corridor' identified on both sides of Caves Road.

The site evaluation identified the viewing of the project site as:

- Level 1 Sensitivity Sites being Caves Road and the Cape to Cape Track
- Level 2 Sensitivity Sites being gazetted roads through the National Park, Hamelin Bay Holiday Park and Colyer Drive Rural Residential Subdivision
- Level 3 Sensitivity Sites being informal vehicle access surrounding the site.

It was determined that all Sensitivity Sites were surrounded by dense vegetation at heights that restricted views of the site. Caves Road was the only Sensitivity Site that provided views into the site as it directly abuts the eastern boundary.

At the site-specific scale, five (5) landscape character units were identified by Emerge which then allowed the site to be assessed in relation to Landscape Significance, Wilderness Quality, and Views (refer *Figure 12: Landscape character*).

The character units and their assessed significance were as follows:

- 1) Remnant Coastal Dunes – High Significance
- 2) Vegetated Escarpment – High Significance
- 3) Peppermint Groves – Moderate Significance
- 4) Rolling Enclosed Depressions – Moderate to Low Significance

- 5) Cleared Pasture Land – Moderate to Low Significance

The 'Remnant Coastal Dunes' and 'Vegetated Escarpment' were attributed with a high level of landscape significance resulting primarily from the variation of landform with steep slopes and sharp peaks providing contrast to the surrounding landscape. They also contain dense vegetation cover differentiating them from the more rural landscape character types which typically contain less variation and diversity.

The 'Rolling Enclosed Depressions' and 'Cleared Pasture Land' represent the Rural Landscape Significance attributed by SPP 6.1 with rolling grasslands and scattered trees of the agricultural land use. This is also located adjacent to Caves Road which is identified as the 'Travel Route Corridor' providing views into this pastoral land and adding to the cultural experience of the region.

For the full landscape report refer to *Appendix B*.

2.6 Bushfire hazard

A comprehensive Bushfire Management Plan (Lush Fire & Planning, Version E, January 2020) inclusive of a bushfire hazard assessment has been prepared by an accredited Bushfire Planning Practitioner in accordance with *State Planning Policy (SPP) 3.7 Planning in Bushfire Prone Areas and the Guidelines for Planning in Bushfire Prone Areas (December 2015)* (Guidelines).

The subject land is located within a bushfire prone area where fires occur on a regular basis. These fires can pose a risk to life and property. The proposed development is introducing substantial values (property and people) which

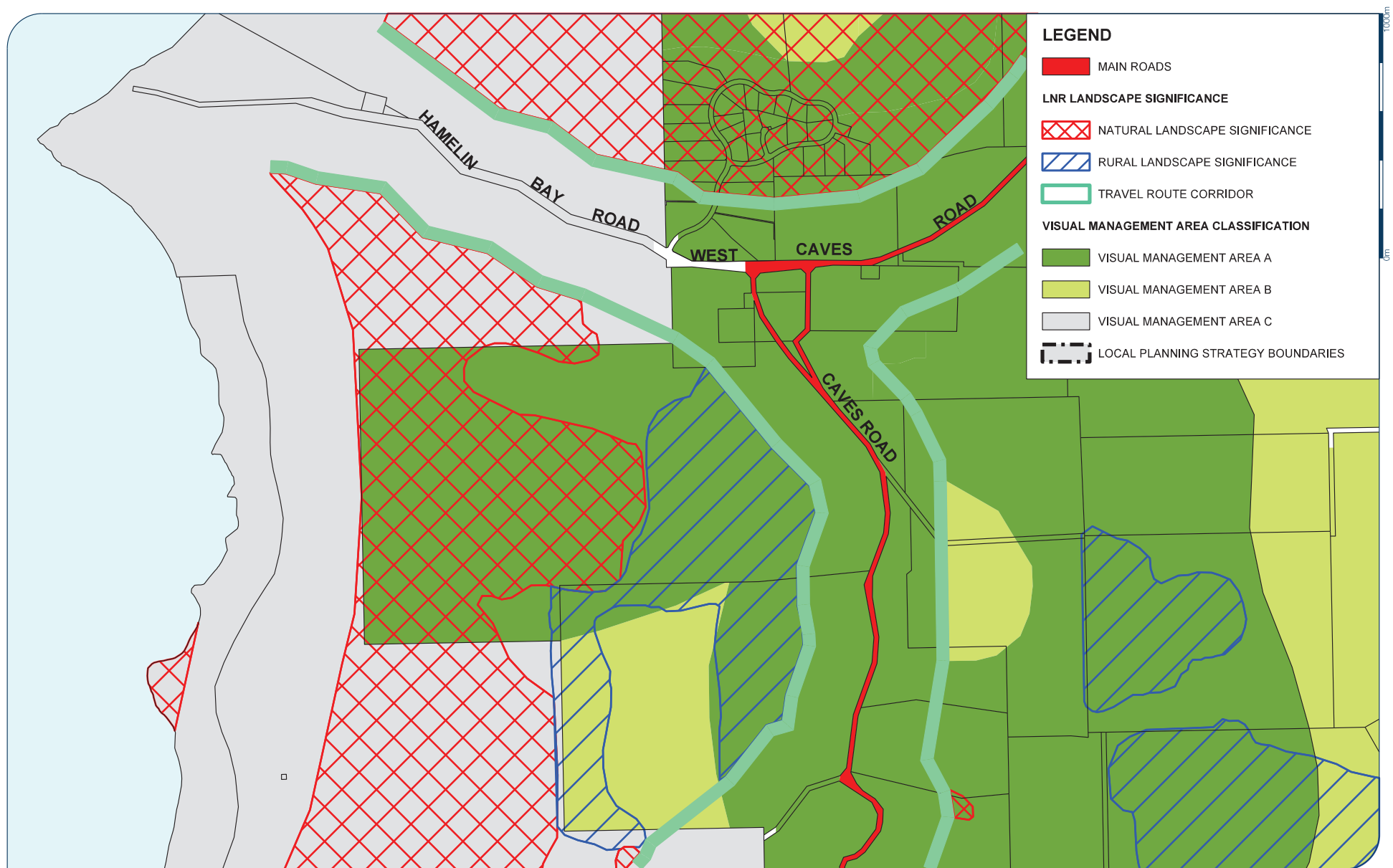


Figure 11: Local Planning Strategy Visual Management Areas – extract

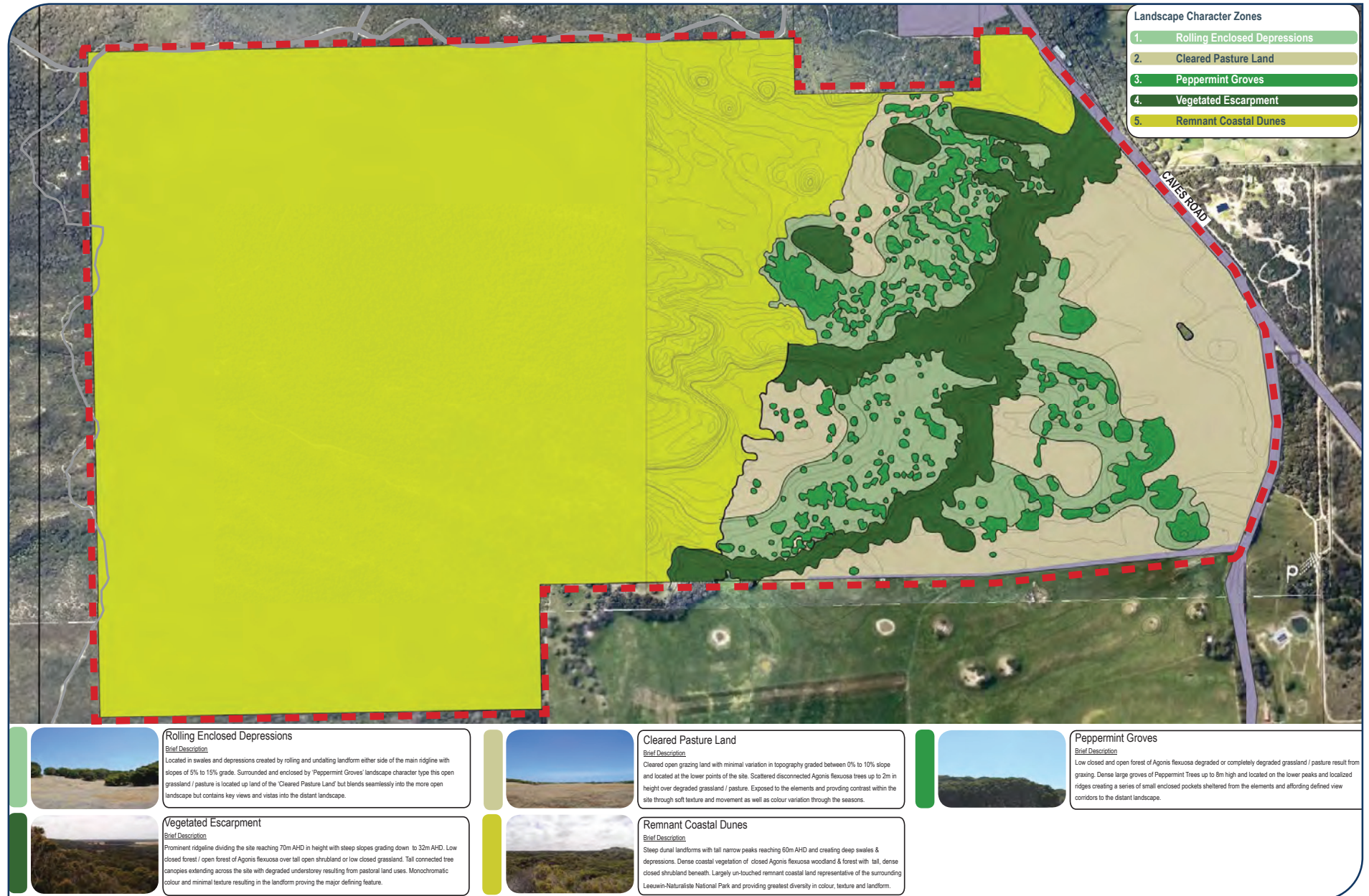


Figure 12: Landscape character

must be protected from the risk posed by the potential bushfire hazard.

The pre-development bushfire hazard of the subject land has been assessed using the methodology contained in the Guidelines. This classifies vegetation based on tree height and the percentage of canopy cover and the characteristics of the different hazard categories.

The assessment shows that the western portion of the site and the vegetated ridge running through the eastern portion of the site have an 'Extreme' hazard rating; the majority of the areas cleared for agriculture have a 'Moderate' hazard rating; and two areas of the cleared land more than 100m from the 'extreme' or 'moderate' rated land have a 'Low' hazard rating (refer *Figure 13: Bushfire hazard levels*).

The project team used an iterative process to regularly obtain feedback and guidance from the Bushfire Planning and Design practitioner which helped inform and modify the subdivision design.

From examination of the site and a preliminary design concept, the principal bushfire design issues were summarised as:

- a) Provision of a clear separation between the development and the proposed conservation land. This then needs to consider that such a separation would also prevent any proposed vegetation corridors from linking into the conservation area;
- b) Provision of a clear boundary and treatment between the development and the conservation area;

- c) Development in areas with an extreme bushfire hazard rating requires permanent vegetation modification to reduce that risk;
- d) The amount of clearing required to obtain a maximum BAL – 29 rating for the proposed house sites. It was noted that the concept plan included areas of bulk earthworks which would result in those areas being cleared;
- e) Identification of vegetation that is to be retained for conservation purposes and which is to be retained for landscape values.
- f) Defining non-development areas including steeply sloping land;
- g) Ensuring that the requirements for maintaining low fuel zones are contained within each lot so that they do not place a legal responsibility onto a neighbouring property; and
- h) The difficulty of providing multiple road access points onto Caves Road because of sight distance issues (subsequently addressed by relocating the northern road access and inclusion of an emergency accessway at the south-east corner of the subject land to supplement the proposed road access).

For the full bushfire management plan refer to *Appendix B*.

2.7 Heritage

A search of the Department of Aboriginal Affairs (DAA) Aboriginal Inquiry System (AHIS) (January, 2016) demonstrated that no registered

aboriginal heritage sites are present within the subject area.

A search of the Shire's Heritage Inventory (2012) reveals no recorded heritage sites are present on the subject land. The Karridale Cemetery to the north of the subject land is not impacted by the proposed development.

2.8 Context and other land use constraints and opportunities

The adjoining land to the south is predominantly cleared grazing land zoned 'General Agriculture'.

To the east lies semi-cleared rural properties including an existing extractive industry operation (limestone and lime sand) on Lot 61 Grosse Road. In 2015, the operators of the quarry sought approval for expansion.

The owners of Lot 21 made a submission on the advertised Extractive Industry License proposal which did not object to the proposed quarry expansion, but asked that Council take into account the designations of Lot 21 under the SPP 6.1 and LPS, and the possibility that two (2) additional dwellings may be proposed less than 500m from the proposed extractive industry expansion and these would be regarded as Sensitive Uses by the EPA.

This is a matter to be taken into account at the subdivision and development stages but is not regarded as a significant factor for the Structure Plan.

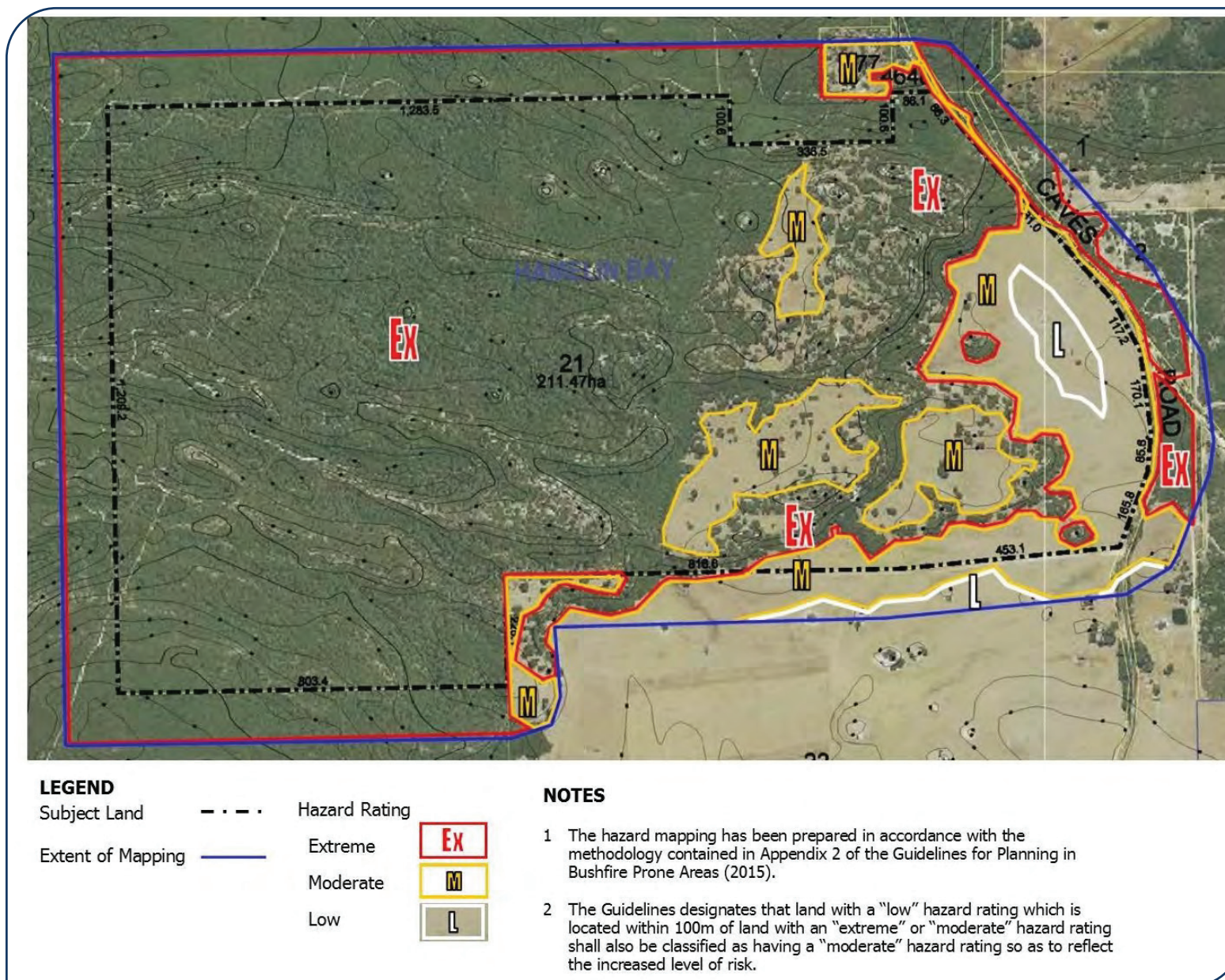


Figure 13: Bushfire hazard levels

3 LAND USE AND SUBDIVISION REQUIREMENTS

3.1 Land use

The proposed 'Enclave' comprises three distinct cells that respond to the unique landscape of the site and conform to the existing planning framework (refer *Figure 14: Structure Plan*)

The south-eastern cell adjoins Caves Road where four larger lots of 3-4ha are proposed. Together with limited planting to semi-screen building envelopes, these larger lots will protect the rural landscape values of the Caves Road 'Travel Route Corridor'. These lots are well suited to 'hobby farm' uses that maintain a rural amenity. Their proximity to Caves Road makes them ideal for use by artisans, combining a dwelling and studio from which direct sales to tourists can be made, controlled by suitable scheme provisions.

The western portion of this cell comprises a further seven 'traditional' rural residential lots of approximately 1.5-2ha. Designated building envelopes will result in dwellings being largely in-evident from Caves Road due to retention of vegetated, undulating topography and carefully placed screen planting.

To the west of this cell lies a narrow, prominent and densely vegetated ridge that distinctly separates and defines the other two development cells. The south-western cell proposes 11 lots ranging in size from approximately 8,000m² to 1.8ha, with the larger lots containing sections of the vegetated ridge within proposed 'Vegetation

Protection' areas. This cell is suited to semi-clustered rural residential development.

The northern cell comprises the most clustered portion of the Enclave, with lots ranging from around 4,000m² to 6.8ha, with the larger lots predominantly given over to substantial areas of 'Vegetation Protection'. Building envelopes are closer together than in the other cells in order to satisfy landscape and bushfire protection requirements while providing a more clustered precinct. Dwellings constructed on building envelopes in this cell will enjoy attractive internal site views, together with limited external views and vistas.

3.2 Public open space

The 138ha western portion of the subject land is proposed to be gifted to the Crown by the landowners and included in a 'National Parks and Nature Reserves' reservation under the Shire's PS1. This area comprises 65% of the subject land and represents a significant, and generous, addition to the public conservation estate.

In being prepared to secure the western portion of the subject land for conservation and landscape purposes in perpetuity, an important principle for the landowners is guaranteed public access to a limited number of walking tracks through the land.

Informal tracks already exist through the subject land and link with the Cape to Cape Walk Trail that passes close-by to the west. Permanently creating these tracks will not only enable residents and visitors of the 'Enclave' to walk to the Cape to Cape Walk Trail and further west to the coast, but also enable the general public to visit and enjoy

this natural asset (refer *Figure 15: Proposed walk trails*).

Although not accessible to the public, additional prominent areas of 'Managed Vegetation' are proposed in several rural residential lots comprising most of the northern portion of the 'Enclave' development area. These Managed Vegetation areas will conserve the existing topography and remnant vegetation in this location in accordance with the 'Leeuwin Naturaliste Ridge Landscape Amenity' designation under SPP6.1 and LPS 1.

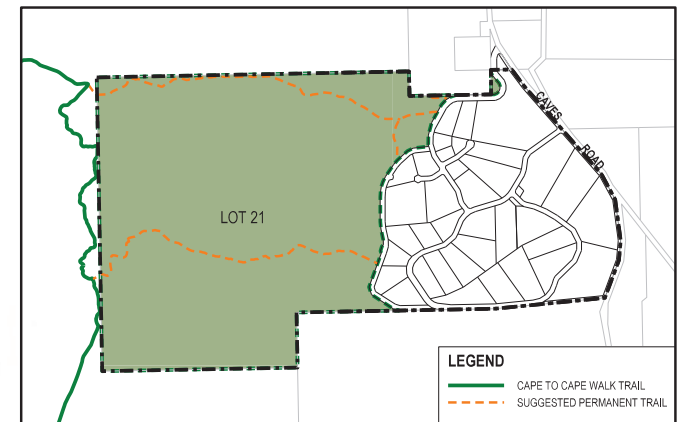
3.3 Residential

A total of 36 lots ranging 3231m² to 6.47ha are proposed, with the average lot size being approximately 1.7ha. Each lot has a designated building envelope of 1,000m² - 2000m². Construction of dwellings and outbuildings will be restricted to these building envelopes.

Based on the relatively low numbers of persons per dwelling and the relatively high vacancy factor anticipated in this location, the estimated permanent population of the 'Enclave' is 50 persons, consistent with SPP6.1.

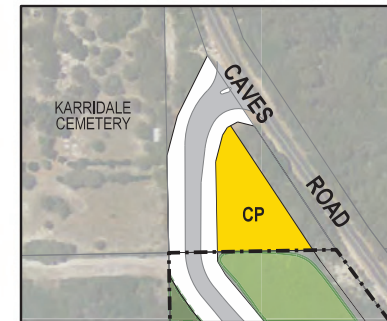
The Shire's LPS states that statistics from the 2006 Census indicated that while there was an increasing permanency of the population in the principle centre of Margaret River (townsite), the overall Shire permanency/occupancy rate had declined to 70%.

Table 2 shows forecasts of population growth and housing and lot supply to 2026 and 2036 (refer *Table 2: Growth Based on WA Tomorrow*).



BALANCE OF STRUCTURE PLAN

SCALE: N.T.S.



DETAIL A INSET

SCALE: N.T.S.

LEGEND

	EXISTING CADASTRE		WALKING TRACK
	SUBJECT LAND		PROPOSED ROAD PAVEMENT
	PROPOSED CADASTRE		INDICATIVE DRAINAGE ATTENUATION FOOTPRINT
	PROPOSED CONSERVATION AREA		CONTOURS - 2m INTERVALS
	SCREENING VEGETATION TO BE PLANTED		BUILDING ENVELOPE (Max. 2000m ²)
	MANAGED BUSHLAND		PROPOSED WATER TANK RESERVE
	VEGETATION TO BE RETAINED (SUBJECT TO FINAL DETAILED DESIGN)		PROPOSED RURAL RESIDENTIAL
	EMERGENCY ACCESSWAY		PROPOSED ROAD RESERVE
	FIRE SERVICE ACCESS		FUTURE CAR PARK (BY OTHERS)

Figure 14: Structure Plan

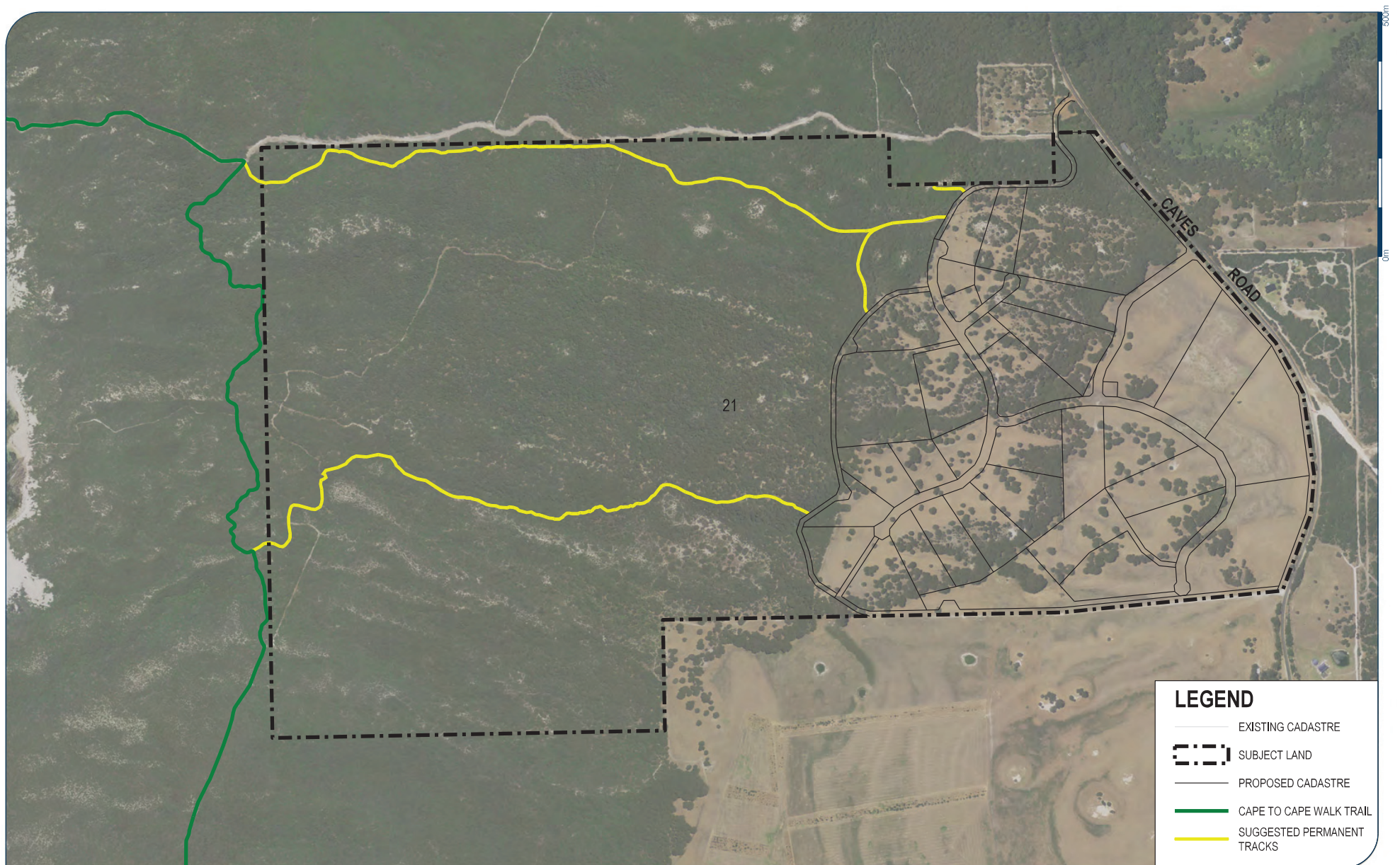


Figure 15: Proposed walk trails

Table 2: Growth Based on WA Tomorrow

	2026			2036		
	Permanent	Service	Total	Permanent	Service	Total
People	19,000	8,000	27,000	25,000	10,700	35,700
Percentage of the population	70%	30%	100%	70%	30%	100%
	Occupied	Unoccupied	Total	Occupied	Unoccupied	Total
Houses	7,600	3,250	10,850	10,000	4,250	14,250
Persons per House			2.50			2.50
	House	No Building	Total	House	No Building	Total
Lots	11,000	3,000	14,000	14,250	1,550	15,800
Percentage of the supply	80%	20%		90%	10%	
Permanent Persons Per House / Total Persons per Lot	1.75		1.96	1.75		2.26

Source: Shire of Augusta-Margaret River Local Planning Strategy

Forecasts to 2026 and 2036 both use a figure of 1.75 Permanent Persons per House/ Total Persons per Lot.

The ABS 2011 Census showed that there were 6810 private dwellings in the Shire with an average 2.5 persons per household. The Shire-wide occupancy rates and vacancy rates were 69% and 29% respectively.

Based on this, if 70% (rounded) of the 36 lots in the Enclave are occupied, this equates to 25 occupied dwellings.

At 2.5 persons per dwelling, this equates to 60-63 persons. At 1.75 permanent persons per dwelling, this equates to 42-44 persons.

On balance, it is estimated that the Enclave will have a permanent population of around 50 people when fully developed, consistent with SPP6.1 and the LPS.

Even if the higher figure of around 60 permanent residents is applied, it is considered that this also conforms to Table 1 – Settlement Hierarchy in SPP6.1 which states that the maximum permanent populations listed for each settlement are a guide, consistent with their intended function. It says that individual settlements may achieve a greater or lesser population, either permanently, or during tourist seasons, still consistent with the intended function and the established design criteria.

Accordingly, SPP6.1 provides the Shire and the WAPC with some discretion in relation to the size of the permanent population of the proposed Enclave.

Given that the design, infrastructure and function of the proposed Enclave conforms to SPP6.1; and given the significant community benefit derived from ceding of 138ha of land to the Crown with high conservation and landscape values for addition to the conservation estate (National Park);

it is considered that the proposed yield of 36 lots, with one dwelling per lot and approximately 50 permanent residents, is both consistent with SPP6.1 and demonstrates a balanced and equitable outcome.

3.4 Additional uses

Both the LPS and LPS1 provide for 'low impact tourist development' in rural areas.

The LPS states that limited small scale tourist development opportunities (e.g. Chalets, Guesthouses and Restaurants) are provided for on rural zoned land under the provisions of LPS1. These developments will need to meet the requirements/ definition of 'low impact tourist development' as prescribed by the Scheme.

The LPS also says that the Enclave should encourage mixed use activities to provide for limited Forecasts to 2026 and 2036 both use a figure of 1.75 Permanent Persons per House/ Total Persons per Lot.

Edge Tourism and Marketing have investigated the tourism potential of the subject land (refer Tourism opportunities report in Appendix B). In summary, the investigation found:

- low demand for chalet-style tourist development (existing premises in the Shire typically have occupancy rates of around 50%)
- there would be merit in the proposed lots incorporating tourism as a low key/secondary use to residential (at the purchasers' discretion)

- there are potential benefits in including broader use descriptions providing for approval of Bed and Breakfast, Grouped Dwelling and possibly Holiday House
- for the lots adjoining Caves Road, seeking Shire approval for a Cottage Industry use class (in addition to residential) to appeal to a target market of artisans that work from home and wish to have the ability to sell from a studio/ gallery collocated with the artist's home
- also for the lots adjoining Caves Road, consider additional small-scale tourist-related uses such as tea rooms, cottage industry produce, and health and wellness services.

These matters will be further addressed in a related scheme amendment proposal, but the structure plan design generally supports the above findings.

3.5 Movement networks

Vehicle access to the subject land is presently obtained off Caves Road via a small reserve near the Karridale Cemetery immediately north of the land, and at the junction of the southern boundary and Caves Road. As the southern access point is unsuitable for access to the proposed Enclave subdivision (without significant alterations to Caves Road), it was decided to investigate a new intersection.

An investigation was undertaken resulting in a Preliminary Intersection Report being prepared and submitted to Main Roads WA for approval (refer *Appendix B: Preliminary Intersection Report (Revision 4) - Calibre Consulting, August 2017*).

The location of the proposed central intersection (Intersection A) is at the northern end of the cleared portion of the subject land on a straight and moderate to gently sloping section of Caves Road. Sight distance was measured at the proposed intersection location in both directions and found to be in accordance with the Austroads Part 4A Safe Intersection Sight Distance.

The proposed northern intersection (Intersection B) is located at the current access to the Karridale Cemetery car park (and Salmon Hole Beach in the national Park), some 210m south of the Caves Road/Hamelin Bay Road intersection. A reduction in the designated speed limit for this locality from 80km/hr to 70km/hr would assist the new road intersection to conform to Ausroads standards. Given the short distance to the Caves Road/Hamelin Bay Road intersection, the public benefit of improving the existing access to the cemetery car park, and the comparatively low assessed traffic volumes to be generated by the development, Main Roads WA had no objection to the new proposal.

The southern-most existing access point into the subject land is proposed in the Structure Plan as an emergency accessway to provide for emergency services access and alternate access for residents in times of bushfire or other emergency and to supplement the two roads.

Along with the existing Caves Road, the two new roads, emergency accessway and fire service access, will create vehicle access around the full perimeter of the Enclave subdivision (refer *Figure 14: Structure Plan*).

Internal road access uses a series of culs-de-sac that follow the contours of the land and minimise the need for earthworks.

As mentioned at 3.2 above, it is proposed that several of the existing informal tracks through the western portion of the subject land linking with the Cape to Cape Walk Trail be formalised in perpetuity. This will benefit residents and visitors to the area. The proposed Fire Service Access along the western boundary of the Enclave subdivision will assist the tracks to create a loop connecting back to the Cape to Cape Walk Trail.

3.6 Visual impact management

Management objectives and standards developed by Emerge Associates and guided by the relevant planning policies were used to determine the level of protection required to preserve the landscape significance and value within the site.

This information was used by the project team to inform the subdivision design to ensure any requirements for landscape protection could be achieved or managed. In an iterative process, this enabled Emerge Associates to assess and advise on design modifications leading to final assessment of the proposed Structure Plan (*Figure 14*).

The Structure Plan design proposes subdivision of the 211Ha site into two main areas and incorporates techniques to minimise and manage any physical and visual impacts on the site such as landscape buffer and screen planting and minimising earthworks for roads and building envelopes.

The western portion of the site comprising of approximately 138Ha has been identified to have high conservation and wilderness value. It is proposed to be retained as conservation area and there is no change to visual experience or impact of this area.

The eastern portion of the site comprising of approximately 73.5Ha is proposed to be developed into 36 rural residential lots varying in size from 0.3231Ha to 6.8Ha. Designated building envelope locations have also been included and vary in size from 1,000sqm up to 2,000sqm. This does propose changes to the existing landscape visual experience, character and significance and was therefore the focus of the visual impact assessment.

Physical impacts of the development include clearing of vegetation for roads and fire management purposes, construction of buildings, roads, fences, drainage areas and establishment of landscape buffers. Under the proposed 'Rural Residential' zoning, buildings will have a maximum height of 8.0 metres.

The landscape evaluation identified that the key visual impacts of the proposed site would primarily be experienced from the Level 1 Sensitivity Site being Caves Road. A desktop and site visual impact assessment was therefore undertaken by Emerge Associates to assess these impacts.

The desktop site assessment utilised existing contour survey information of the site and knowledge of existing vegetation from the landscape evaluation

site inspection to complete a total of 35 typical cross-sections through the eastern portion of the site.

Sections were initially taken from three (3) locations along Caves Road and cut through as many of the proposed 36 Lot building envelopes as possible to determine how the existing landform and vegetation would impact on the visibility of each building lot from Caves Road.

The initial desktop assessment determined the potential for multiple dwelling locations to be visible from 1 or 2 key viewing locations along Caves Road but not from all 3 locations. It is also determined that some lots on the western side of the central ridgeline may be visible from Caves Road depending on the height and density of existing vegetation.

As a result, modifications were made to the design including changing the location and reducing the size of building envelopes, proposing limited earthworks in portions of the site to 'lower' building sites in the landscape, and careful placement of screen planting areas.

Emerge Associates then undertook a physical site assessment in March 2016 using four (4) key viewing locations identified along Caves Road. An 8.0m high pole was placed in the centre of each building envelope location to represent an 8.0m maximum building height. When the poles were in place the key viewing locations along Caves Road were visited and actual visibility of each proposed building envelope and building determined. Photographs were taken at the various viewsheds, and also at the location of the proposed building envelopes (refer *Figure 16: Photo location plan*).

The site assessment determined that Lots 1 to 29 located on the western side of the central ridgeline were not visible from any location along Caves Road. It also determined that Lots 30 to 35 would be visible from 1 or 2 of the key viewing locations but not all 4.

A visual impact assessment was then undertaken to determine the potential impacts of the proposed development against the derived management objectives and standards identified as part of the landscape evaluation.

It was determined that Lots 1 to 29 had a high level of compliance with the management objectives and standards as they would not be visible from Caves Road. Lots 30 to 35 were determined to have a moderate level of compliance as they were visible from some key viewing locations, however glimpses of buildings would be acceptable as part of the rural landscape character in this portion of the site.

Establishment of proposed landscape buffers and screen planting would further reduce the visual impact of Lots 30 to 35 over time and would be an acceptable visual management outcome. Emerge Associates concluded that application of recommended Design Guidelines will ensure the development on Lots 30 to 35 will comply with all relevant landscape policies. They commented that Design Guidelines are not necessary for developments on other lots but would be encouraged for Lots 1 to 29 to ensure the natural setting and landscape character within the site is maintained.

For the full landscape report refer to *Appendix B*.

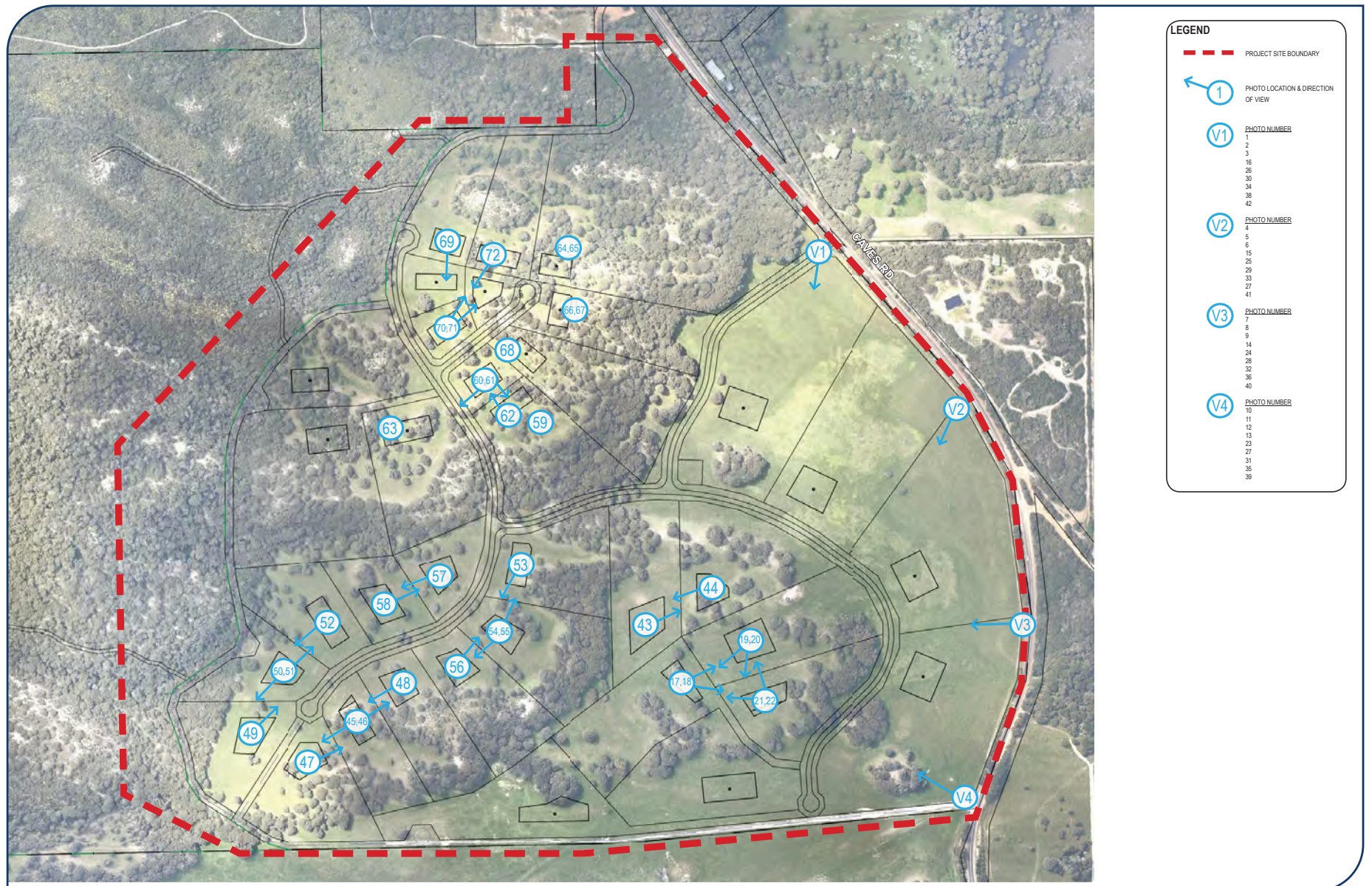


Figure 16: Photo location plan

3.7 Water management

The water management strategy for the proposed Enclave development is addressed in the D/LWMS (Calibre Consulting, 2016).

3.7.1 Drainage management strategy

The objectives of the stormwater drainage management for the development area are to mimic as close as possible the pre-development flows leaving the subject land and treating the necessary volumes before discharging the water to receiving water bodies.

Stormwater drainage design in WA is typically based on annual exceedance probability (AEP) using three (3) scenarios, as follows:

- Up to and including the 1 exceedance year (EY) event
- The 20% AEP storm event
- The 1% AEP storm event

The primary objectives of the AEP event drainage designs are to control the flow of stormwater throughout the subdivision, treat the stormwater, release the water at pre-development rates, and to protect the ecological functions of receiving natural environments.

To achieve this, temporary storage of runoff and controlled outlets will be utilised.

Runoff from storms up to and including the 1% AEP storm event (i.e. 1 per 100 year) will be conveyed through a combination of the 20% AEP drainage system, with excess runoff conveyed overland through the road reserves. The primary

objective in designing for these extreme events will be the protection of private property from inundation. Runoff during these events will be contained in one of four proposed detention basins for the site or in locally trapped lows where sufficient separation to flood peak is possible.

3.7.2 Groundwater management strategy

The focus of groundwater management is to maintain groundwater as close as possible to pre-development, while maintaining adequate separation from infrastructure. Furthermore, groundwater will be managed to achieve a high water quality.

A vertical separation between significant infrastructure and the onsite groundwater is to be implemented. The separation will be achieved through use of porous clean fill along roads and under houses where necessary.

Houses will achieve separation via a combination of location (e.g. areas where the groundwater is deeper) and lifting the base of the house above the soil surface. This lifting is to be achieved through clean porous fill or placing the house on stumps.

As outlined in the geotechnical report (Douglas Partners, 2016), it is recommended that a detailed ASS investigation be carried out in all areas overlying dark grey silty sand to be excavated or if dewatering is proposed to be undertaken for the site.

3.7.3 Water quality management

The development will utilise a range of best management practices to manage water quality

across the site. The major practice will be the implementation of water sensitive urban design (WSUD) to manage stormwater up to 20% AEP flood events.

Most of the other management practices will involve minimising the quantity of nutrients added to the surface and groundwater within the development. The focus is on managing practices on lots for effluent disposal and stormwater runoff.

Individual lot owners will be responsible for the treatment and disposal of effluent from within buildings. Several treatment options will be available to landowners, however, it is envisaged that buildings will be serviced by aerobic treatment units (ATU).

A key aspect of managing water quality for the development will be involved in the construction of the subdivision. At the subdivision stage of development there will be a requirement to prepare and implement erosion and sediment control plans. Management options should also focus on minimising potential pollutants during the construction phase.

The majority of the fertilisers that will be used within the development will be on land managed by householders. To assist in their garden quality management, all lot purchasers will be provided with information regarding Waterwise and nutrient wise practices.

3.7.4 Wetland and waterway management

There are no direct linkages between the subject land and any water dependent ecosystems (WDE).

Rainfall runoff generated on site will be accumulated and infiltrated using the detention basins and management systems outlined. The basins will serve as ephemeral wetlands and the roadside swales will serve as engineered ephemeral waterways (refer *Figure 17: New habitats and waterways*)

3.7.5 Water servicing and sustainability

The development is utilising a water servicing system that is sustainable for the site and its unique attributes. The system will predominately rely on each lot owner supplying their own water and treating their own wastewater. Within the smaller lots, an alternative non-potable water supply and waste water treatment system may be employed, depending on final lot size and the available technology. However, all lots will be self-sufficient in potable water via rainfall capture regardless. This will be the subject of a detailed investigation as part of the subdivision.

The Shire of Augusta-Margaret River currently recommends a 120kL tank capacity for all new houses that are not connected to a mains water supply and this has been adopted for the development.

Wastewater is to be treated and disposed or reused at the lot scale. Each lot is responsible for both their own collection and appropriate treatment of wastewater.

The moderately adsorbing PRI values obtained from the geotechnical report are indicative of soils ill-suited to primary effluent disposal. Further PRI testing is required to better establish a site-wide understanding of PRI. Where the PRI on

a particular lot is deemed to be inadequate for secondary disposal, suitable fill soil may be needed for effluent disposal areas.

3.7.6 Key elements

A summary of the WSUD elements that will be implemented within the development to achieve

best management practices are outlined below, and visually represented in Figure 18 (refer *Figure 18: Water management – key elements*).

Water conservation and servicing

- All houses are to supply their own water, predominately through rainwater capture. Tanks are to be sized at 120kL.
- Encouragement of water efficient fixtures and fittings for all buildings constructed is to be undertaken.
- Provision of awareness-raising material on water saving measures and ideal roof size to meet water requirements is to be provided to the lot purchasers.
- Each lot to treat its effluent to a standard that minimises the risk for pollution to the groundwater, downstream systems or residents. This water can be used for subsurface irrigation of on lot gardens.

Stormwater management

- Detention basins are to be installed to attenuate the 1% AEP storm event's peak outflow from the development to comparable pre- development levels.

- All lots will detain part of the peak flow within a minimum 1kL air gap within their rainwater tanks which is linked to on-lot infiltration areas.

Flood protection

- All building pads will be designed to maintain a minimum separation clearance of 300mm between the habitable floor levels and the 1% AEP flood levels.
- The drainage network will flow at capacity during the 1% AEP event and excess water will be directed down the road reserves and drainage reserves to protect houses and other infrastructure.

Ecosystem protection management

- WSUD will include swales and detention basins to capture sediments, large debris and nutrients from all water runoff from impervious surfaces.
- New ephemeral wetland and waterway habitat will be created through appropriate planting with native vegetation and landscaping within the WSUD features. This will be complemented by the protection of existing on-site vegetation, and planting of new vegetation to enhance habitat creation (refer *Figure 17: New habitats and waterways*).
- Households will be informed regarding nutrient wise garden practices to reduce nutrient loading on private lots.



Figure 17: New habitats and waterways

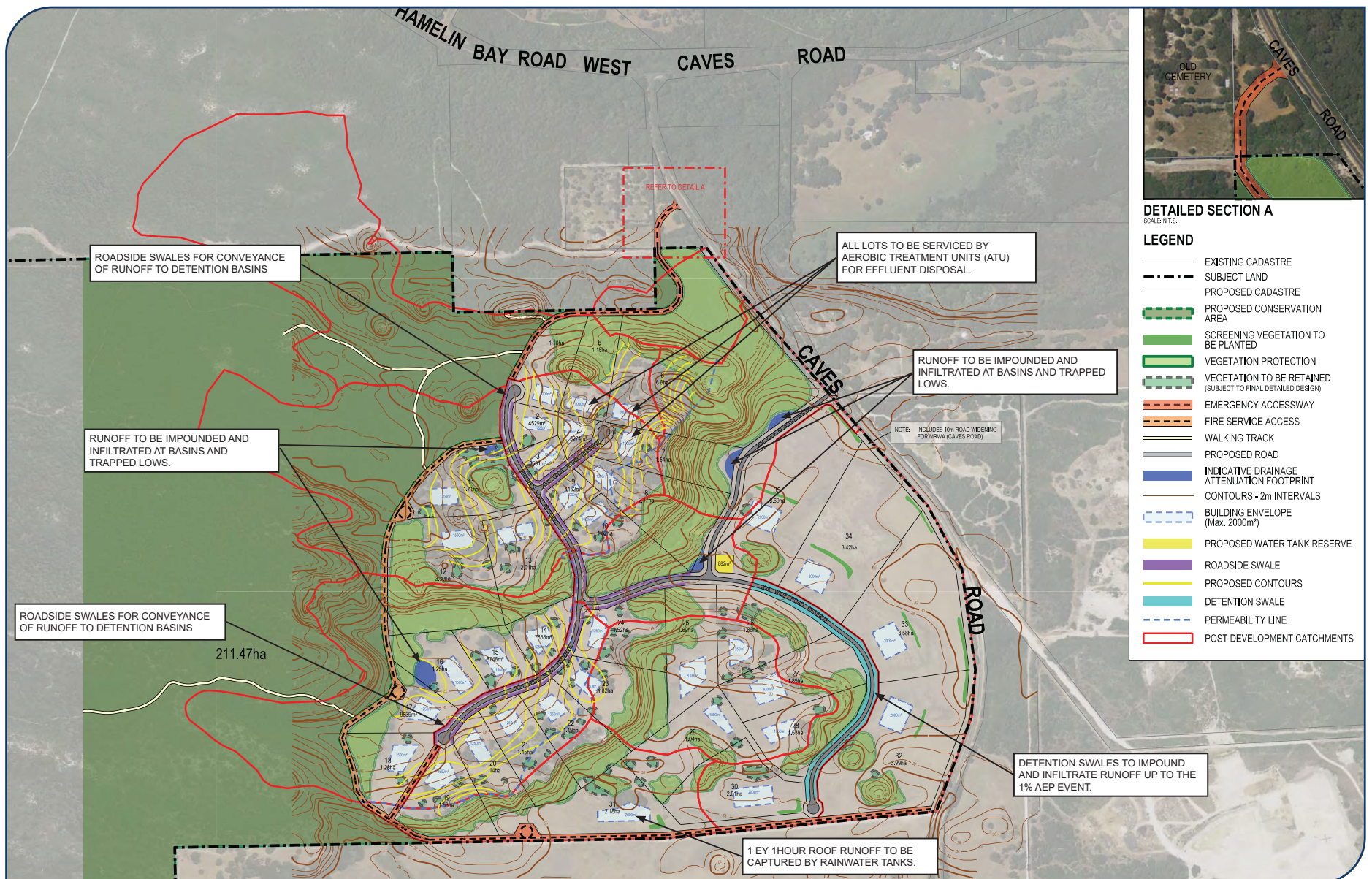


Figure 18: Water management – key elements

Groundwater management

- Inflows to the groundwater will be treated through swales and detention basins.
- All dwellings will be serviced by appropriately sized and installed ATU to ensure that wastewater is sufficiently treated prior to discharge.
- Groundwater discharge regimes are to be maintained so that there are no negative impacts on the subject land or downstream significant ecosystems.

For the full D/LWMS report refer to *Appendix B*.

3.8 Bushfire management

The factors affecting the survivability of a dwelling include:

- Terrain (slope);
- Vegetation - overall fuel load;
- Weather (temperature, relative humidity, wind speed);
- Distance of building from unmanaged vegetation;
- Individual elements surrounding the building that are either a shield or an additional fuel source;
- Proximity to surrounding infrastructure;
- Building design and maintenance;
- Human behaviour - probability to be present and capacity to fight the fire;

- Access to the building and how that influences
- human behaviour;
- Water supply for active and/or passive defence;
- and
- Power supply.

As assessed in the Bushfire Management Plan (Lush Fire and Planning, Rev E January 2020) the bushland around the site has an extreme bushfire hazard level. However, any proposed dwelling can be sited so as to ensure that there is a moderate hazard level reflected by having a maximum BAL-29 rating.

The purpose of the Bushfire Management Plan is to minimise the impact of a bush fire to people residing on the proposed lots. It demonstrates that the proposed development complies with the criteria within SPP 3.7 and the Guidelines.

As required by Policy Measure 6.3 of SPP3.7, a BAL Contour Map has been prepared by an accredited Bushfire Planning Practitioner in accordance with the Guidelines to determine the indicative acceptable Bushfire Attack Level (BAL) ratings across the site (refer *Figure 19: BAL contour map*).

The BAL Contour Map (showing assessed BAL setbacks from 21m – 52m) forms part of the Bushfire Management Plan and demonstrates that compliance with the bushfire protection criteria in the Guidelines can be achieved via the Structure Plan and subsequent planning stages.

The classification of the vegetation for determining the BAL ratings confirms that the maximum rating for any building envelope is BAL-29.

The use of the AS3959 construction standard is required when the proposed dwelling will be located less than 100m distance from any hazard vegetation.

In addition to bushfire mitigation measures in Amendment No. 49, other measures proposed in the Fire Management Plan and included in the Structure Plan include:

1. A definition plan of the prescribed building envelopes shall be prepared and provided to prospective purchasers.
2. To ensure that the siting of any future dwelling will be consistent with the BAL requirements, 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 prescribed building envelopes.
3. That a maximum BAL-29 rating shall be applied to any dwelling. A higher voluntary BAL rating may only be used where the BAL-29 setback distance is maintained.
4. That any application for a building permit for a dwelling is to include an individual BAL assessment to confirm that sufficient land has been cleared to provide for BAL-29 setbacks.
5. Construct the subdivision roads including culs-de-sac in accordance with the prescribed specifications.

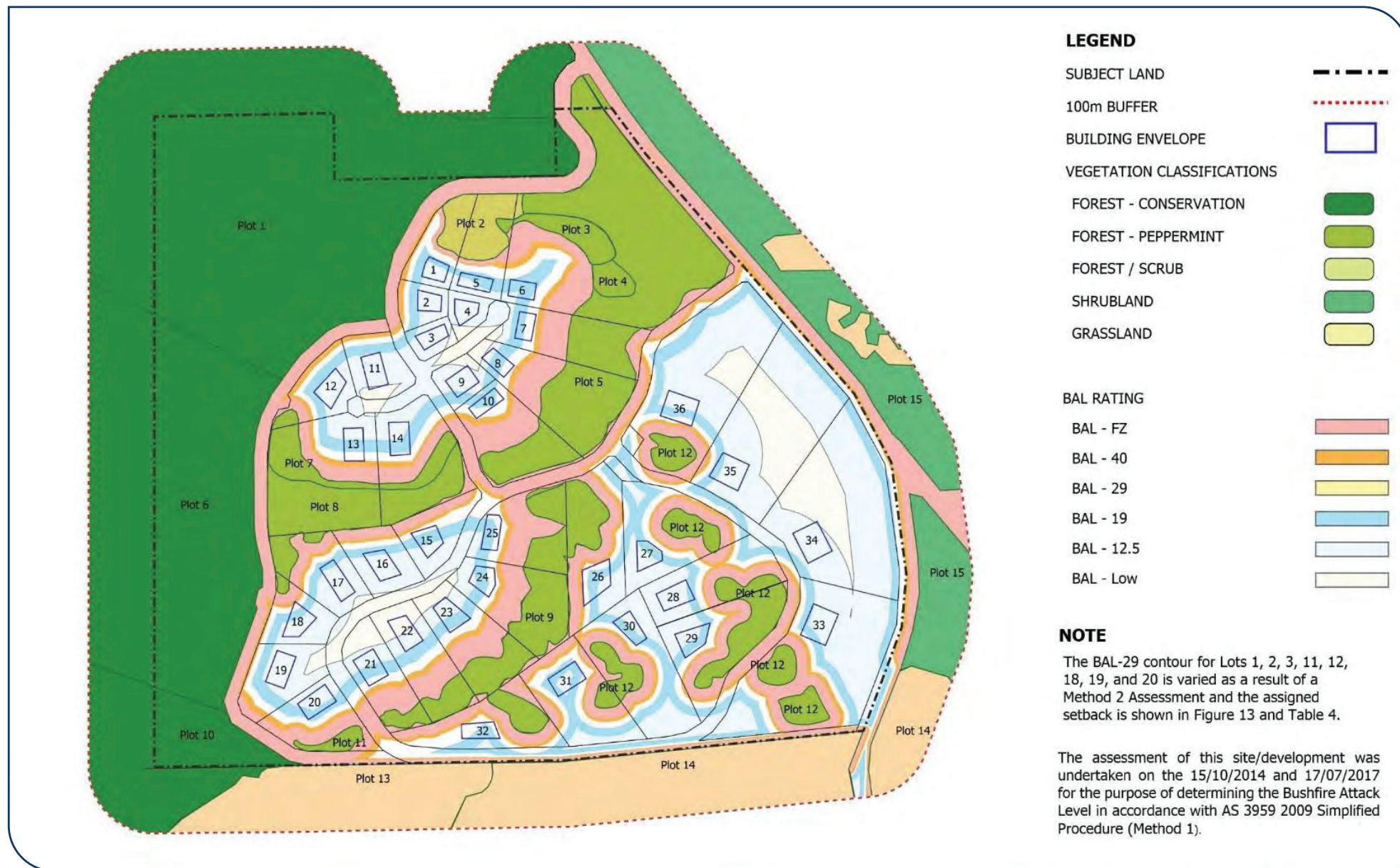


Figure 19: BAL contour map

6. That driveways longer than 50m are to be designed and constructed in accordance with the specifications, including the provision of a 17.5m diameter turning circle adjacent to the dwelling.
7. Any access gates on driveways are to be a minimum width of 3.6m. Access gates on boundary fence lines are to be provided as shown in Figure 10 and these are to have a minimum width of 3.6m.
8. That the emergency access way be constructed in accordance with the prescribed specifications with 3.6m wide gates and signs stating “for emergency access only.”
9. The emergency access way shall be on a reserve vested and managed by the Shire.
10. That the Fire Service Access Route be constructed in accordance with the prescribed specifications with 3.6m wide gates and signs stating “for emergency access only.”
12. The Fire Service Access Route shall be created as a 20m wide Public Access Way and managed by the Shire.
13. That a 3m firebreak with a 4m vertical clearance be provided around the external boundaries of lots larger than 0.5 hectares, excluding the areas of managed bushland.
14. That two 50,000L water tanks with associated access and fittings be provided on a dedicated reserve.
15. That each dwelling be provided with a static water supply tank having a minimum capacity of 10,000L
specifically for firefighting with:
 - a) A 50mm male camlock coupling with full flow valves;
 - b) The fittings positioned at the base of the tank so that the total tank capacity is available for firefighting purposes at any time;
 - c) An adequate hard standing access must also be provided adjacent to such connection/s and must be readily identifiable; and
 - d) A non-electric firefighting pump (normally 5.5hp) with sufficient hose to protect the dwelling and the surrounding low fuel zone.
16. In the event of any staging of the subdivision a plan and statement of the proposed interim fire management measures will be submitted and approved by the Shire.
17. That the landowners undertake annual maintenance of their property in preparation for the annual fire season.
18. That all fire mitigation measures shall be completed by the date prescribed in Council’s Firebreak & Fuel Hazard Reduction Notice (i.e. 1st December) and these be maintained throughout the fire season.
19. That land identified as Managed Bushland - Grass Understorey are to maintain the grassland areas to a maximum height of 100mm.
20. That on land identified as Managed Bushland - Shrub Understorey’ owners are to undertake fuel reduction burns in conjunction with the local bushfire brigade and the Council with the objective of limiting understorey fuel loads to 8 tonnes per hectare.
21. That the purchasers of the proposed lots be provided with the Bushfire Emergency Evacuation Plan.
22. A notification shall be placed upon the Certificate of Title of all lots pursuant to Section 70A of the Transfer of Land Act advising landowners of this bushfire management plan.
23. That purchasers of the proposed lots be provided with a copy or summary of this bushfire management plan.
24. If the subdivision is not completed, then the bushfire management plan shall be reviewed after a period of five years.

A BPAD Level 3 Review was undertaken on the Bushfire Management Plan (Bushfire Prone Planning, September 2017) and recommended modifications were subsequently made to the revised Bushfire Management Plan.

A Bushfire Emergency Evacuation Plan (Bushfire Prone Planning, January 2020) is included in the Bushfire Management Plan as an appendix.

For information on the bushfire management plan and BPAD Level 3 Review, refer to *Appendix B*.

3.9 Infrastructure coordination, servicing and staging

A servicing report was prepared by Calibre Consulting addressing earthworks, internal roads, drainage, power and telecommunications for the proposed development.

3.9.1 Earthworks

It is proposed to undertake some re-contouring of the northern and southern development cells to the east of the central ridge. The re-contouring rationalises the landscape in order to improve grades for ease of road access and development of building envelopes; as well as minimising the visual effect from the Caves Road travel route corridor.

To determine the level of protection required to protect the landscape significance and values within the site, proposed earthworks contours were developed in conjunction with the Landscape and Visual Assessment (Emerge Associates, 2016) and the project planners. The re-contouring lowers portions of the high points to the west of the central ridge, resulting in the proposed lots and building envelopes becoming invisible or in evident in the landscape. The preliminary cut/fill earthworks contours are shown in Figure 20 (refer *Figure 20: Northern earthworks area*) and in Figure 21 (refer *Figure 21: Southern earthworks area*).

3.9.2 Internal roads

The layout of the internal roads is discussed in 3.5, above. The internal roads throughout the subdivision will generally consist of:

- 6m wide two-coat seal
- 1.2m wide unsealed shoulder
- 9m radius culs-de-sac
- adequate table drains and swales for both attenuation and conveyance purposes
- adequate internal intersection treatment (kerbing and drainage structures)
- appropriate signage

3.9.3 Drainage

Consistent with the D/LWMS (Calibre Consulting, 2016) the drainage strategy is to mimic pre-development characteristics of the insitu sand substrata to maximise infiltration at source.

Dwellings and other development within the designated building envelopes will be required to harvest runoff, and therefore the only additional imperious areas would be roads. Roadside swales will convey any runoff that exceeds infiltration rates to endemically planted ephemeral basin areas located at the lowest points in sub-catchments. These swales will be protected where required by rock pitching to minimise erosion. Kerbing, pit and piped systems are to be utilised where gradients preclude the use of swales.

3.9.4 Power

There is a single phase High Voltage (HV) overhead power line that traverses the south-eastern portion of the development, which is to be relocated around the proposed subdivision.

The Enclave subdivision will be required to supply lots with 3 phase power. The existing 3 phase HV



overhead power is approximately 690m to the north along Caves Road. It is proposed to use a trenched 185HV cable from the new intersection on Caves Road to connect to the existing 3 phase HV power. Under the UDS Manual, Western Power may fund the first 500m of the 3-phase power extension to the development edge. This would be confirmed upon application of a Design Information Package to Western Power.

3.9.5 Telecommunications

There is existing Telstra and NBN on Caves Road and an NBN Fixed Line wireless tower in the vicinity. Upon application to NBN it will be determined whether sufficient capacity exists to service the development's 35 lots.

Irrespective of the tower, NBN will require (under regulation) the installation of Fibre Ready Pit & Pipe reticulation. Backhaul charges will more than likely be levied.

For the full servicing report refer to *Appendix B*.

3.10 Developer contribution arrangements

The construction of infrastructure, including utility services, drainage, roads, emergency accessways and water tanks for the proposed water tank reserve will be guided by the Structure Plan and implemented via subdivision conditions, where appropriate.

3.11 Other requirements

There are no other known requirements at this time. This will be reviewed following advertising of the draft Structure Plan.

In conclusion, it is hoped that the Structure Plan is embraced by decision-makers and the community as a balanced and sustainable guide to the development and conservation of this landmark property and provides a constant reference for achieving the vision for the Hamelin Bay Enclave.

4. TECHNICAL APPENDICES

Technical *Appendix A* contains a copy of the Certificate of Title.

Appendix B contains a Technical Appendix Index which lists the technical reports.

Copies of all the technical reports are available in electronic format.

APPENDIX A CERTIFICATE OF TITLE



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

REGISTER NUMBER 21/P22155	
DUPLICATE EDITION N/A	DATE DUPLICATE ISSUED N/A

VOLUME 2215
PAGE 211

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.

[Signature]
REGISTRAR OF TITLES

LAND DESCRIPTION:

LOT 21 ON PLAN 22155

REGISTERED PROPRIETOR: (FIRST SCHEDULE)

MANYA WREN
PETER ALEX WREN
BOTH OF DEEPDENE, POST OFFICE BOX 5, KARRIDALE
AS JOINT TENANTS

(A H788106) REGISTERED 25 JUNE 2001

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

- G581229 MORTGAGE TO NATIONAL AUSTRALIA BANK LTD REGISTERED 23.9.1997.
- H788106 EXCEPT AND RESERVING ALL MINES AND MINERALS OF WHATSOEVER NATURE CONTAINED IN VOL 2215 FOL 211 REGISTERED 25.6.2001.

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: P22155.
PREVIOUS TITLE: 2215-209.
PROPERTY STREET ADDRESS: NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AREA: SHIRE OF AUGUSTA-MARGARET RIVER.

LAND DESCRIPTION	DN	CERTIFICATE OF TITLE	FIELD BOOK	TOTAL AREA	PLAN 22155
SUSSEX LOCATIONS 246 & 250 & PT SUSSEX LOCATIONS 251, 347 & 1395.	PLAN CS 45/16 45/17 45/18 45/19 45/20 45/21 45/22 45/23 45/24 45/25 45/26 45/27 45/28 45/29 45/30 45/31 45/32 45/33 45/34 45/35 45/36 45/37 45/38 45/39 45/40 45/41 45/42 45/43 45/44 45/45 45/46 45/47 45/48 45/49 45/50 45/51 45/52 45/53 45/54 45/55 45/56 45/57 45/58 45/59 45/60 45/61 45/62 45/63 45/64 45/65 45/66 45/67 45/68 45/69 45/70 45/71 45/72 45/73 45/74 45/75 45/76 45/77 45/78 45/79 45/80 45/81 45/82 45/83 45/84 45/85 45/86 45/87 45/88 45/89 45/90 45/91 45/92 45/93 45/94 45/95 45/96 45/97 45/98 45/99 45/100	VOLUME 1183 PAGE 736	1400	172.2781 ha	

LOCAL AUTHORITY: SHIRE OF AUGUSTA-MARGARET RIVER.
LOCALITY: KUGARDUF

AA21451 4798
C.S. RES. DIA 582

ENLARGEMENT AT (C) NOT TO SCALE

ENLARGEMENT AT (D) NOT TO SCALE

SCALE 1:7500
ALL DISTANCES ARE IN METRES

IN ORDER FOR DEALINGS
SUBJECT TO

APPROVED BY
WESTERN AUSTRALIAN PLANNING COMMISSION

FILE 109987
DATE 11/7/1997

100087

SURVEYOR'S CERTIFICATE - REG 54
I, the undersigned, hereby certify that this plan is a correct representation of the survey and calculations from measurements recorded in the field book subject for the purposes of this plan and that it complies with the relevant written law in relation to which it is lodged.

LODGED SURVEYOR
DATE 20.5.97

SURVEYOR'S CERTIFICATE - COMPLETED
I, the undersigned, hereby certify that this plan is a correct and accurate representation of the survey of the subject land, and is in accordance with the relevant law in relation to which it is lodged.

LODGED SURVEYOR
DATE

TYPE OF VALIDATION
FULL AUDIT
LOCAL COMPONENT
PANEL/DIAGRAM
CERTIFIED CORRECT

DATE 20.5.97
FEE PAID \$ 2.38
ADDRESS No. 4.3.3.41

APPROVED 23.9.1997
REGISTERED PLANS & SURVEYS

OFFICE OF TITLES
PLAN
22155

APPENDIX B

TECHNICAL APPENDICES INDEX

Technical Appendices index

No.	Document title	Approval required or supporting document	Approval agency	Approval status
1	Flora and vegetation assessment (Eco Logic Environmental Services)	Required	DER	Lodged for assessment
2	Fauna assessment (Greg Harewood, Zoologist)	Required	DER	Lodged for assessment
3	Report on Geotechnical Investigation (Douglas Partners)	Supporting	N/A	Lodged in support of D/LWMS
4	District/Local Water Management Strategy (Calibre Consulting)	Required	DOW LGA	Lodged for assessment
5	Bushfire management plan - Version E (Lush Fire & Planning)	Required	DFES LGA	Lodged for assessment
6	Landscape Evaluation and visual impact assessment (Emerge Associates)	Supporting	N/A	Supporting document
7	Tourism opportunities report (Edge Tourism and Marketing)	Supporting	N/A	Support document
8	Preliminary Intersection Report (Calibre Consulting)	Required	MRWA LGA	Lodged for assessment
9	Servicing Report (Calibre Consulting)	Required	LGA Western Power	Lodged for assessment

Note: Copies of all technical appendices are available in electronic format