



ROWE
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DESIGN

BYFORD AREA D BRIGGS LARSEN PRECINCT LOCAL STRUCTURE PLAN

LOTS 57, 58 & 70 BRIGGS ROAD AND LOTS 53, 70 – 72, 81 – 84, 100 – 105
LARSEN ROAD, BYFORD

DOCUMENT CONTROL

Printed 22 March 2021

VERSION	FILE NAME	PREPARED BY	APPROVED BY	DATE
1	8902_18nov02R_BS	Blair Stroud	Rod Dixon	26 Nov 2019
2	8902_18nov03R_BS	Blair Stroud	Rod Dixon	11 Feb 2020
3	8902_18nov04R_BS	Blair Stroud	Rod Dixon	12 June 2020
4	8902_18nov05R_MM	Madison Mackenzie	Rod Dixon	22 March 2021

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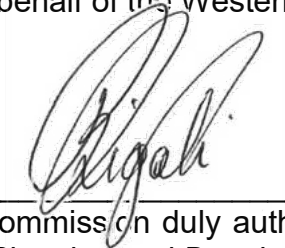
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This structure plan is prepared under the provisions of the Shire of Serpentine-Jarrahdale Town Planning Scheme No. 2.

IT IS CERTIFIED THAT THIS STRUCTURE PLAN WAS APPROVED BY
RESOLUTION OF THE WESTERN AUSTRALIAN PLANNING COMMISSION
ON: **31 MARCH 2021**

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

31 MARCH 2021

Date

31 MARCH 2031

Date of Expiry

TABLE OF AMENDMENTS

AMENDMENT NO.	SUMMARY OF THE AMENDMENT	AMENDMENT TYPE	DATE APPROVED BY WAPC

EXECUTIVE SUMMARY

The Byford Area D – Briggs Larsen Precinct Local Structure Plan ('LSP') has been prepared to guide the subdivision and development of 16.7 hectares of land across 16 lots at the corner of Briggs Road and Larsen Road, Byford, within the Shire of Serpentine Jarrahdale municipality. Consistent with the draft Byford District Structure Plan, this LSP encompasses an area bounded by Briggs Road, Larsen Road and the Oaklands Main Drain.

An LSP landowner group, representing the majority of the core development area, has supported the preparation of this LSP.

Purpose

The LSP provides a guide to facilitate the development of 16.7 hectares of land at Byford for urban purposes and has been prepared in accordance with the requirements of the *Planning and Development (Local Planning Scheme) Regulations 2015* and the Western Australian Planning Commission's Structure Plan Framework.

The LSP provides for a coordinated approach over a small, fragmented precinct of landholdings to ensure an appropriate mix of land use, infrastructure delivery and best practice water management outcomes.

Design Intent

The design intent informing the LSP has been heavily influenced by a need to respond to the existing, established pattern of land use and development surrounding the site. This has included recognising the surrounding rural residential development, the Byford trotting complex, as well as road and multiple-use corridor linkages. The design has considered:

- ▲ An opportunity for open space connectivity and extension;
- ▲ Movement patterns;
- ▲ Flexibility for the future built form delivery; and
- ▲ Existing land uses and form.

The LSP is expected to facilitate the development of approximately 161 lots which will ultimately form an important part of the Byford community. The LSP will provide for:

- ▲ A transition between the existing 'Rural Living A' landholdings, through to residential lots with an R12.5 density code;
- ▲ Residential lots with density codes ranging from R20 to R60;
- ▲ Continuation of the Oaklands Main Drain Multiple Use Corridor;
- ▲ Extension of Indigo Parkway; and
- ▲ Integrated Public Open Space.

The Structure Plan been prepared in consultation with the Shire of Serpentine Jarrahdale, and other relevant stakeholders.

STRUCTURE PLAN LAND USE SUMMARY

ITEM	DATA	SECTION NUMBER REFERENCED IN PART 2 OF REPORT
Structure Plan Area	16.7 hectares	2
Indicative Land Use Breakdown (excluding roads & POS):		
- Residential (Urban)	- 7.79 hectares	
- Rural Living A	- 4.8967 hectares	
Estimated lot yield	161 lots ¹	5.3
Estimated number of dwellings	161 dwellings ¹	5.3
Estimated residential site density	20.6 Dwellings / Residential Site Hectare ² 18 Dwellings / Gross Urban Hectare ³	5.3
Estimated population	483 people based on 3 persons per household	5.3
Number of Secondary Schools	N/A	5.7
Number of Primary Schools	N/A	5.7
Estimated area and percentage of public open space given over to:		5.2
- Neighbourhood parks	- 1.25 hectares, 1 park	
- Local parks	- 0.3091 hectares, 2 parks	
Estimate percentage of natural area	N/A	4.2, 5.2

Table 1: Land Use Summary

Note: All information and areas are approximate only and are subject to survey and detailed design.

1. Projected lot and dwelling yields for the LSP area have been calculated using a preliminary 'Concept Plan'. Final lot and dwelling yields will be subject to detailed design.
2. 'Residential Site Hectare' is in accordance with the WAPC's Liveable Neighbourhoods Element 1 definition.
3. Gross Urban Hectare excludes Rural Living A land.

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1.	LAND USE SUMMARY
2.	SUMMARY OF LAND

TECHNICAL APPENDICES

APPENDIX NUMBER	DOCUMENT TITLE	NATURE OF DOCUMENT	REFERRAL/APPROVAL AGENCY	APPROVAL STATUS & MODIFICATIONS
1	Certificates of Title	Supporting	-	
2	Site Feature and Contour Survey	Supporting	-	
3	Geotechnical Assessment	Supporting	-	
4	Environmental Assessment	Supporting	Department of Biodiversity, Conservation and Attractions	
5	Bushfire Management Plan	Approval Required	Department of Fire and Emergency Services	Approved
6	Transport Impact Assessment	Supporting	Main Roads WA / Shire of Serpentine Jarrahdale	
7	Local Water Management Strategy	Approval Required	Department of Water and Environmental Regulation	Approved
8	Engineering Services Report	Supporting	-	



PART ONE

IMPLEMENTATION



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1. STRUCTURE PLAN AREA

The Byford Area D – Briggs Larsen Precinct Local Structure Plan applies to Lots 57, 58 & 70 Briggs Road and Lots 53, 70 – 72, 81 – 84, 100 – 105 Larsen Road, Byford, being the land contained within the inner edge of the 'subject site' line shown on the Structure Plan map (Plan 1) in Part One of this Local Structure Plan.

2. OPERATION

In accordance with Schedule 2, Part 4 of the *Planning and Development (Local Planning Schemes) Regulations 2015* (the 'Regulations'), this Local Structure Plan shall come into effect on the day it is approved by the Western Australian Planning Commission ('WAPC') and is valid for a period of 10 years from the date of approval, pursuant to Schedule 2, Part 4, Clause 22 of the Regulations.

3. STAGING

Development of the site is generally expected to progress west to east commencing from Briggs Road.

4. SUBDIVISION & DEVELOPMENT REQUIREMENTS

4.1 RESIDENTIAL DENSITY

- 4.1.1** A residential density code plan is to be submitted at the time of subdivision to the WAPC and shall indicate the residential density coding applicable to each lot within the subdivision and shall be consistent with the Structure Plan, and the Residential Density Ranges identified on Plan 1 and locational criteria contained in clause 4.6.2.
- 4.1.2** Approval of the Residential Density Code Plan shall be undertaken at the time of determination of the subdivision application by the WAPC. The approved Residential Density Code Plan shall then form part of the Structure Plan and shall be used for the determination of future development applications. Variations to the Residential Density Code Plan will require further approval of the WAPC.
- 4.1.3** Residential Density Code Plans are not required if the WAPC considers that the subdivision is for one or more of the following:
- i. The amalgamation of lots;
 - ii. Consolidation of land for "superlot" purposes to facilitate land assembly for future development;
 - iii. The purposes of facilitating the provision of access, services or infrastructure.
- 4.1.4** The allocation of residential densities on the Residential Density Code Plan shall be in accordance with the following criteria:
- a) A maximum of R40 coding may be provided adjacent to or overlooking public open space;
 - b) R20-R30 coding distributed elsewhere to provide a transition from higher density coding in the north to lower density coding in the south.

4.2 PUBLIC OPEN SPACE

Subdivision and development of the land is to provide for public open space generally in accordance with the Local Structure Plan map (Plan 1), which has been informed by the allocation of public open space identified within the draft Byford District Structure Plan (2018).

4.3 TREE RETENTION

Subdivision and development within the LSP area is to consider opportunities for tree retention, particularly within public open space and road reserves.

4.4 WATER MANAGEMENT

In accordance with the processes defined under the Department of Water's Better Urban Water Management guidelines, an Urban Water Management Plan ('UWMP') will be required to be prepared and implemented at the time of subdivision. The UWMP will refine and implement the proposed drainage network/system, as identified in the Local Water Management Strategy.

4.5 LOCAL DEVELOPMENT PLANS

A Local Development Plan is required for land within the Structure Plan area in the following circumstances:

- ▲ Lots with an area less than of 260m² or less;
- ▲ Lots where specific vehicle access and egress control is required; and
- ▲ Lots abutting Public Open Space;

4.6 MOVEMENT NETWORK

Lots fronting Indigo Parkway are not permitted to have direct vehicular access onto Indigo Parkway.

4.7 FUTURE SUBDIVISION

All indicative subdivision layouts shown in this Local Structure Plan and associated appendices are for conceptual purposes only and are subject to further investigation and detailed design at subdivision stage.





PART TWO

EXPLANATORY SECTION



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1. BACKGROUND

1.1 INTRODUCTION AND PURPOSE

The purpose of this Structure Plan is to facilitate the coordinated land use and development of properties within the 'Byford Area D – Briggs Larsen Precinct', comprising Lots 57, 58 & 70 Briggs Road and Lots 53, 70 – 72, 81 – 84, 100 – 105 Larsen Road, Byford ('the subject land' or 'the structure plan area'). The area is identified within 'Appendix 9 – Development Areas' of the Shire of Serpentine Jarrahdale Town Planning Scheme No. 2 (TPS 2), as forming the southern part of 'Local Structure Plan Precinct 3'.

For practical purposes, this LSP is herein referred to as the 'Byford Area D LSP' or 'the LSP'.

Subdivision and development of the subject land in accordance with this LSP provides for orderly and appropriate infill development within the established Byford urban area and has been prepared in accordance with the strategic intent for the land as set out in the state and local planning framework.

1.2 PROJECT TEAM

The following multi-disciplinary project team has been engaged by the proponent to progress the preparation of the Structure Plan:

The LSP has been prepared on of the landowner group by a specialist consultant team comprising:

- ▲ **IQ Property & Projects** – Project Coordination
- ▲ **Rowe Group** – Town Planning and Urban Design
- ▲ **360 Environmental** – Environment and Urban Water Management
- ▲ **Civil Group** – Engineering and Servicing
- ▲ **DVC** – Traffic and Transport Analysis
- ▲ **Harley Dykstra** – Survey
- ▲ **Bushfire Safety Consulting** – Bushfire Management

2. DESCRIPTION OF SITE

2.1 LOCATION

The subject site is located within the south east metropolitan corridor, in the municipality of the Shire of Serpentine Jarrahdale. The site is situated approximately 31km south east of the Perth Central Business District and is accessible via Tonkin Highway. The land is well placed to be serviced by the Byford Town Centre, which is approximately 1.6km east of the site.

The Structure Plan area is bound by Larsen Road to the south, Briggs Road to the west and the Oaklands Main Drain reserve its northern and eastern boundaries.

Refer Figure 1 – Regional Context and Figure 2 – Local Context.

2.2 SITE DESCRIPTION

The LSP comprises an area of approximately 16.7 hectares. Existing landholdings are currently accessed via either Briggs Road or Larsen Road.

Historically, the land has been cleared and primarily used for rural residential purposes and have generally been developed with a main residence and associated outbuildings. The majority of the lots have been cleared, though some vegetation remains throughout the site, particularly on Lot 58 Briggs Road. It is understood most of this vegetation is non-native, having been planted by the landowner. This is assessed in detail later within this Report.

Refer to Figure 3 – Site Plan.

2.3 LEGAL DESCRIPTION AND OWNERSHIP

The structure plan area comprises 16 land parcels with a total area of 16.7 hectares. These landholdings are more fully described in the table below.

LOT NO.	STREET ADDRESS	PLAN / DIAGRAM	VOL/ FOLIO	AREA	LANDOWNER(S)
Lot 57	Briggs Road	P013067	1592 / 667	2.012	Ian Noel Walton Christine Barbara Walton
Lot 58	Briggs Road	P013067	1592 / 668	2.103	Daryl Lionel Smirk
Lot 70	53 Briggs Road	P071757	2816 / 798	1.258	Zia Jafar
Lot 71	194 Larsen Road	P071757	2816 / 799	0.4003	Kaycee Tatum Forbes Graeme Peter Wilton
Lot 72	190 Larsen Road	P071757	2816 / 800	0.4004	James Abraham Achamma Abraham James
Lot 81	184 Larsen Road	P039989	2559 / 99	1.256	George Tafti

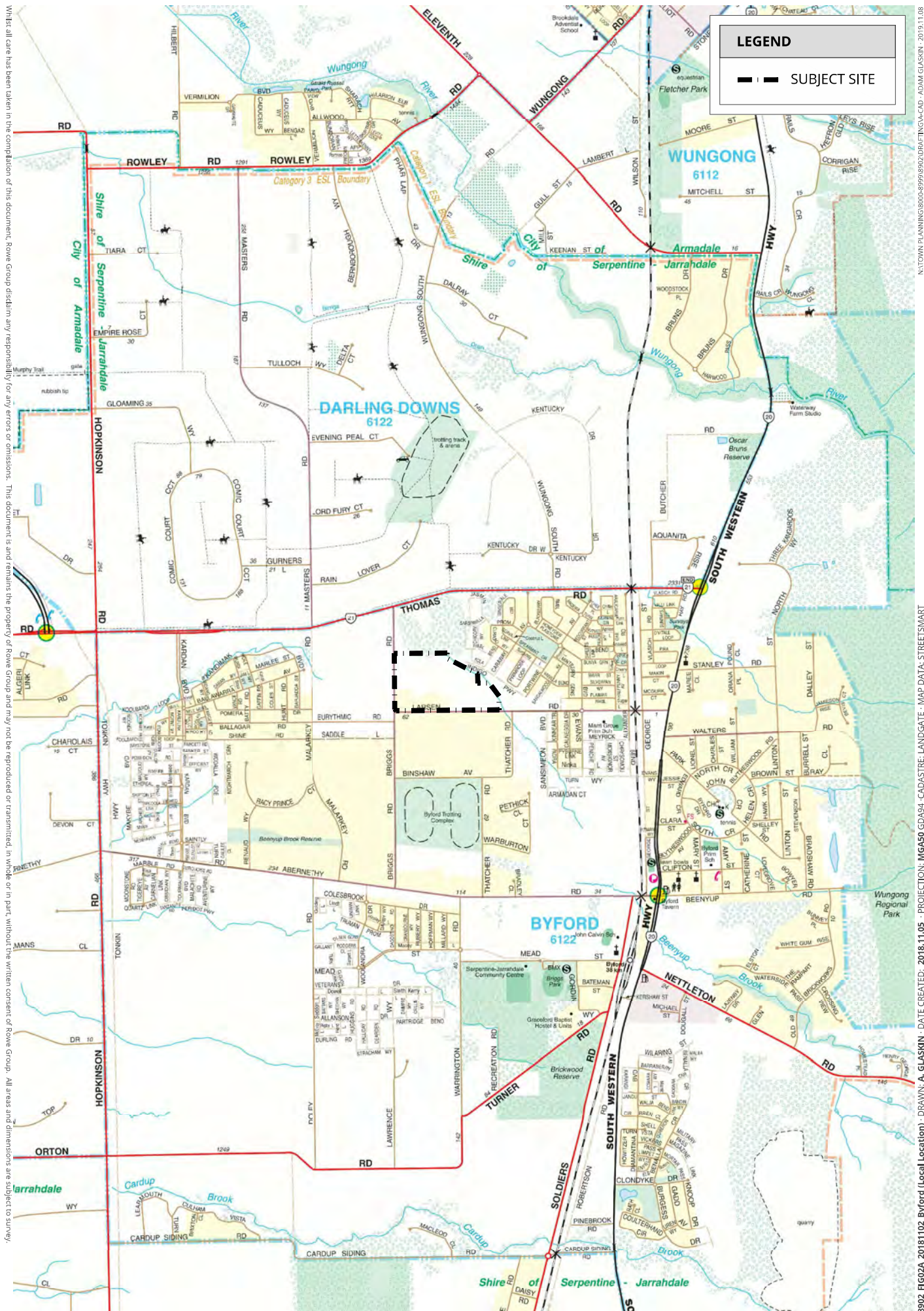
LOT NO.	STREET ADDRESS	PLAN / DIAGRAM	VOL/ FOLIO	AREA	LANDOWNER(S)
Lot 82	178 Larsen Road	P039989	2559 / 100	0.7840	William George Cullen Henrietta Elizabeth Rose Cullen
Lot 83	170 Larsen Road	P027383	2517 / 48	1.632	Akbar Saberi Mahfarid Mohebpour
Lot 84	164 Larsen Road	P027383	2517 / 49	0.4080	Shauna Annette Robinson
Lot 53	160 Larsen Road	P013067	1592 / 663	2.036	Adrian Robert Rodway Karlie Leigh Chr Snelgar
Lot 105	158 Larsen Road	P042526	2570 / 286	1.472	Elena Tobia Bortolino Tobia
Lot 104	152 Larsen Road	P042526	2570 / 285	0.4083	Rodney Michael Zuidema Kerry Anne Zuidema
Lot 103	144 Larsen Road	P042526	2570 / 284	0.4000	Elena Tobia Bortolino Tobia
Lot 102	138 Larsen Road	P029735	2528 / 867	0.4027	Trevor Tobia
Lot 101	132 Larsen Road	P029735	2528 / 866	0.4026	Amandeep Singh
Lot 100	126 Larsen Road	P029735	2528 / 865	1.332	Kim William Hicks Mandy Maria Hicks
TOTAL LSP AREA:				16.7 ha	

Table 2: Summary of Land

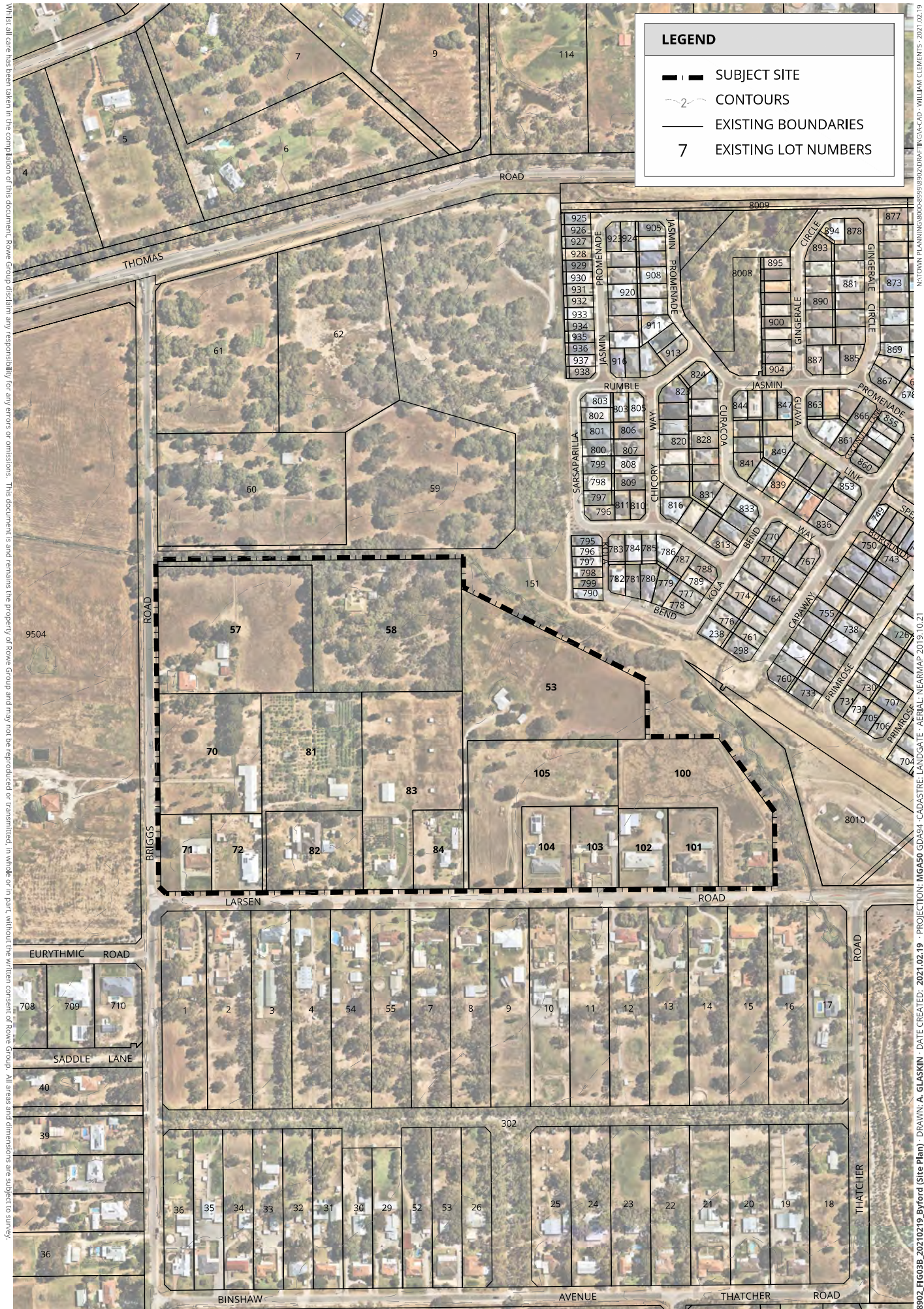
Refer to Figure 4 - Landownership Plan and Appendix 1 – Certificates of Title.



FIGURE 1
REGIONAL LOCATION



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8902_FIG03B_20210219_Byford (Site Plan) · DRAWN: A. GLASKIN · DATE CREATED: 2021.02.19 · PROJECTION: MGA50 GDA94 · CADASTRE: LANDGATE · AERIAL: NEARMAP 2019.10.21

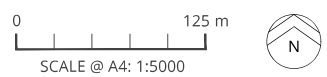
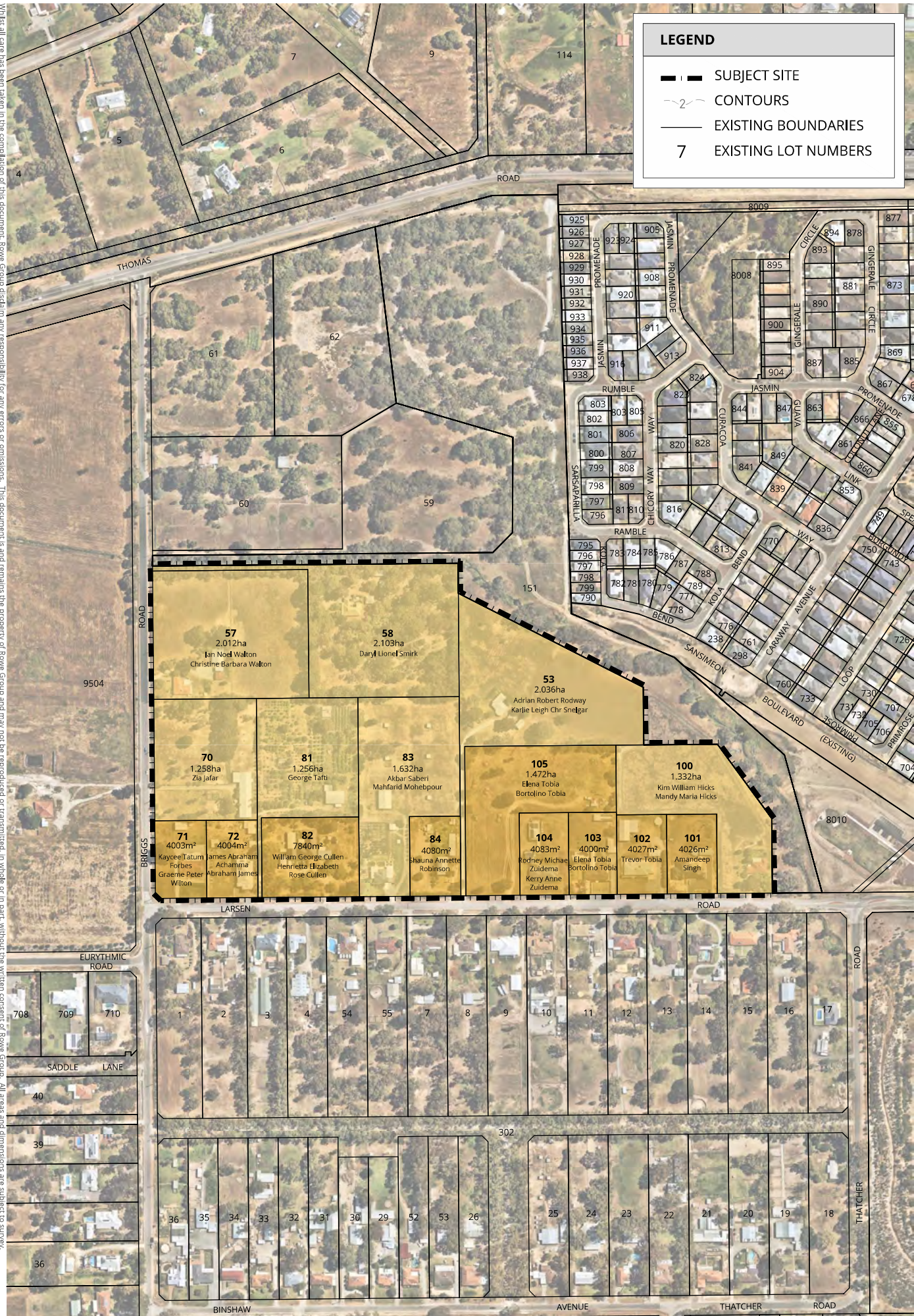


FIGURE 3
SITE PLAN

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8902_FIG10A_20190807_Byford (Landownership Plan) - DRAWN: A. GLASKIN - DATE CREATED: 2019.08.07 - PROJECTION: MGA50 GD84 - CADASTRE: LANDGATE - AERIAL: NEARMAP 2019.10.21

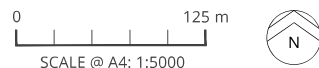


FIGURE 4
LAND OWNERSHIP PLAN

3. PLANNING FRAMEWORK

3.1 ZONING AND RESERVATION

3.1.1 METROPOLITAN REGION SCHEME

The subject site is predominantly zoned 'Urban' under the Metropolitan Region Scheme ('MRS'), with the southern portion zoned 'Urban Deferred'. The 'Urban Deferred' land is associated with a transition to the Byford Trotting Complex precinct, which is located south of Larsen Road where urbanisation is likely to occur in the long term; however, the current planning framework retains a 'Rural' zoning under the MRS and recognises the precinct as a heritage characteristic of original Byford.

The inclusion of the 'Urban Deferred' land within this LSP is consistent with the Sub-Regional Planning Framework, strategic local planning framework, and other adjacent local structure plans for the Byford centre and is not an impediment to the progression of this Structure Plan.

Refer Figure 5 – Metropolitan Region Scheme Map.

3.1.2 SHIRE OF SERPENTINE JARRAHDAL LOCAL PLANNING SCHEME NO. 2

The majority of the subject land is predominantly zoned 'Urban Development' under the Shire of Serpentine Jarrahdale Local Planning Scheme No. 2 (LPS 2). The southernmost lots fronting Larsen Road are zoned 'Rural Living A'. The subject land is bound by a 'Parks and Recreation' reserve on its eastern boundary, related to Oaklands Main Drain Multiple Use Corridor.

Clause 5.18 of LPS 2 outlines the purpose of the 'Urban Development' zone as:

"The purpose of the Urban Development zone is to provide for the orderly planning of large areas of land in a locally integrated manner and within a regional context, whilst retaining flexibility to review planning with changing circumstances".

The preparation of this Structure Plan is consistent with the objectives of the 'Urban Development' zone, as set out in LPS 2.

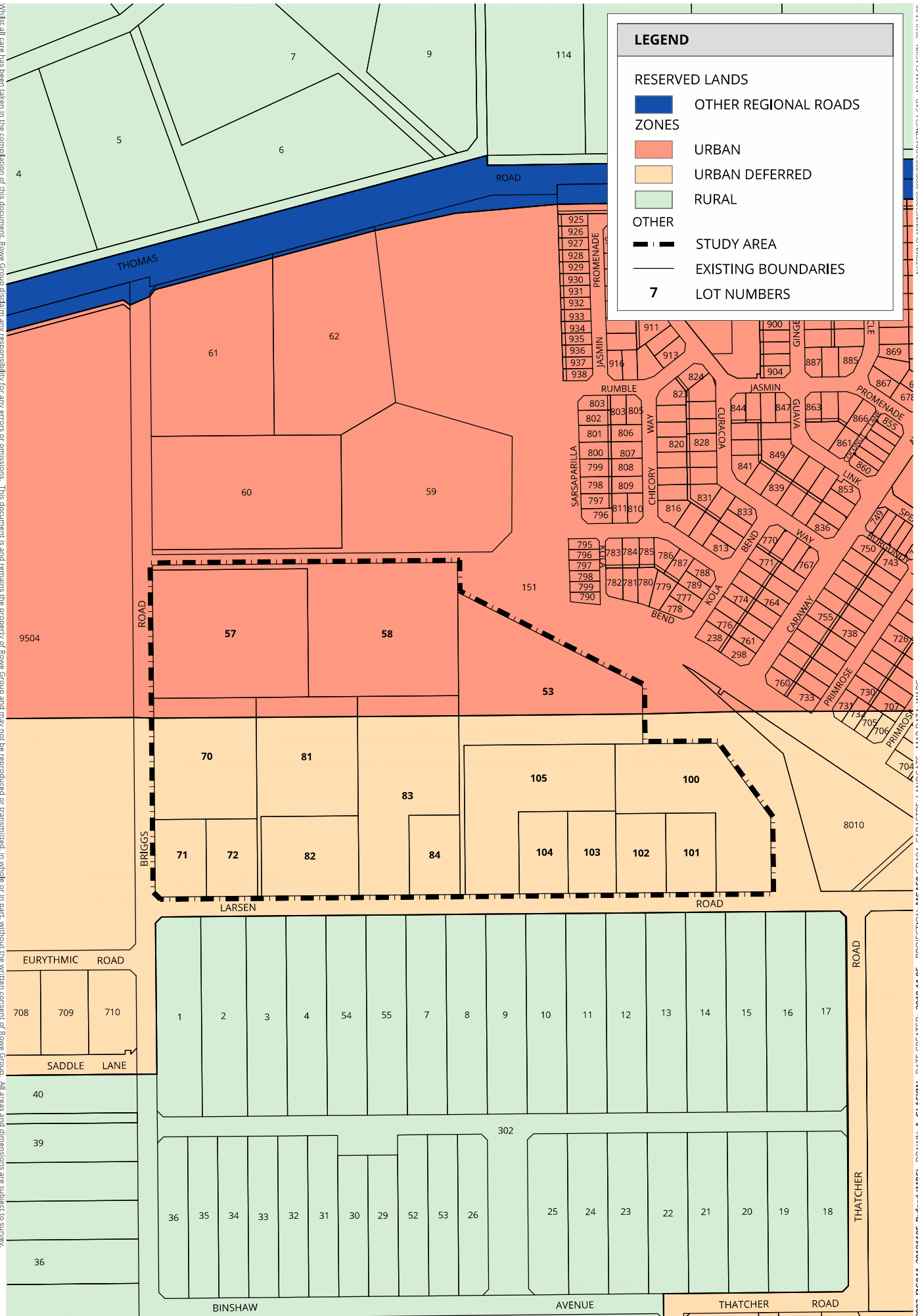
Refer Figure 6 – Local Planning Scheme No. 2 Map.

3.1.3 SHIRE OF SERPENTINE JARRAHDAL LOCAL PLANNING SCHEME NO. 3 (DRAFT)

The Shire of Serpentine Jarrahdale have prepared the draft Local Planning Strategy and associated draft Local Planning Scheme No. 3 (LPS 3). The strategic objectives set out in the Shire's draft Local Planning Strategy will ultimately be implemented via the provisions set out in LPS 3. Both the draft Local Planning Strategy and Local Planning Scheme No. 3 underwent a period of public advertising between September 2019 and January 2020 and were adopted by the Shire of Serpentine at its Ordinary Council Meeting on 22 June 2020.

Consistent with the zoning under the MRS, the northern portion of the subject land is zoned 'Urban Development' and the southern portion is zoned 'Rural Residential 1' under draft LPS 3. The proposed Structure Plan is consistent with the zoning and objectives under LPS 3.

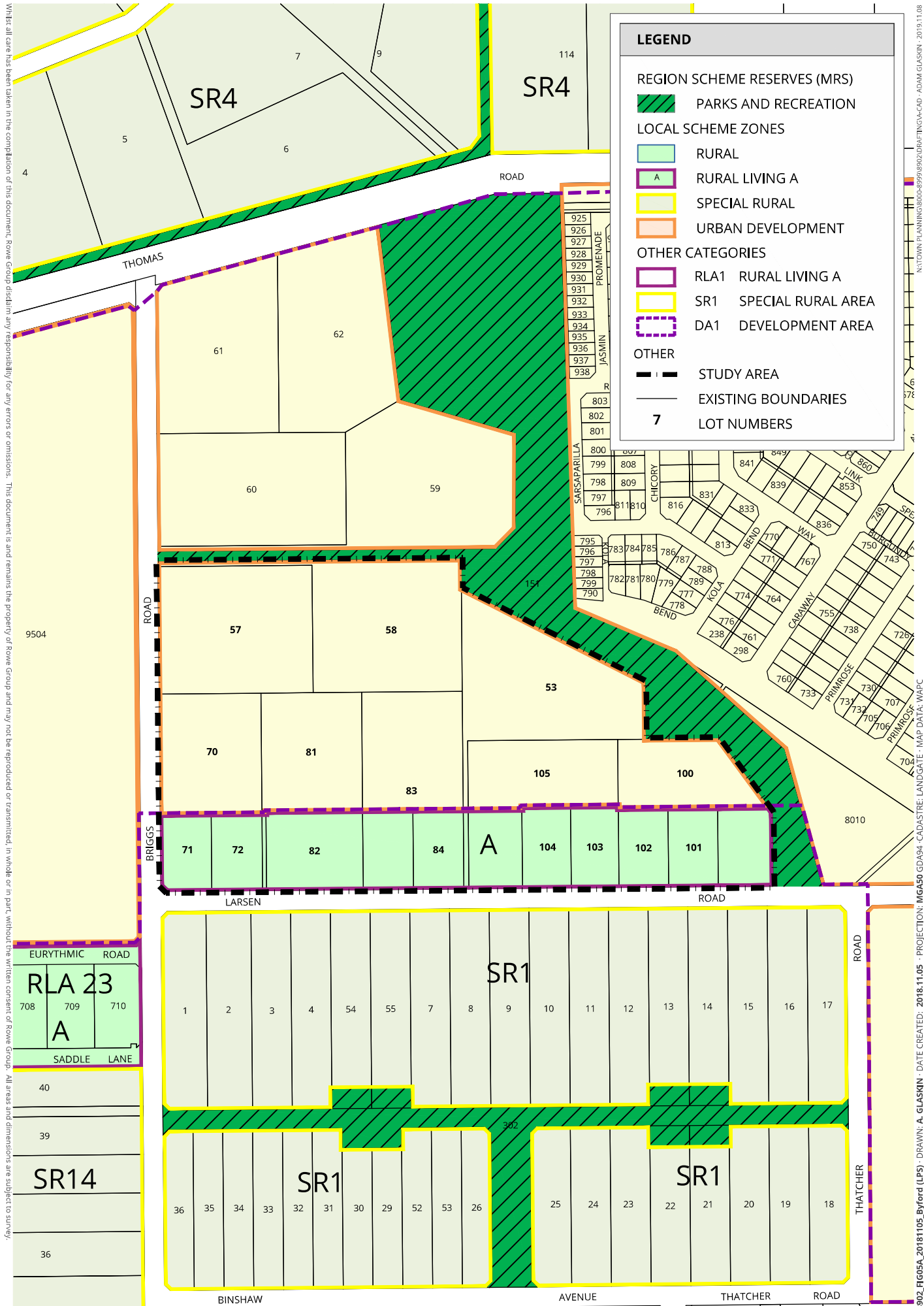
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8902_FIG04A_20181105_Byford (MRS) · DRAWN: A. GLASKIN · DATE CREATED: 2018.11.05 · PROJECTION: MGA50 GDA94 · CADASTRE: LANDGATE · MAP DATA: WAPC



FIGURE 5
METROPOLITAN REGION SCHEME ZONING



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3.2 REGIONAL AND SUB-REGIONAL STRATEGIES

3.2.1 PERTH AND PEEL @ 3.5 MILLION

The Perth and Peel @3.5 Million (March 2018) suite of documents provides a framework for the development of the Perth and Peel regions as the population reaches an estimated 3.5 million people by 2050. The documents seek to meet the targets identified under Directions 2031 and the State Planning Strategy 2050. The suite of documents includes four planning frameworks for the Central, North-West, North-East and South Metropolitan Peel sub-regions. The four sub-regional planning frameworks detail where future homes and employment should be located, and where important environmental assets should be avoided and protected.

The site is identified within the South Metropolitan Peel Sub-Regional Planning framework and is identified as 'Urban', consistent with the zoning of the northern portion of the site under the MRS.

3.2.2 SUB-REGIONAL PLANNING FRAMEWORK

The South Metropolitan Peel Sub-Regional Framework ('the Framework') represents a whole state government approach to managing the future urban form within the sub-region and identifies sufficient land to meet the increased demand for the residential dwellings. The South Metropolitan Peel sub-region is proposed to accommodate more than 1.26 million people, over 507,000 homes and approximately 430,000 jobs by 2050.

The proposed Structure Plan provides for an indicative yield of 161 residential lots (based on preliminary concept planning), equating to a population of 483 people (based on 3 people per household). The development of the site, as proposed, will therefore assist in achieving dwelling and population targets identified under the Framework.

The Framework requires new urban development to meet a residential density target of 15 dwellings per gross hectare. Based on our preliminary concept planning, the proposed Structure Plan provides for an approximate residential density of 18 dwellings per gross urban hectare (subject to detailed design).

The subdivision and development to the structure plan area for predominantly residential purposes is therefore consistent with the planning framework, providing for the progressive development of an existing urban area, which has ready access to existing services and facilities.

3.3 DISTRICT STRATEGIES AND STRUCTURE PLANS

3.3.1 SJ2050 VISION

The Serpentine Jarrahdale 2050 Vision (SJ2050) process commenced in April 2016, in response to the draft 'Perth and Peel@3.5 million' strategic plan released by the State Government in 2015. The strategy estimates a population increase of approximately 100,000 in the Shire by 2050.

SJ2050 was developed through extensive consultation and engagement with the local community and key stakeholders. The document identifies the core values and guiding aspirations of the Shire's community. SJ 2050 sets out a strategic growth framework that aims to accommodate rapid growth, without compromising the community's values and aspirations.



The SJ2050 spatial framework (Figure 8) identifies that Byford will accommodate approximately 50,000 people, this significant growth resulted in the need to review and update the existing Byford District Structure Plan.

The subject site is located within the 'Medium Density' designation under SJ2050 which seeks to encourage a mix of new investment in existing neighbourhoods and development of walkable neighbourhoods with a range of lot sizes. This is exactly what the proposed structure plan contemplates.

3.3.2 BYFORD DISTRICT STRUCTURE PLAN (2009)

The Byford District Structure Plan (DSP) was approved in 2005, and later reviewed in 2009, and seeks to guide development and subdivision of the Byford locality, setting the foundation for the initial growth and expansion of the town centre and surrounds.

The DSP identifies the majority of the subject land as 'Rural Residential', with a portion of Residential R20 located to the south of the proposed Indigo Parkway extension. It is noted that an inconsistency exists between the zoning for this land under the DSP and the MRS (and subsequently, LPS 2) related to the central Rural Residential area. Accordingly, it is anticipated that the identification over the site will be amended to reflect the MRS zoning in a future review of the DSP (see Section 3.3.3). The proposed structure plan is one of only a few remaining precincts within the Byford locality that is yet to have an approved Local Structure Plan attributed to it.

Refer Figure 7 – Byford District Structure Plan (2009).

3.3.3 DRAFT BYFORD DISTRICT STRUCTURE PLAN (2018)

The Shire of Serpentine Jarrahdale have prepared a draft Byford District Structure Plan (Draft DSP), which was adopted by the Council in November 2020. The Draft DSP has not been approved by the WAPC, therefore does not have the formal status of a Structure Plan under the Schedule 2 of the *Planning and Development (Local Planning Schemes) Regulations 2015* (the 'Deemed Provisions'). In any case, this Local Structure Plan recognises the strategic intent for the land set with respect to residential density, movement network and provision of public open space. The subject site is identified as 'LSP Area D – Briggs Road / Larsen Road Precinct' of the Draft DSP and is provided land use designations of Residential – Low (Suburban) R20-R35 and Special Residential.

The subject site is identified as 'LSP Area D – Briggs Road / Larsen Road Precinct' of the Draft DSP. It is one of only a few remaining precincts within the Byford locality that is yet to have an approved Local Structure Plan attributed to it. The draft DSP identifies the following objectives for the structure plan area:

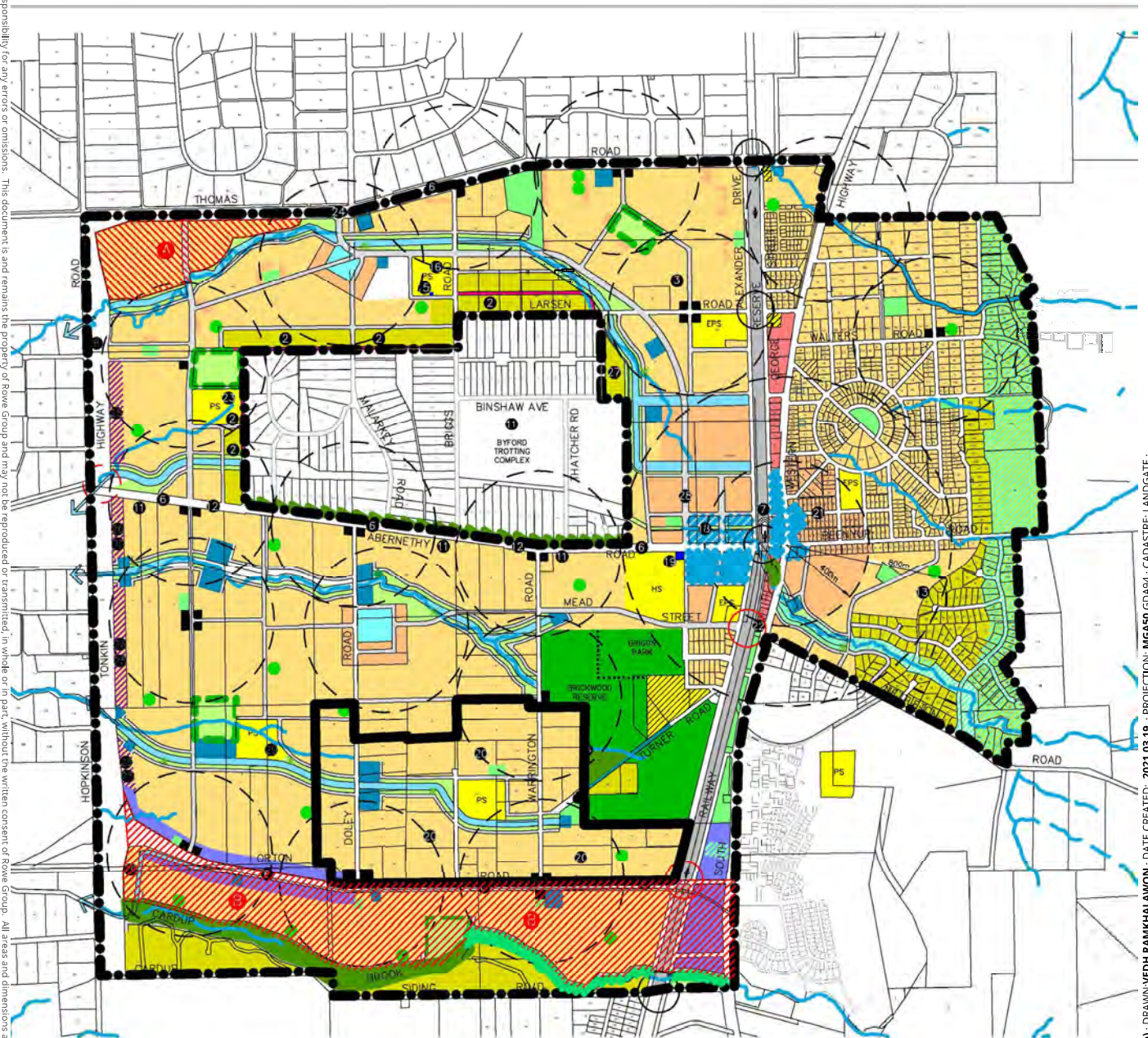
- ▲ Create a distinctive and responsive built form that enhances the sense of place, community identity and character of Byford;
- ▲ Allow for a new east-west district road through the precinct (Indigo Parkway);
- ▲ Preserve the existing rural, "leafy green" character of the structure plan area including its scenic values, viewsapes and landscapes;

- ▲ Enhance the green network through the creation of multiple green linkages integrating pedestrian and cycle connections;
- ▲ Protect and enhance wetlands, waterways and catchments through appropriate management of water quality and maintenance of hydrology as part of land use change and development;
- ▲ Preserve fringing vegetation along roads, waterways and rail corridors;
- ▲ Sensitive address the interface between LSP Area D and the Byford Trotting Complex Precinct; and
- ▲ Orientation of lots to ensure passive surveillance over the multiple use corridor to the east.

3.3.4 SHIRE OF SERPENTINE JARRAHDAL HEALTH AND WELLBEING STRATEGY

The Shire of Serpentine Jarrahdale Health and Wellbeing Strategy ('HWS') aims to positively influence the community's public health status by identifying health and wellbeing needs. The proposed local structure plan is consistent with the draft DSP and provides opportunities for positive environmental health protection through increased community amenity (public open space provision) and appropriate responses to land use surrounds (transition of residential density from rural-residential surrounds).

Consistent with both the Byford DSP and Draft DSP, the proposed structure plan layout ensures a healthy active community by facilitating the creation of public open space corridor to be integrated with the existing Oaklands Main Drain corridor. The open space will ultimately provide connectivity to the broader landscaped drain corridor and other parklands, thereby providing opportunities for active recreation and community integration.



0 1000 m
SCALE @ A4: 1:30000

FIGURE 7
BYFORD DSP (2009)

3.4 STATE PLANNING POLICIES

3.4.1 STATE PLANNING POLICY 2.1 – PEEL HARVEY COASTAL PLAIN CATCHMENT

State Planning Policy 2.1 – Peel Harvey Coastal Plain Catchment ('SPP 2.1') applies to the catchment area of the Peel-Harvey Estuarine System on the Swan Coastal Plain of Western Australia. SPP 2.1 is relevant to all land use and development proposal within the catchment area and seeks to provide guidance for the best practice land use planning and development to avoid or minimise environmental impact to the estuarine system.

The subject site lies within the catchment area and is therefore subject to the provisions of SPP 2.1. The structure plan will ensure that the proposed residential development is serviced by reticulated sewer, thereby promoting the cessation of unsewered rural-residential uses occurring on the subject land. This, together with the provision for extension of the Oaklands main drain as a multiple use corridor, will allow for reduction in potential nutrient export and better land management outcome for the estuarine catchment. The proposal is consistent with SPP 2.1.

3.4.2 STATE PLANNING POLICY 2.5 – LAND USE PLANNING IN RURAL AREAS

State Planning Policy 2.5 – Rural Planning ('SPP 2.5') aims to protect and preserve land assets by ensuring broad compatibility between land uses.

The proposed structure plan has been prepared in accordance with the draft DSP and considered the provisions of SPP 2.5 by implementing an urban-rural transition precinct (R12.5 density coding) adjacent retained, established 'Rural Living A' lots on the southern boundary of the LSP area. This approach has allowed for a gradual density transition in a northern direction through the structure plan area and protecting the existing rural amenity of the Larsen Road locality.

3.4.3 STATE PLANNING POLICY 3.0 – URBAN GROWTH AND SETTLEMENT

State Planning Policy 3.0 – Urban Growth and Settlement (SPP 3) sets out the principles and considerations which apply to planning for urban growth and settlement in WA. SPP 3 recognises that:

The orderly planning of urban growth and settlement should be facilitated by structure plans, which should take into account the strategic and physical context of the locality, provide for the development of safe, convenient and attractive neighbourhoods which meet the diverse needs of the community, and facilitate logical and timely provision of infrastructure and services. Structure plans may consist of a hierarchy of plans ranging from broad district structure plans to more detailed plans for neighbourhoods and precincts.

The proposed structure plan area is a logical urban infill site, located within an approved District Structure Plan area. The development of the Structure Plan area for residential purposes is entirely consistent with the objectives of SPP 3. Consideration of the strategic and physical context of the subject sites is discussed further within this report, and more detailed design provisions will be addressed and considered through the subdivision and detailed design phase of development.

3.4.4 STATE PLANNING POLICY 3.6 – INFRASTRUCTURE CONTRIBUTIONS

State Planning Policy 3.6 – Development Contributions for Infrastructure (SPP 3.6) was recently reviewed by DPLH and accordingly, a new draft SPP 3.6 – Infrastructure Contributions has been released in July 2019.

Draft SPP 3.6 is relevant to the proposed structure plan area, noting development of the site as contemplated by the LSP would attract a contribution toward a Development Contribution Plan ('DCP'). The need for DCPs is acknowledged as necessary to help fund and deliver many of the community facilities and infrastructure specified within the Byford District Structure Plan. This is discussed further in Part 5 of this Report.

3.4.5 STATE PLANNING POLICY 3.7 – PLANNING IN BUSHFIRE PR ONE AREAS

State Planning Policy 3.7 – Planning in Bushfire Prone Areas ('SPP 3.7') seeks to guide the implementation of effective risk-based land use planning and development to preserve life and reduce the impact of bushfire on property and infrastructure. The subject site is identified by the Department of Fire and Emergency Services ('DFES') Map of Bush Fire Prone Areas as being "bushfire prone" with the mapped bushfire risk resulting from the adjacent areas of remnant vegetation within open space.

Accordingly, any proposal to develop the land is required to be supported by a Bushfire Management Plan (BMP) demonstrating the proposal is able to achieve compliance with SPP 3.7 and the associated Guidelines for Planning in Bushfire Prone Areas. Bushfire Safety Consulting have prepared a BMP in support of this proposal, which is discussed further in Section 4 of this Report.

3.4.6 STATE PLANNING POLICY 5.4 – ROAD AND RAIL NOISE

State Planning Policy 5.4 – Road and Rail Noise ('SPP 5.4') became operation in September 2019 replacing the earlier version released in 2009. SPP 5.4 seeks to achieve a minimisation of adverse impacts attributed to road and rail noise on noise-sensitive (residential) land use and/or development.

It is noted that a small portion of public open space ('POS') in the north-west of the structure plan area is identified within the "trigger distance" of Thomas Road. The affected area of POS is not considered to be a noise sensitive land use and therefore not subject to the guidelines of SPP 5.4.

3.4.7 STATE PLANNING POLICY 7.3 – RESIDENTIAL DESIGN CODES

State Planning Policy 7.3 – Residential Design Codes ('SPP 7.3') sets out the criteria to guide residential development throughout Western Australia. SPP 7.3 provides development control guidance for proposals in the form of 'deemed-to-comply' criteria and 'performance' criteria with respect to residential proposals.

This proposed structure plan allocates a variety of residential density codes (R12.5 – R60) and an indicative road network. The inception of this plan has had regard to the future residential development of the land and development compliance with the provisions of SPP 7.3. This will ultimately be addressed in detail in any future subdivision and development of the land.

3.5 WAPC POLICIES

3.5.1 LIVEABLE NEIGHBOURHOODS

Liveable Neighbourhoods is an operational policy prepared by the WAPC for the purpose of guiding the design and assessment of greenfield residential development proposals. The underlying objective of Liveable Neighbourhoods is to create safe, sustainable, and attractive neighbourhoods with a strong site-responsive identity that reduces dependency on private vehicles and are more energy and land efficient.

Liveable Neighbourhoods identifies a series of objectives and requirements for structure plans that, when met, demonstrate compliance with the overall outcomes sought by the policy. These objectives and requirements relate to items such as road layout, relationship of housing to open space and schools, school location/distribution, public open space layout and location and housing densities.

The Structure Plan has been prepared to satisfy the various objectives and requirements of Liveable Neighbourhoods to ensure that more detailed proposals at subdivision stage are also capable of satisfying the relevant criteria.

3.5.2 DEVELOPMENT CONTROL POLICY 2.2 – RESIDENTIAL SUBDIVISION

Development Control Policy 2.2 ('DCP 2.2') aims to establish a consistent and coordinated approach to residential subdivision by providing for a high level of amenity afforded by regular shaped residential lots together with servicing and sizing provisions.

This proposed structure plan, including the indicative road network, has been designed having regard to the future residential subdivisional layout of the land and achieving compliance with DCP 2.2.

3.5.3 DEVELOPMENT CONTROL POLICY 2.3 – PUBLIC OPEN SPACE IN RESIDENTIAL AREAS

Development Control Policy 2.3 – Public Open Space in Residential Areas ('DCP 2.3') has been prepared to ensure that all residential development in the State is serviced by adequate, well-located areas of public open space for the purpose of enhancing the amenity of the development and providing for the recreational needs of its local residents. The provisions of DCP 2.3 generally require a 10% POS contribution to be made unless otherwise established.

The amount and location of POS within this structure plan area has been dictated by both the Byford DSP and Draft DSP, its reflection in the associated Byford Development Contribution Plan No. 4.

3.5.4 GOVERNMENT SEWERAGE POLICY

The Government Sewerage Policy was released by the DPLH in 2019, setting out the State Government's position regarding the provision of sewerage services across the state, applicable to the planning and development of land. The DPLH's online policy mapping identifies the subject site as being located within a 'sewage sensitive area', related to the estuary catchments on the Swan and Scott Coast Plains.



The proposed residential uses within the structure plan area will be serviced appropriately by gravity sewers and a 150mm gravity sewer extended along Briggs Road which will be connected to the 400mm sewer in Thomas Road, thereby achieving compliance with the provisions of the Government Sewerage Policy.

3.6 LOCAL PLANNING FRAMEWORK

3.6.1 LOCAL STRUCTURE PLANS

The site is identified as Area D urban infill site within the Byford urban cell, planning for the subject site (Area D) has been largely 'pre-planned' by the Byford DSP and Draft DSP, and subsequently influenced by surrounding local structure planning and development. Of relevance to the subject site are the following local structure plans:

▲ **LSP Area C – Byford Central (East of Area D)**

The Byford Central Local Structure Plan provided for the residential development of approximately 65ha of land immediately east of the subject site. The Area C LSP established the alignment of Indigo Parkway as the main east-west road link between Briggs Road and the Byford central area. This has been extended in the proposed LSP for the Area D subject site, in accordance with the Byford DSP.

▲ **LSP Area E – Lots 59-62 Briggs Road, Byford (North of Area D)**

The Area E LSP was approved to facilitate the proposed development of a retirement village of an estimated 200 dwellings. The planning and design of the Area E LSP provided for the widening of the Oaklands Main Drain multiple use corridor within the Area E LSP area. While no development has progressed within Area E, this proposed structure plan for the Area D subject site has recognised the land take requirements for the multiple use corridor and replicated this within the proposed structure plan.

▲ **LSP Area F – Byford Meadows (West of Area D)**

The Byford Meadows LSP within Area F was approved to accommodate the development of a range of residential homesites, a future local neighbourhood centre at the corner of Malarkey Road and Thomas Road and a primary school immediately west of this Area D LSP.

The Area F LSP establishes a local road network west of Briggs Road which has been recognised in the design of this Area D LSP.

Refer Figure 8 – Surrounding Local Structure Plans.

3.6.2 LOCAL PLANNING POLICIES

A number of the Shire of Serpentine Jarrahdale local planning policies have been reviewed having regard to implementing the proposed structure plan through future subdivision and development of the subject site. These include:

▲ **Local Planning Policy 2.4 – Water Sensitive Design**

Local Planning Policy 2.4 – Water Sensitive Design ('LPP 2.4') aims to assist in enhancing the beneficial uses of all watercourses and wetlands in the Shire. The proposed structure plan adheres to LPP 2.4 through the facilitated integration of public open space areas with the extended Multiple Use Corridor. Consistent with the Draft DSP, this allows for appropriate water sensitive design and management; and enables retention and enhancement of watercourse fauna habitat.

▲ **Local Planning Policy 2.8 – Public Open Space Policy**

Local Planning Policy 2.8 – Public Open Space ('LPP 2.8') aims to facilitate the ultimate delivery of public open space with an appropriate location, amenity and functionality. The local structure plan proposes three (3) areas of POS, which are considered to be appropriately placed throughout the structure plan area, as indicated by both the Byford DSP, Draft DSP and the Byford Development Contribution Scheme.

▲ **Local Planning Policy 4.17 – Multiple Use Trails**

As outlined in relation to LPP2.4, the LSP has been recognises the provisions of Local Planning Policy 4.17 – Multiple Use Trails ('LPP 4.17'), through the retention and extension of the Oakland Main Drain Multiple Use Corridor.

▲ **Local Planning Policy 4.18 – Street Trees Policy**

Local Planning Policy 4.18 – Street Trees Policy ('LPP 4.18') seeks to facilitate the retention and enhancement of the Shire's unique character and natural areas. The LSP seeks to recognise this through by facilitating the extension and enhancement of the main Multiple Use Corridor and open space. Part One of the LSP provides for tree retention opportunities to be reviewed at the detailed subdivision design stage when street alignments, finished levels and the like are further established. Retention may then occur where practicable in both open space and road reserves.

▲ **Local Planning Policy 24 – Designing Out Crime**

The LSP has been designed having regard to the objectives of Local Planning Policy 2.4 – Designing Out Crime (LPP 24) and broader principles of Crime Prevention Through Environmental Design (CPTED), by providing for opportunities to promote passive surveillance of each of the public open space areas.

▲ **Local Planning Policy 40 – Local Development Plans**

The role and scope of Local Development Plans and LPP 40 is acknowledged in Part One of the LSP as an appropriate planning tool to further manage key elements of detailed design and development.



FIGURE 8
SURROUNDING LOCAL STRUCTURE PLANS

4. SITE ATTRIBUTES

The following provides a summary of site conditions and constraints. The structure plan is accompanied by more detailed technical reports referenced in each section of Part 4.

A Feature Survey was undertaken by Harley Dykstra and is appended to this report at Appendix 2.

Refer Appendix 2 – Feature Survey.

A Report on Geotechnical Investigation undertaken by Douglas Partners is included as Appendix 3. An Environmental Assessment Report (EAR) has been completed by 360 Environmental and is included as Appendix 4.

Refer Appendix 3 – Geotechnical Investigation & Appendix 4 – Environmental Assessment Report.

4.1 TOPOGRAPHY AND SOILS

4.1.1 TOPOGRAPHY

The Harley Dykstra site feature survey shows the subject site is relatively flat with a high point of approximately RL38m AHD in its south-east corner, grading gently to a level of RL33m AHD in the north-west corner.

4.1.2 GEOTECHNICAL ASSESSMENT

Douglas Partners carried out fieldwork on site to consider current site conditions, likely site preparation requirements for development, foundation and load bearing considerations, as well as the suitability for stormwater infiltration.

Based on the encountered conditions and the results of testing, Douglas Partners conclude the site is generally 'Class M', with zones of 'Class S'. The addition of non-reactive filling (e.g. sand), typically undertaken for residential subdivision around the Perth area could improve the site classification. Analysis indicated that amending the anticipated areas of Class M to Class S or Class A would require 0.8m to 1.8m of compacted sand filling respectively. The earthworks strategy for the site is discussed further in Part 5 of this report.

4.1.3 ACID SULPHATE SOILS

The Department of Water and Environmental Regulation ('DWER') Acid Sulphate Soil Risk Mapping identifies the subject site as having a "moderate to low" Acid Sulphate Soils (ASS) risk. This is consistent with the broader surrounding Byford urban area, which is similarly moderate to low. The future subdivision and development of the land is not considered to be at risk of ASS.

4.1.4 CONTAMINATION

The DWER Contaminated Sites Database does not identify the subject site as being a known or suspected contaminated site. The EAR notes that locally listed sites are more than 1km away and do not impact this LSP.

4.2 VEGETATION, FLORA AND FAUNA

4.2.1 VEGETATION AND FLORA

The EAR completed for the subject site confirms that the site has been extensively cleared and is in a 'Completely Degraded' assessment condition. Remaining vegetation comprises trees that have been planted and are not endemic. No understorey or natural structure remains, and the EAR concludes that there is no remnant vegetation or natural vegetation communities within the subject site. No banksia woodland threatened ecological communities (TECs), or priority ecological communities (PECs) are identified within the site.

4.2.2 FAUNA

The fauna survey conducted to accompany the EAR concluded that no priority fauna species existed within the site. A black cockatoo habitat survey identified 0.53ha of foraging habitat comprising isolated trees, though the proposed clearing of these trees was not considered to be of environmental significance. No black cockatoos were recorded on the site.

4.3 HERITAGE

4.3.1 ABORIGINAL HERITAGE

A search of the subject site using the Department of Aboriginal Affairs ('DAA') Aboriginal Heritage Inquiry System identified there are no areas of Aboriginal Heritage or European Heritage significance.

4.3.2 EUROPEAN HERITAGE

A search of the Western Australian Register of Heritage Places identified no sites of State heritage significance within the subject site or immediate surrounds.

A search of the Shire of Serpentine Jarrahdale's Municipal Heritage Inventory identified no sites of local historic significance within the subject site or immediate surrounds.

4.4 GROUND AND SURFACE WATER

A summary of existing ground and surface water conditions is provided below. A Local Water Management Strategy ('LWMS') has been prepared by 360 Environmental to accompany the structure plan. The water management initiatives of the LWMS are discussed in Section 5.

4.4.1 GROUNDWATER

This site is located within the Serpentine Groundwater Management Area. It is not within a Public Drinking Water Source Area (PDWSA) Groundwater under the subject site is identified as being between 0.66 metres and 6.53 metres below ground level during the period July to October 2019.

4.4.2 SURFACE WATER RESOURCES

There are no natural water bodies within the subject site. The Oaklands Main Drain adjoins the site, lying 10m to the east and wraps around the northern perimeter. The Oaklands drain flows westward from the subject site and is considered further in the LWMS.

Desktop mapping has identified the entire site and surrounding area as a Multiple Use wetland. This is considered further in the accompanying EAR and LWMS.

4.5 BUSHFIRE MANAGEMENT

The site is located within a Department of Fire and Emergency Services (DFES) Bushfire Prone Area (2018). A Bushfire Management Plan (BMP) has been prepared in accordance with the Guidelines for Planning in Bushfire Prone Areas (WAPC 2018) (the 'Guidelines').

Refer Attachment 5 – Bushfire Management Plan.

The BMP considers the bushfire hazards surrounding the subject site and the associated bushfire risk is readily manageable through standard management responses. On implementation of the proposed management measures, the subject site will be able to be developed with a manageable level of bushfire risk while maintaining full compliance with the relevant controls.

A post-development BAL contour assessment was undertaken in accordance with the Guidelines to determine the BAL contours impacting the site, and the outputs show that a BAL contour range of between BAL-12.5 and BAL-LOW.

There are no significant long-term bushfire hazards at the site, primarily due to existing and proposed managed vegetation associated with the current and anticipated future development of the surrounding area. Further review will be required at the time of subdivision and during future stage of construction, each stage of development must be provided with two access routes.

5. LAND USE AND SUBDIVISION REQUIREMENTS

5.1 LAND USE

The Area D Local Structure Plan sets out the land uses, residential densities, public open space, vehicle and pedestrian access and servicing requirements. The proposed LSP includes residential densities ranging from R12.5 to R60, as well as public open space, in accordance with the requirements of Liveable Neighbourhoods and the Draft DSP.

The following sections of this report describe the design response proposed by this Local Structure Plan.

Refer to Plan 1 – Local Structure Plan & Table 1 - Land Use Summary.

5.2 OPEN SPACE

Under the provisions of Liveable Neighbourhoods, a range of site responsive parkland is required to be developed, which appropriately addresses the district, neighbourhood and local needs of residents. This is to comprise a mix of unrestricted and restricted public open space.

The amount and location of POS throughout the LSP area has been designed in accordance with both the Byford DSP and Draft DSP. Further, all POS is included within the provisions of the Byford District Development Contributions Scheme. The Structure Plan incorporates the following POS features:

- ▲ Continuation of a district stormwater ‘living stream’ through the alignment of the existing Oaklands main drain as a multiple use corridor (MUC);
- ▲ Integration of urban water management principles with a supporting LWMS; and
- ▲ Recognition of the linear POS network established through the Byford DSP area, which encourages walking and cycling.

The LSP proposes a total of three (3) areas of POS comprising a total of 14.63% POS, as follows:

▲ **Area A – MUC Extension:**

Area A comprises an area of approximately 1.253ha and represents a continuation of the Oaklands Main Drain MUC that has been developed on the adjoining approved LSPs, in terms of its size and alignment. The width of the open space for the MUC was established in the approved LSP to the north of the subject site which has been reflected by this LSP. A portion of Area A is classified ‘restricted’ POS, reflecting a drainage basin required by the LWMS. The basin has an area of 2,400m², which represents 1.36% of the subject site and is the only restricted POS proposed within the LSP area. The balance of Area A will be developed for useable recreation, integrating with the broader network for walking and cycling.

▲ **Area B – POS East:**

Area B comprises an area of 993m² and reflects the Byford DSP's identification of POS required to widen out the MUC located on the east of the subject site. This POS will form part of the adjoining linear reserve and provide an appropriate, rationalised, edge to the reserve that allows good access and surveillance from the subject site.

▲ **Area C – POS South:**

Area C comprises 2,098m² and provides for the further integration with the adjacent POS by providing opportunities for local recreation in proximity to the MUC, north of the new Byford dog park.

The POS allows for safe pedestrian movement around the site which is uninterrupted and offers a range of recreation opportunities.

Refer to Figure 9 - Public Open Space Plan and Figure 10 Public Open Space Schedule.

5.3 RESIDENTIAL

An indicative subdivision layout has been prepared and identifies a yield of approximately 161 dwellings comprising a mix of residential densities.

Liveable Neighbourhoods identifies that for most new urban areas, urban densities of a least 15 dwellings per urban hectare, and an average of 22 dwellings per site hectare, should be provided.

Refer to Figure 11 – Subdivision Concept Plan.

For the purposes of dwelling yield calculation, the rural zoned lots (shown as 'Rural Living A' on the LSP) fronting Larsen Road, have been excluded. Based on an indicative dwelling yield of 161 dwellings (indicative Concept Plan), the R12.5 – R60 component of the LSP achieves a density of approximately 20.6 dwellings per residential site hectare, and 18 dwellings per gross urban hectare.

Residential density code ranges have been identified across the site in the LSP and provide for the lot range shown in the indicative Concept Plan. The implementation of a band R12.5 coded lots provides for a transitional precinct and buffer to the established 'Rural Living A' lots. This will allow for a density transition northward through the LSP area, towards the proposed continuation of Indigo Parkway. The R12.5 coding is expected to provide for 'homestead' style residential development, consistent with the rural lifestyle and amenity of the Byford rural area. The balance area of the LSP area provides for a range of lot sizes, including terrace style housing fronting Indigo Parkway, consistent with similar developed areas to the immediate northeast.

The Concept Plan is shown for explanatory purposes only and is subject to further review and detailed design at subdivision stage.

The density code range facilitates a diversity of lot product across the site, providing for a range of dwelling types. The preparation of Local Development Plans will also assist in facilitating the delivery of lot product diversity.

5.3.1 URBAN TO RURAL TRANSITION

The Byford Trotting Complex is identified as a long-term rural area and provisions are included within the Shire's local planning framework to ensure an appropriate transition from surrounding urban areas. The structure plan response to this by providing a gradual transition from high density (R60) in the north, to low density (R12.5 and Rural Living) in the south. The intent for low density areas is to provide large lots suitable for a wide range of built form, gardens and boundary setbacks which contribute to an open suburban character and reduces the impacts of building bulk on the rural outlook.





PUBLIC OPEN SPACE PLAN
VARIOUS LOTS, BRIGGS AND LARSEN ROAD PRECINCT, BYFORD
FIGURE 9

Figure 10 - BYFORD AREA D LSP - Public Open Space Schedule

25.02.2021

Site Area (Local Structure Plan Boundary)				16.70
Less				
	0.000			
Total		0.000		
Deductions				
San Simeon Boulevard Extension	1.253			
Rural Zoned Land	4.894			
Total		6.147		
Gross Subdivisible Area				10.553
POS @10%				1.055
Public Open Space Contribution				
May comprise:				
Min 80% unrestricted POS		0.844		
Min 20% restricted use POS		0.211		
Total Required POS				1.055
POS Reference Number (area within urban zone/LSP boundary only)		Unrestricted Urban POS sites (m²)	Restricted Urban POS (m²)	
A - MUC EXPANSION	12350		9950	2400
B - POS EAST	993		993	0
C - POS SOUTH	2098		2098	0
Total	15441		13041	2400
	1.54	1.54	1.30	0.24
Percentage of gross subdivisible area		14.63%	12.36%	2.27%

Notes:

1. This Public Open Space Schedule is based on the Local Structure Plan prepared by Rowe Group (Plan ID: 8902-LSP-01-K).
2. This Public Open Space Schedule is based on the drainage assumptions as per the Local Water Management Strategy prepared by 360 Environmental (February 2020).

5.4 LOCAL DEVELOPMENT PLANS

A Local Development Plan(s) is to be prepared for lots with one or more of the following attributes:

- ▲ Lots with an area of 260m² or less;
- ▲ Lots where specific vehicle access and egress control is required; and
- ▲ Lots abutting Public Open Space

The Local Development Plan(s) is to address, as a minimum, the following requirements (where appropriate):

- ▲ Dwelling orientation;
- ▲ Type of fencing;
- ▲ Location of carports/garages and vehicular access;
- ▲ Passive surveillance;
- ▲ Setback variations; and
- ▲ Requirements of dwelling construction to enable compliance with an approved Bushfire Management Plan.

It is anticipated that where a Local Development Plan(s) is required for lots experiencing the abovementioned criteria, a condition of subdivision approval will be imposed by the WAPC requiring the preparation and approval of a Local Development Plan.

5.5 MOVEMENT NETWORKS

Donald Veal Consultants ('DVC') have completed a comprehensive review of the road network, access and transport considerations for the subject site. The DVC review has considered the proposed structure plan, as well as the Concept Plan for the subject site.

Refer to Appendix 6 – Transport Impact Assessment.

5.5.1 EXISTING ROAD NETWORK

The existing road network consists of Briggs Road to the west and Larsen Road to the south.

Briggs Road is a single carriageway road with a posted speed limit of 50km/hr. Briggs Road is classified as a 'Local Distributor' road in accordance with the Main Roads WA (MRWA) functional road hierarchy.

Larsen Road runs along the southern boundary of the site and has a 7m wide paved and kerbed carriageway. Larsen Road is classified as a 'Local Distributor' road by MRWA and has a 50km/hr speed limit.

The subject site is highly accessible from the wider surrounding established road network.

5.5.2 PROPOSED ROAD NETWORK

Both the Byford DSP and Draft DSP identify a new east-west link, being the extension of Indigo Parkway, providing connection through to Briggs Road and ultimately further west to Malarkey Road and a planned Neighbourhood Centre at that location. Similarly, Indigo Parkway will be extended south to Abernethy Road to more directly access the Byford Town Centre and schools. As Indigo Parkway is an infrastructure item funded via the Development Contribution Scheme (DCS) for Byford, the timing of these extensions is unknown and likely tied to the timing of remaining residential development and the receipt of (DCS) funds by the Shire. This proposed Structure Plan respects the planned alignment of Indigo Parkway on the northern edge of the subject site.

Internally within the subject site the road network has been designed to allow for flexible staged development. Access will be provided via:

- ▲ A new section of Indigo Parkway to the north which is shown as a Neighbourhood Connector;
- ▲ A new east-west road provided parallel to Larsen Road and shown as an Access Street; and
- ▲ A new centrally located north-south Access Street link connecting the above.

Remaining roads shown within the subject site, shown indicatively on the Concept Plan, are subject to detailed design at subdivision stage and do not need to be represented on the Structure Plan map.

The DVC report has reviewed the Concept Plan and notes that:

- ▲ A reduced road reserve of 13.2m may be shown adjacent to open space to the east, and would operate as an Access Street C;
- ▲ Lots fronting Indigo Parkway are to be provided with rear access via a 6m laneway;
- ▲ Direct lot access to Indigo Parkway is not provided; access will be via appropriately spaced local roads that exceed the required intersection spacing along Indigo Parkway.

5.5.3 PUBLIC TRANSPORT

The subject site is serviced by Transperth bus route 254 which provides connection between Armadale Station and Clifton Street, Byford.

As development progresses within the surrounding area, it is recommended that the Shire consult with the Public Transport Authority regarding the expansion of existing bus routes and frequencies or to introduce new services to encourage the use of public transport. This may ultimately be aligned with the Byford station planning.

5.5.4 PEDESTRIAN AND CYCLE NETWORK

Liveable Neighbourhoods recommends that footpaths should be provided on both sides of all streets but may be omitted from one side for cost reasons and lower order access streets. The Structure Plan area can adequately cater for the provision of a local footpath network.

Connectivity to and along the Oakford Main Drain Multiple Use Corridor will ultimately also be provided as the corridor is developed. This will provide further walking / cycling recreational opportunities for residents and connect to the new Byford Dog Park located to the immediate southeast of the subject site. The Multiple Use Corridor is identified within the Developer Contribution Scheme, under the Byford District Structure Plan, and the ultimate timing of landscaping and construction is expected to be tied to progression of residential development on the site and surrounds.

5.6 WATER MANAGEMENT

A Local Water Management Strategy ('LWMS') has been prepared by 360 Environmental in support of this Structure Plan and is provided as Appendix 7.

Refer Attachment 7 – Local Water Management Strategy.

In accordance with the processes defined under *Better Urban Water Management*, an Urban Water Management Plan ('UWMP') will be required to be prepared and implemented at the time of subdivision. The UWMP will refine and implement the proposed drainage network/system, as identified under the LWMS.

5.6.1 STORMWATER MANAGEMENT STRATEGY

The objectives for stormwater management are to ensure that urban development does not increase the peak flows discharging to the receiving environment, and that runoff water quality is maintained or improved.

▲ **1 in 1 year ARI event**

The runoff from constructed impervious surfaces generated by the first 15 mm of rainfall is proposed to be retained at-source for residential lots and road reserves as far as practical. This is consistent with Shire and what has been proposed in the Drainage and Water Management Plan ('DWMP') and District Water Management Plan ('DWMS').

It is the first 15 mm of rainfall that mobilises the majority of pollutants from the catchment. Consequently, the retention of runoff from the first 15mm provides the opportunity for at source treatment via bioretention structures (or similar) so that the runoff quality to the downstream receiving environment is maintained.

The use of streetscape options to collect and infiltrate stormwater at source may be restricted due to the clay soil type and low infiltration rates. If preferred by the Shire options to collect and infiltrate as much of the first 15mm as possible in the streetscapes can be investigated further at the detailed design phase and presented in the UWMP.

▲ **Minor and Major Events (up to 1% AEP)**

The minor event management features of the road drainage pipe and the detention basin in POS, are as follows:

- Lots and road reserves will retain the first 15 mm at source as far as practical;

- Runoff generated in events larger than 15 mm will be conveyed by the road pipe drainage system. The drainage structures will be sized to convey up to the 20% AEP event to the drainage basin in POS, ensuring roads are serviceable;
- Runoff generated in larger than 20% AEP and up to the 1% AEP events will be allowed to drain to the basin within POS via overflow;
- The drainage basin and its outlet in the POS have been designed to enable sufficient detention so that its of discharge to the Oaklands Drain matches pre-development flows for events up to 1% AEP.

The key objective for managing minor and major events is to maintain the peak flow discharging the Oaklands Drain

5.7 EDUCATION FACILITIES

The Structure Plan area does not include any primary, secondary or tertiary education facilities. Broader planning for education facilities through the Byford District Structure Plan has ensured land requirements to meet future demand have been provided for. The subject site is immediately east of an approved primary school site located on Briggs Road. Further, the site is in proximity to the following, established primary schools:

- ▲ Marri Grove Primary School (1.0 kilometres);
- ▲ West Byford Primary School (1.6 kilometres);
- ▲ Byford Secondary College (1.6 kilometres);
- ▲ Byford Primary School (1.9 kilometres); and
- ▲ Woodland Grove Primary School (2.2 kilometres).

5.8 ACTIVITY CENTRES AND EMPLOYMENT

▲ Strategic Metropolitan Centre

Consistent with State Planning Policy 4.2: Activity Centres for Perth and Peel ('SPP 4.2'), the closest strategic metropolitan centre to the Structure Plan area is Armadale.

The Armadale Strategic Metropolitan Centre will act as the main regional activity centre and will be multipurpose centres that provides a diversity of uses. This centre will provide the full range of economic and community services necessary for the communities in their catchments.

▲ District Centre

Byford is the closest district centre to the subject site. This centre will provide a mix of small scale every day uses, including food and beverage outlets, retail shops, offices and other complementary uses including warehouse / showroom type uses. These centres support the larger scale secondary centre and provide further economic and employment opportunities for future residents.

5.9 INFRASTRUCTURE COORDINATION, SERVICING AND STAGING

The following provides a summary of the infrastructure and servicing for the Structure Plan area. Further information is contained within the Engineering Services Report prepared by The Civil Group.

Refer Attachment 8 – Engineering Services Report.

5.9.1 WATER

There are existing 150mm and 200mm diameter water mains located within the Larsen Road reserve, and a 150mm diameter mains within the Briggs Road reserve. These mains are immediately adjacent the subject site. Water supply to the development will be provided from these mains to service future subdivision and development.

5.9.2 SEWER

Water Corporation sewer planning confirms the subject site is able to be serviced by reticulated sewer. This is expected to be via connection of larger lots fronting Larsen Road to an established 225mm sewer main within the Larson Road reserve, with the balance of the subject site serviced via an extension along Briggs Road to connect to an existing 300mm sewer main in Thomas Road.

5.9.3 ELECTRICITY

It is anticipated that the existing surrounding HV distribution will be extended into the future subdivision via LV underground cables to feed switchgear and service the development. Undergrounding of existing lines will be completed to Western Power requirements. The subject site is readily able to be serviced with power at the time of development.

5.9.4 GAS & TELECOMMUNICATIONS

There are existing ATCO gas pipes within the vicinity of the subject site, which are able to be extended to service the structure plan area.

Telecommunications are expected to be provided by NBN Co or similar broadband provider. Broadband services are available in the area, and able to be extended to service the future subdivision and development.

5.9.5 EARTHWORKS

The subject site will be cleared and shaped to provide grade to fall towards the drainage located to the north of the site. Final lot levels will be set once the lot classification has been decided. Fill will comprise imported clean sand. The site will be cleared and stripped of topsoil and proof compacted prior to importing the clean fill to achieve the required lot class.

Details on the potential range of fill requirements to achieve lot classification are provided in the geotechnical assessment appended to this report.

5.9.6 STAGING

Staging of the future subdivision of the land will be influenced by landowner requirements but is generally expected to occur from Briggs Road progressing east.



5.10 DEVELOPER CONTRIBUTION ARRANGEMENTS

The Area D Local Structure Plan is situated within the Byford DSP area and the Byford Development Contribution Area ('DCA'). The development contribution area was introduced by way of Amendment 108 to LPS 2. The area is described as 'Byford – DCA1' in Appendix 10 to LPS2. The subject site lies within Area 1 of DCA1. Of relevance to this Area D LSP are infrastructure items including:

- ▲ Indigo Parkway between Thomas Road and Larsen Road; and
- ▲ All land required for District Open Space, Public Open space and/or drainage purposes.