

Structure Plan

Lot 2 (43) Burley Road & Lot 7 (206), Chittering Road
Bullsbrook, WA

PLANNING SOLUTIONS
URBAN & REGIONAL PLANNING

PS



Prepared for
Cruze Developments Pty Ltd

December 2021

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This structure plan is prepared under the provisions of the City of Swan Local Planning Scheme No. 17.

IT IS CERTIFIED THAT THIS STRUCTURE PLAN WAS APPROVED BY RESOLUTION OF THE WESTERN AUSTRALIAN PLANNING COMMISSION ON: **22 APRIL 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

22 APRIL 2021

Date

22 APRIL 2031

Date of Expiry

Table of modifications to Part One and structure plan map

Amendment no.	Summary of the amendment	Amendment type	Date approved by WAPC

Executive summary

This Structure Plan applies to Lot 2 (43) Burley Road and Lot 7 (206) Chittering Road, Bullsbrook (subject site), located within the municipality of the City of Swan. The Structure Plan is prepared in support of the proposed lifting of urban deferment applying to the subject site under the Metropolitan Region Scheme.

The proposed structure plan is intended to facilitate the subdivision of the subject site for residential purposes. It will form a natural extension of residential housing to the south and south-west of the site and will provide an appropriate interface with future residential development to the north. The justification and rationale for the proposed mix of residential densities, street block and road layout, and positioning of public open space is contained within this Structure Plan, with details provided on the planning background, site conditions and proposed concept plan.

The proposed Structure Plan is intended to provide the necessary information and justification to support the lifting of urban deferment request over Lot 7, allowing the subject site to be developed into approximately 164 single residential lots.

Table (i) below provides for a summary of the proposed development of the subject site.

Table (i) – Structure Plan summary

Item		Lot 2 (deferred)	Lot 7	Total*	Report section number
Total area covered by the structure plan		5.6454ha	5.5353ha	11.1807 ha	Part 2, Section 1.2.3
Area of each land use proposed: • Residential		Details to be provided in a future structure plan amendment.	3.6073ha	3.6073ha	Part 2, Section 3.3
Estimated lot yield			79.5 lots	79.5 lots	Part 2, Section 3.3
Estimated number of dwellings			79.5 dwellings	79.5 dwellings	Part 2, Section 3.3
Estimated residential site density			22 per site hectare	22 per site hectare	Part 2, Section 3.3
Estimated population			223 people (assumes 2.8 persons per dwelling)	223 people (assumes 2.8 persons per dwelling)	Part 2, Section 3.3
Number of high schools		0 high schools			N/A
Number of primary schools		0 primary schools			N/A
Estimated commercial floor space (for activity centres if appropriate)		0 net lettable area			N/A
Employment self sufficiency targets		0 jobs			N/A
Estimated area and number of local parks	POS 1:		0.4962 ha	0.4962 ha	Part 2, Section 3.2
	POS 2:		0.2814 ha	0.2814 ha	
	Total:		0.7776 ha	0.7776 ha	
Estimated number and area of natural area and biodiversity assets		0 hectares, 0 sites			N/A

* Totals to be updated to reflect future structure plan amendment permitting development on Lot 2.

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Appendix No.	Document title	Approval required OR supporting document only	Approval status	Approval agency
1	Certificate of Title	Supporting document	N/A	N/A
2	Transport Impact Assessment	Supporting document	N/A	N/A
3	Local Water Management Strategy	Approval required	Not yet approved	Department of Water
4	Environmental Assessment	Supporting document	N/A	N/A
5	Bushfire Management Plan	Supporting document	Not yet approved	City of Swan

6	Servicing Report	Supporting document	N/A	N/A
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Project details		
Job number	3430	
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Prepared by	Planning Solutions	
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Revision number	File name	Document date
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Rev 1	201223 3430 Structure Plan report (v1)	23 December 2020

Lot 2 (43) Burley Road & Lot 7 (206) Chittering Road, Bullsbrook Part One – Implementation

1 Structure plan area

This structure plan applies to land identified on the structure plan map being land under an elevation of 112m AHD. Land which is above 112m AHD is indicated on the structure plan to provide context and allow planning matters to be considered holistically and will be subject to addendums to the structure plan to facilitate subdivision and development of the land.

2 Operation

This Structure Plan commences operation on the date it is approved by the Western Australian Planning Commission (WAPC).

3 Staging

The development of the Structure Plan area is dependent on the provision of infrastructure for servicing the land with water. A portion of the subject area on Lot 2 is identified on the structure plan map as "Area Subject to Future Structure Plan Amendment". This area cannot be subdivided and developed without a future structure plan amendment and the lifting of the urban deferred status over Lot 2.

4 Subdivision and development requirements

4.1 Land use zones and reserves

The Structure Plan Map (Plan 1) outlines zones, reserves and residential densities applicable within the Structure Plan area. Decisions relating to the future subdivision and development of the land within the Structure Plan area shall have due regard to the detail contained within this Structure Plan including the technical appendices.

The Structure Plan consists of the following zones and reserves:

- Residential (R20 and R30)
- Recreation

Land use permissibility within the Structure Plan area shall be in accordance with the corresponding zone or reserve under the City of Swan Local Planning Scheme No. 17 (the Scheme).

4.2 Bushfire hazard

The subject site is located in an area where the surrounding bushfire hazard is assessed as being 'Extreme' and 'Moderate', and is identified as a Bushfire Prone Area on the Department of Fire and Emergency Services Map of Bushfire Prone Areas 2017. The future clearing of the Structure Plan area and the layout of the Structure Plan with roads abutting hazardous vegetation ensures future dwellings will be located in areas with an appropriate Bushfire Attack Level rating. A bushfire management plan (BMP) has been prepared in support of the Structure Plan and identifies the bushfire management measures required to be implemented by the developer in the initial stages of subdivision prior to sale or occupancy.

4.3 Interface to adjoining land

The Structure Plan provides for an extension of the Access Street (Wilbury Road) within the adjoining residential area to the south through the subject site via a roundabout. It is anticipated this road will be extended further north through the adjoining Lot 8 Chittering Road, as development of land to the north is progressed. A second Access Street, parallel to Burley Road, will also provide connection from Lot 2 through Lot 11 Quin Road to the north.

The Structure Plan has been designed to integrate seamlessly with the adjoining land, and provides a logical progression of residential development currently extending from the south.

4.4 Density targets

Strategy / Policy Document	Density Target	Lot 2 (based on 84.5 lots) (deferred)	Lot 7 (based on 79.5 lots)
Directions 2031 and Beyond	15 dwellings per gross urban zoned hectare	Details to be provided in a future structure plan amendment.	16.7 dwellings per gross hectare
Perth and Peel @ 3.5 million	26 dwellings per residential site hectare		22.03 dwellings per site hectare
Liveable Neighbourhoods	22 dwellings per site hectare		

4.5 Local Development Plans

Local Development Plans (LDPs) shall be prepared for lots with a bushfire rating of BAL 40 or greater.

4.6 Transport, roads and access

Ultimately, the structure plan will require the upgrade of Burley Road to a standard of Neighbour Connector A from the subject land north to Quin Road and/or Barletta Vista to the south of the subject land is constructed in its entirety.

Further detailed information may be provided/required with respect to the Bushfire Management Plan to address staging as part of future subdivision applications to the satisfaction of the Western Australian Planning Commission, subject to consultation with the City of Swan and the Department of Fire and Emergency Services (where required).

Satisfactory arrangements shall be made for the upgrade of Chittering Road where it abuts the subdivision area, to a standard to the satisfaction of the City of Swan.

Lot 7 shall, at subdivision stage, provide a footpath along the eastern side of Chittering Road, along the boundary of the lot to connect the dual use paths located along the new internal Access Street south of the structure plan area.

Lot 7 shall, at subdivision stage widen Chittering Road at the corner of the new Access Road to the south of the structure plan area to the satisfaction of the City of Swan.

5 Other requirements

5.1 Infrastructure upgrades

The Water Corporation's existing water infrastructure allows for the servicing of lots with an elevation up to 95m AHD. A small local water booster pump will service land up to an elevation of 112m AHD. Prior to the subdivision of any land with an elevation higher than 112m AHD the affected land is to be serviced with water infrastructure by the way of the future Bullsbrook elevated water storage tank by Water Corporation, or by other suitable arrangements being made to the satisfaction and approval of the Water Corporation.

5.2 Developer contributions

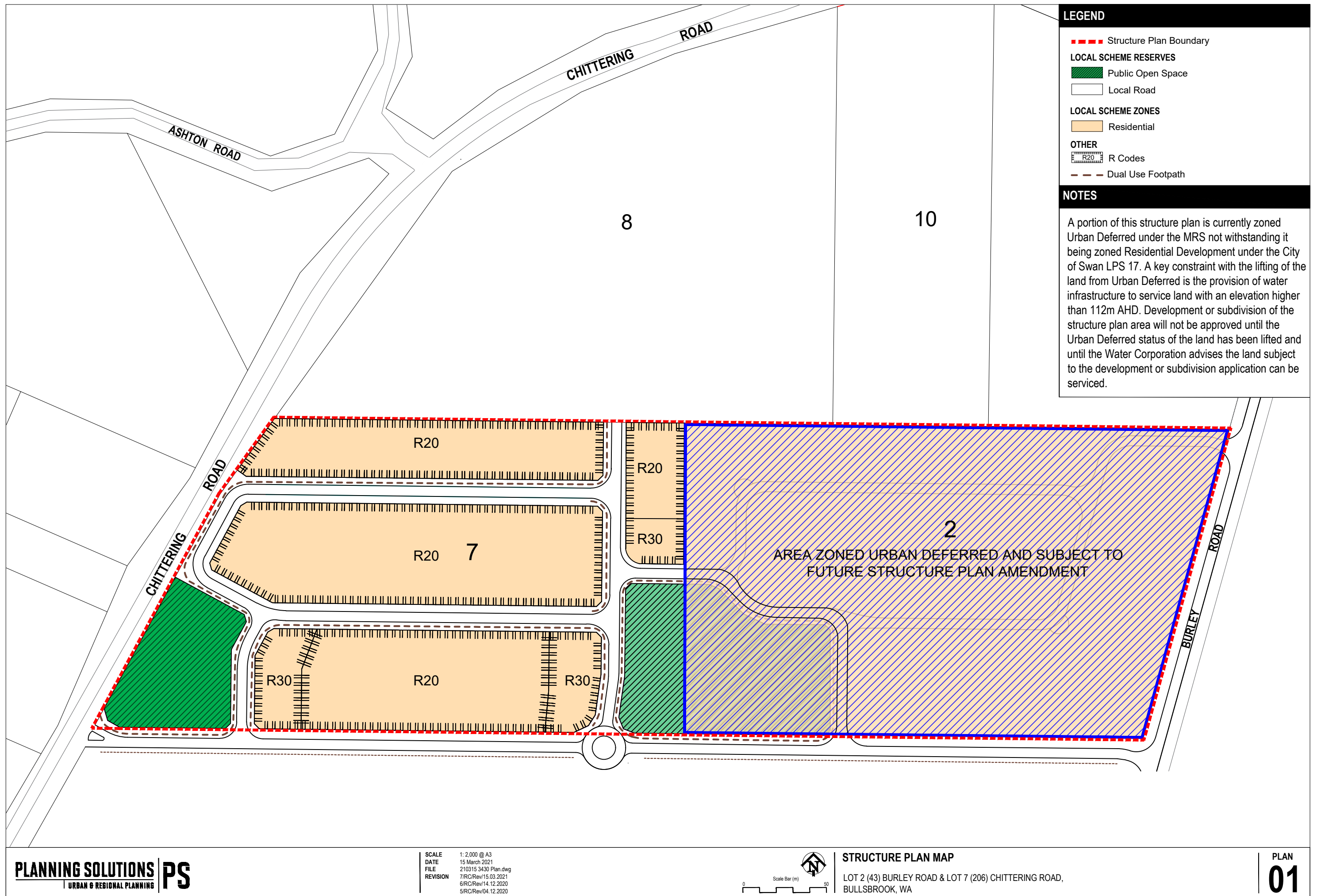
Developer Contributions will be required if a Development Contribution Plan (DCP) applies to the Structure Plan area under the Scheme.

If at the time of considering a subdivision or development application, in the interim period where a DCP has been advertised but not implemented into the Scheme, the WAPC or the City of Swan may require the landowner to enter into a Deed of Agreement with the City pursuant to Clause 5A.2.7.2 of LPS17 to the satisfaction of the WAPC.

7 Additional information

The following additional information is required to be submitted at the subdivision or development stage.

Additional information	Approval stage	Consultation required
Urban Water Management Plan	Subdivision (condition)	City of Swan Department of Water
Public Open Space Schedule	Subdivision (application)	WAPC City of Swan
Bushfire Attack Level Assessment	Subdivision and/or development application for identified lots	City of Swan
Environmental Construction and Works Management Plan	Subdivision and/or Development (condition)	City of Swan



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Lot 2 (43) Burley Road & Lot 7 (206) Chittering Road, Bullsbrook Part Two – Explanatory Section

1 Planning background

1.1 Introduction and purpose

Structure plans are forward planning documents that provide a guiding framework for subdivision and development. Structure plans coordinate the provision of land use, road networks, public open space, community facilities, schools and centres of activity, services and infrastructure.

This Structure Plan has been prepared in accordance with the City of Swan (City) Local Planning Scheme No. 17 (LPS17) and the relevant 'deemed provisions' of the *Planning and Development (Local Planning Scheme) Regulations 2015* (Planning Regulations). The purpose of the Structure Plan is to facilitate the urban development and support the lifting of urban deferment request for Lot 2 (43) Burley Road and Lot 7 (206) Chittering Road, Bullsbrook (subject site).

With the support of technical data, the proposed Structure Plan provides for the following:

- Pattern of land use.
- Network and hierarchy of roads.
- Public open space.
- Bushfire management.
- Water management.
- Servicing strategy.

Once endorsed, the proposed Structure Plan will guide the subdivision, land use and residential density for the subject site. In accordance with the Planning Regulations, the proposed Structure Plan does not seek to provide detailed development standards, nor does it seek to vary the requirements of the Residential Design Codes (R-Codes). Local Development Plans are able to fulfil this role if required.

As required by the Department of Planning, Lands and Heritage (DPLH), the proposed structure plan has been prepared in accordance with the requirements of *Liveable Neighbourhoods* (LN), and has been structured in accordance with the requirements of LPS17 and the WAPC's *Structure Plan Framework* (August 2015).

1.2 Land description

1.2.1 Location

The subject site is located within the municipality of the City of Swan and within the locality of Bullsbrook. The subject site is located approximately 38 kilometres north-east of the Perth Central Business District, and approximately 27 kilometres north of the Midland Strategic Metropolitan Centre. The subject site is located approximately 2 kilometres north-east of the Great Northern Highway, which connects to the Midland Strategic Metropolitan Centre.

The Bullsbrook/Upper Swan area covers approximately 29,000 hectares. The area is naturally bounded by the Avon River to the east and the Gnangara Pine Plantation to the west. The area is located on the northern boundary of the City of Swan municipality, just inside the Perth metropolitan area.

The subject site has frontage to Chittering Road to the west and Burley Road to the east. The Royal Australian Air Force Pearce Base is approximately two kilometres south-west of the subject site.

The locality of Bullsbrook is experiencing rapid development, incrementally replacing rural uses traditionally associated with the area, with residential and associated community, public and commercial land uses to expand in the Bullsbrook town site.

1.2.2 Area and land use

The Structure Plan covers an area of approximately 11 hectares. The subject land is currently used for rural residential purposes, is predominantly cleared and contains little remnant vegetation. The subject site is not considered to possess any specific environmental features worthy of retention, such as waterways/seasonable drainage lines etc. The land is surrounded by predominantly rural residential and residential land, with increasing residential development occurring to the south of the subject site.

The subject site slopes from north-east to south-west, with the highest point being approximately 140m Australian Height Datum (AHD) and the lowest point being 102m AHD.

Refer Figure 1, aerial photograph.

1.2.3 Legal description and ownership

Refer to Table 1 below for a description of the land subject to this Structure Plan.

Table 1 – Lot details

Lot	Plan/Diagram	Volume	Folio	Area (hectares)
2	9436	1260	738	5.6454
7	9436	1559	216	5.5353
Total				11.1807

Refer Appendix 1 for copies of the Certificates of Title.



LEGEND

Subject Site



Scale Bar (m)

0 50

1.3 Planning framework

1.3.1 Zoning and reserves

1.3.1.1 Metropolitan Region Scheme

The subject site is zoned Urban Deferred under the provisions of the Metropolitan Region Scheme (MRS). The subject site was originally rezoned in 1995 from Rural to Urban Deferred via MRS Amendment No. 958/33 – Eastern Corridor Omnibus Amendment. At the time of the site's rezoning to Urban Deferred, there was limited servicing capacity with regard to water and sewerage. Servicing capacity issues have since been partially resolved, and the portions of the subject site below 112m AHD are considered suitable for development. In conjunction with this Structure Plan, a request to lift the urban deferment of the portion of the subject land below 112m AHD has been submitted to the WAPC. The proposed Structure Plan is consistent with the provisions of the MRS.

The subject site abuts land zoned Urban to the south, Urban Deferred to the north and Rural to the east and west. Bush Forever Site No. 86 (Burley Park and Adjacent Bushland) is situated to the east of the subject site, and Site No. 88 (Ashton Road Bushland) to the west. Refer Figure 2, MRS zoning map.

1.3.1.2 City of Swan Local Planning Scheme No. 17

The subject site is zoned Residential Development under the provisions of LPS17. Refer Figure 3, LPS17 zoning map. Clause 4.2.14 states the objectives of the Residential Development zone are to:

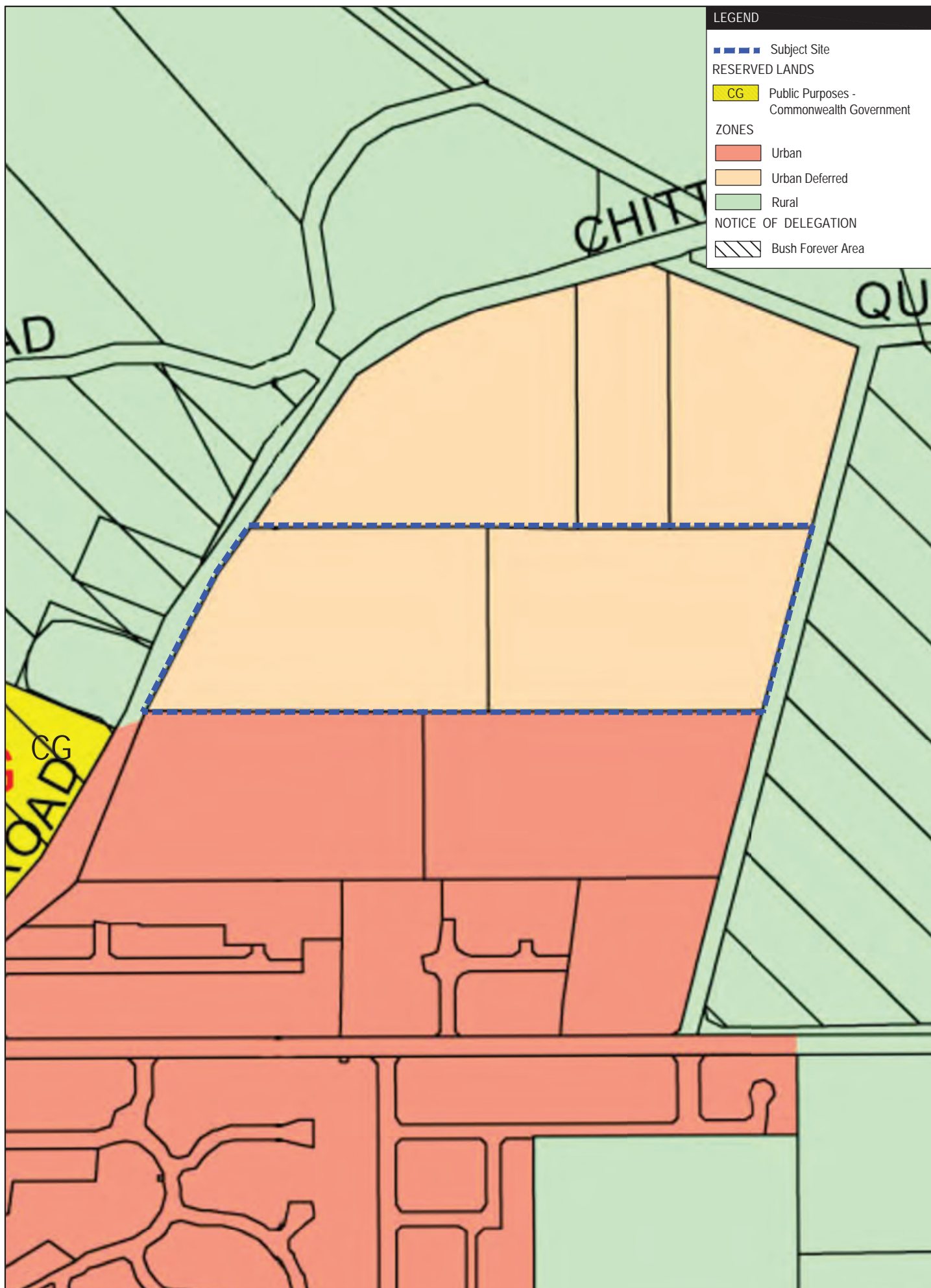
- (a) *provide for the coordinated development of future residential areas through the application of a comprehensive plan to guide subdivision and development to be known as a "Structure Plan";*
- (b) *provide for predominantly residential development, but including also a range of compatible services, consistent with the needs of an integrated neighbourhood, and planned so as to minimise adverse impacts on amenity;*
- (c) *avoid the development of land for any purposes or at a time when it is likely to compromise development elsewhere in the district or prejudice the future development of land in the Residential Development zone for more appropriate purposes;*
- (d) *take account of the need to protect the amenity and on-going use of adjacent property owners as well as to provide for the needs of future residents.*

The proposed Structure Plan facilitates the coordinated development of the subject site for residential purposes. It takes into consideration future development and the existing land uses surrounding the subject site. The proposed Structure Plan has been prepared with due regard to the amenity of the existing locality and will demonstrate how an integration with the surrounding land has been achieved. As such, the proposed Structure Plan is consistent with the objectives of the Residential Development zone.

The Schedule 2 of the Planning Regulations provide a set of deemed provisions which automatically form part of every local planning scheme in the State. Clause 27 of the deemed provisions relates to the effect of a structure plan, with clause 27 (1) stating:

A decision-maker for an application for development approval or subdivision approval in an area that is covered by a structure plan that has been approved by the Commission is to have due regard to, but is not bound by, the structure plan when deciding the application.

Consistent with the provisions of the Planning Regulations, the proposed Structure Plan will guide the future subdivision and development of the subject site.





1.3.2 Planning strategies

1.3.2.1 Directions 2031 and Beyond (2010)

Directions 2031 and Beyond (Directions 2031) is a high level strategic plan outlining the spatial framework for the future growth of the Perth and Peel region. It provides the framework to guide detailed planning and delivery of housing, infrastructure and services for a variety of growth scenarios. A medium density connected city model is put forward as the preferred means to achieve a liveable, prosperous, accessible, sustainable and responsible city.

In relation to the proposed Structure Plan, Directions 2031 promotes a diversity of dwelling types and increases in choice for residential areas. Directions 2031 seeks to address population growth scenarios and land use patterns for the medium to long-term increase of more than half a million people in Perth and Peel by 2031, as well as being prepared to provide for a city of 3.5 million people after 2050.

Directions 2031 sets a target of 15 dwellings per gross urban zoned hectare of land in new development areas. The proposed Structure Plan comprises approximately 164 single lots, equating to a density of 16.9 dwellings per gross urban zoned hectare for the subject site, consistent with the target set out in Directions 2031.

1.3.3 Perth and Peel at 3.5 Million (2018)

Perth and Peel at 3.5 Million is the overarching spatial planning framework applicable to the Perth and Peel regions. The document builds upon Directions 2031 and provides four detailed sub-regional planning frameworks to guide land use planning, development and infrastructure provision over the next 30 years.

The subject site is located within the North-East sub-region, which is projected to experience strong population growth of around 2% a year, doubling the current population by 2050. This will be accommodated by an additional 102,560 dwellings.

1.3.3.1 North-West Sub-regional Planning Framework

The North-West Sub-regional Strategy (Sub-Regional Strategy) is the strategic planning framework for the implementation of the principles of Perth & Peel @ 2050. The Strategy notes that a significant amount of future development will occur on land already zoned for urban or urban expansion purposes, including Bullsbrook, which will expand an existing townsite. The Strategy identifies the provision of service infrastructure as the key issue requiring resolution. Specifically, this relates to water infrastructure which currently allows servicing of lots up to 95m AHD. A small local water booster pump will service additional land up to 112m AHD. The proposed structure plan will only allow for the development of land on Lot 7 up to 112m AHD with future amendments to the plan to allow for the subdivision and development of Lot 2.

1.3.3.2 City of Swan Local Planning Strategy

The City of Swan Local Planning Strategy has been prepared to provide the direction for planning and development of the City in conjunction with LPS17. The Local Planning Strategy requires a structure plan for all land identified as Development zones.

The Local Planning Strategy identifies the need for land use studies in the Bullsbrook area, and provides general direction for these. The key issues identified within the Local Planning Strategy are addressed in the Bullsbrook Townsite Land Use Master Plan.

1.3.3.3 Bullsbrook Townsite & Rural Strategy and Place Plan

The subject site is contained within the area subject to the provisions of the *Bullsbrook Townsite & Rural Strategy* (BTRS) which was endorsed by the City of Swan in September 2008. The BTRS represents an overall strategic vision and a comprehensive land use management plan for the area. The purpose of the strategy is to guide strategic and statutory land use and development decisions for Bullsbrook.

The subject site is listed as 'Urban Core' within the BTRS and forms part of the expanded 'Bullsbrook Townsite Precinct'. The 'Urban Core' is identified as the primary area for urban growth, in which potential land uses may include residential, rural-residential, rural, public open space, community facilities and smaller commercial/retail opportunities.

The primary objective of the Bullsbrook town site precinct is to become one of the core areas of development, and represent an integrated and consolidated urban core for the study area, in harmony with the sensitive natural environment of the local area. This precinct will be further investigated for its potential to offer a wide range of residential, commercial, retail and industrial opportunities, as well as a diverse range of community facilities and services.

The proposed Structure Plan is directly aligned with the above requirements as the site is located within the 'Urban Core' area which is proposed to be urbanised to expand the greater Bullsbrook town site.

The Bullsbrook Place Plan was prepared in 2008 to provide solutions to meet the specific needs of the area. One of its main 'developed environment' objectives is to plan and zone for mixed, diverse land uses. The priority action to achieve this objective is the preparation of a detailed structure plan for the Bullsbrook townsite.

This Structure Plan has been prepared based upon requirements contained within the BTRS and the Bullsbrook Place Plan to ensure alignment.

1.3.3.4 City of Swan Bullsbrook Townsite Land Use Master Plan

The BTRS establishes the area requiring a Master Plan to facilitate townsite expansion, by guiding land use change in this precinct referred to as the Townsite Land Management Precinct. The Bullsbrook Townsite Land Use Master Plan (BTLUMP) was approved by Council in October 2014 and provides a strategy for the growth of the townsite area to accommodate a forecast population of 17,146 by 2031 and provide sufficient employment opportunities.

The residential component of the Master Plan is made up of existing residential, approved structure plan areas, existing 'Urban Deferred' zoned sites under the MRS, and proposed future residential. The subject site forms part of the 'Urban Deferred' component, which comprises a gross site area of 97.69ha and net site area of 58.60ha, capable of accommodating approximately 1,289 dwellings and estimated population yield of 3,609 people (assuming the State Government target of 22 dwellings per net site hectare, and projected household size of 2.8 persons per dwelling).

The 'Urban Deferred' sites within the Master Plan area (inclusive of the subject site) are adjacent to the existing urban area, and are therefore likely to have relative ease of access to existing service connections. It is expected that the first stages of new urban growth will emerge from these sites upon relevant amendments to the MRS and LPS17.

Section 1.3.4 of the BTLUMP states that the design of the Master Plan has consideration to SPP2.5 (refer section 1.3.3.1), by considering potential conflict between incompatible land uses. The BTLUMP identifies areas which are constrained by various buffers due to several quarries within the Bullsbrook area which are classified as raw materials. The subject site remains unaffected by any buffers identified under the BTLUMP and is therefore unconstrained and capable of being developed for residential purposes.

1.3.3.5 City of Swan Urban Housing Strategy

The City has prepared an Urban Housing Strategy (UHS) in response to Directions 2031. The UHS outlines the changing housing needs as a result of the City's rapid population growth and provides recommendations to ensure long term sustainable residential development occurs. Objectives of the UHS are to encourage a diversity of housing options throughout the City, in addition to sustainable and walkable communities. The UHS comprises an 'Infill Strategy' and a 'Greenfields Strategy'.

Bullsbrook is defined as a Future Greenfield Area, being an area zoned Urban Deferred or Rural under the MRS, but identified as "urban deferred undeveloped" or "urban expansion areas" in the draft Urban Expansion Plan. The subject site is contained within the undeveloped urban deferred zone, which is estimated to provide approximately 1,500+ dwellings under the draft Urban Expansion Plan. The key strategic planning documents guiding future development of the Bullsbrook area include:

- North-East Sub-Regional Structure Plan
- Draft Bullsbrook Townsite and Rural Strategy
- Bullsbrook Land Use Master Plan

The proposed Structure Plan will facilitate the creation of approximately 160 new residential lots, making an important contribution toward the number of dwellings estimated under the Urban Expansion Plan.

1.3.4 Policies

1.3.4.1 State Planning Policies

SPP 3 – Urban Growth and Settlement

State Planning Policy 3 – Urban Growth Settlement (SPP3) applies to all development throughout Western Australia. The policy notes that 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. The Structure Plan is consistent with the intent of SPP3 in terms of attaining the policy's stated objectives. Accordingly, the proposed Structure Plan for the subject site warrants the support and endorsement of the determining authorities.

SPP 3.4 – Natural Hazards and Disasters

State Planning Policy 3.4 – Natural Hazards and Disasters (SPP3.4) applies throughout Western Australia and applies to the preparation of structure plans. It requires consideration to be given to potential hazards such as floods, severe storms and cyclones, storm surges and tsunamis, coastal erosion, bushfires, landslides and other land movements and earthquakes. Relevant to the subject site is bushfire hazard – refer to Section 2.4 of this report.

SPP 3.6 – Development Contributions for Infrastructure

State Planning Policy 3.6 – Development Contributions for Infrastructure (SPP3.6) outlines the relevant considerations and principles for developer contributions for infrastructure, and the preparation of development contribution plans. Refer to Section 3.9 of this report.

SPP 3.7 – Planning for Bushfire Prone Areas

State Planning Policy 3.7 – Planning in Bushfire Prone Areas (SPP3.7) seeks to implement effective, risk-based land use planning and development to preserve life and reduce the impact of bushfires on property and infrastructure. The policy contains objectives and policy measures, which apply to all land-use development proposals at varying stages of the development process. Refer to Section 2.4 of this report for further detail in relation to bushfire risk management.

SPP2.5 – Rural Planning

The purpose of SPP2.5 is to protect and preserve Western Australia's rural land assets. Whilst the subject site is located in proximity to General Rural zoned land, the land is not utilised for intensive rural or agricultural purposes which would necessitate the implementation of a buffer or separation distance to sensitive (residential) land uses, as proposed within the subject site.

Where an existing land use that may generate impacts is identified, SPP2.5 encourages local authorities to indicate the buffer or separation distance in a local planning strategy to ensure there is broad awareness of the land use. Consideration of these matters has been incorporated into the Bullsbrook Townsite Land Use Master Plan, as previously outlined in section 1.3.3.4.

SPP 7.3 – Residential Design Codes

State Planning Policy 7.3 - Residential Design Codes (R-Codes) applies to residential development in Western Australia. Clause 5.2.2 of LPS17 requires the development of land for residential purposes to conform to the provisions of the R-Codes.

The R20 and R30 density codes identified on the proposed Structure Plan is interpreted by the R-Codes. Future subdivision and residential development across the subject site is to comply with the requirements of the R-Codes relevant to the R20 and R30 density codes.

1.3.4.2 Other relevant State policies and guidelines

Liveable Neighbourhoods

The proposed Structure Plan has been prepared in accordance with the current (January 2009) version of LN as outlined in Section 3.3 of this report.

An updated version of LN was released by the WAPC for the purposes of public review in October 2015. Section 3.3 of this report only refers to the draft LN where necessary.

Transport Assessment Guidelines for Developments

The proposed Structure Plan has been prepared in accordance with the DPLH's *Transport Assessment Guidelines for Developments*, as outlined in Section 3.4 of this report, and addressed in the Transport Impact Assessment attached as Appendix 2 to this report.

Better Urban Water Management Guidelines

The proposed Structure Plan has been prepared in accordance with the *Better Urban Water Management Guidelines*, as discussed in Section 3.5 of this report, as well as in the Local Water Management Strategy (LWMS) attached as Appendix 3 to this report.

Acid Sulphate Soils Planning Guidelines

The WAPC's Acid Sulphate Soils Planning Guidelines (ASS Guidelines) specify that structure plans wholly or partially within areas of high to moderate acid sulphate soils should be prepared with consultation to the ASS Guidelines. Guidance Statement B3 of the ASS Guidelines suggests that the pattern and distribution of proposed land uses within structure plans should avoid disturbance of acid sulphate soils where practicable. The State Government has produced mapping which identifies acid sulphate soils and contaminated sites. The subject site is located within a zone of no known acid sulphate soils.

Structure Plan Preparation Guidelines

The WAPC's *Structure Plan Framework* has been prepared to guide landowners and their representatives, decision-making authorities, advisory agencies and local government on the preparation of structure plans. It includes guidance on the content of structure plans and structure plan maps. The proposed Structure Plan has been prepared in accordance with this Framework.

Guidelines for Planning in Bushfire Prone Areas

The Guidelines for Planning in Bushfire Prone Areas was finalised and released in December 2015. The Guidelines are designed to supplement the objectives and policy measures established in SPP3.7, to assist in its interpretation and provide advice on how bushfire risk is to be addressed when designing or assessing a proposal within a bushfire-prone area. The proposed Structure Plan has been designed with input from a qualified bushfire consultant, and a BMP has been prepared in accordance with the requirements of the Guidelines. Refer to Section 2.4 of this report for further detail on the BMP for the subject site.

1.3.4.3 Local Planning Policies

The City's planning framework comprises a suite of local planning policies pertaining to various matters and planning considerations. Relevant are the following local planning policies, which have been given due regard in the preparation of the proposed Structure Plan:

- Urban Growth Policy (POL-C-102)
- Environmental Planning Policy (POL-C-104)

2 Site conditions and constraints

2.1 Biodiversity and natural area assets

2.1.1 Vegetation

Lot 7 is effectively completely cleared and comprises open ground and some pasture, with a small orchard located at its eastern extent. There are several mature Marri trees scattered throughout the property.

Lot 2 has also been effectively fully cleared but supports about 20 mature Marri trees spread over the land in a parkland setting. There are very limited numbers of native plants which have survived the clearing process or have regrown over time.

A vegetation survey by Dr Arthur Weston was conducted in September 2014, and the findings are included in Appendix 1 of the Environmental Report contained in Appendix 4.

2.1.2 Flora

The survey by Dr Weston was conducted in spring (September) when most native species are in flower, assisting identification. The survey found 85 species and other taxa of vascular plants within both sites of which 40 are weeds.

2.1.3 Habitats and Fauna

The absence of any significant remnant vegetation on the land means that natural fauna habitats are limited to the 20 or so Marri trees and scattered native plants, mainly within Lot 2.

The land will provide open ground and limited tree canopy habitat but has no significant capacity to support any significant populations of native fauna.

2.2 Landform and soils

2.2.1 Topography

The topography of the subject site is generally undulating, with a slope from the north-east to the south-west corner of the site. The AHD levels of the subject site range from 140m AHD to 100m AHD.

2.2.2 Soils

The site is mapped at 1:100,000 scale as Pinjarra Plain landform, but is located close to its junction with the Ridge Hill shelf landform (Gozzard, 2007).

Environmental geology maps (Gozzard, 1982) show the land principally comprises sand (S6) comprising light grey fine to coarse, angular to sub-rounded feldspar, moderately sorted, loose, of colluvial origin, with a small portion at the western extent of Lot 7 as sandy siltstone (ST2) comprising pale brownish yellow, fine to medium grained, quartz and feldspar sand in siltstone matrix.

A preliminary geotechnical survey of Lot 359 Hurd Road (MPA Williams and Associates, 2008) which is the adjacent land to the south, found that surface soils to 2 m depth comprises a topsoil layer of up to 0.2m comprising loose, medium to coarse, dark grey brown sand with silt and trace organics, underlain by medium dense medium to coarse, brown sand with silt to 2.0 m below ground level. This land is mapped as S6 as are Lots 7 and 2, and these soil conditions are likely be equivalent within these latter two lots.

2.2.3 Acid sulfate soils

WAPC Bulletin 64/2009 indicates that the subject site is located within a zone of no known acid sulphate soils.

2.2.4 Contamination

The subject site is not listed as a contaminated site on the Department of Environment Regulation (DER) database.

2.3 Groundwater and surface water

2.3.1 Groundwater

The subject site lies within the Bandy Spring Groundwater Subarea of the Swan Groundwater Area, over 10km east of the Gnangara Drinking Water Source Area. Groundwater in this area occurs as small localised supplies of variable quantity, and the sites situation on the Darling Plateau indicates a low vulnerability of groundwater.

Groundwater was observed during the geotechnical investigation. The data indicates that the groundwater level has a minimum separation of 3m between the GWL and FLL. This means that fill will not be necessary to provide a minimum vertical separation of at least 3m between groundwater and the FLL.

2.3.2 Surface water

Bullsbrook experiences a Mediterranean climate, with relatively warm summers, mild winters and a low rainfall average. Rainfall data for the area sourced from the long-term Bureau of Meteorology station in Bullsbrook East (Pierce RAAF, Site No. 9053), approximately 2km south-west of the subject site, indicates a mean rainfall of 653.1mm per annum for the years of 1937-2016. Typically, June and July are the wettest months of the year whilst the summer months between November and March generally receive little rainfall.

There are no clearly defined surface drainage lines except a minor gully which runs along the western boundary of the site and drainage line running through the catchment Aext which includes part of Lot 6, 7 and 8 Chittering Road. This collects runoff from external catchments and discharges via an existing 600m culvert under Chittering Road. Surface runoff from Lots 8, 10, 11, 2, 3, 4, 13, 12, 360 and 359 drains as overland sheet flow towards the south-west corner of the site or south-westerly to intercept an open drain which runs along Hurd Road and discharges via an existing 450mm culvert under Chittering Road. This is in line with the LWMS prepared and approved for Lots 359, 360, 4, 13 and 12 Hurd Road, Lot 3 Burley Road and Lot 6 Chittering Road.

The site lies within the Ellen Brook catchment on the Darling Plateau, approximately 3km east of Ellen Brook. Owing to the absence of clearly defined natural flow paths to the high infiltration capacity of the sandy soils, most stormwater is expected to infiltrate and since groundwater is relatively deep, there is little chance of saturation during the winter months.

2.4 Bushfire hazard

A BMP for the subject site has been prepared by Smith Consulting. Refer to Appendix 5, Bushfire Management Plan. The purpose of the BMP is to address the fire protection risks within the subject site. Implementation of the BMP will reduce the threat to the landowners, residents, visitors and firefighters in the event of a bushfire within or near the site. It achieves this by presenting the minimum requirements to be implemented.

The subject site is already cleared with a number of buildings and contains a very sparse tree overstorey with a grass surface fuel. The neighbouring properties to the north contains similar vegetation characteristics. The north-east and east provide a woodland with a scrub surface fuel bushfire threat. To the south is a narrow strip of land (approximately 150m wide) that has been cleared with a scattered overstorey and grassland surface fuel, with urban development further south.

The proposed subdivision is located in an area where the bushfire hazard is moderate as defined by Table 2 of the Guidelines. The bushfire risk is assessed as BAL-29 or lower for the majority of Lot 7, and BAL-FZ for Lot 2. Development on the perimeters of the Lot 7 may have a BAL-29 or higher rating depending on the actual location of the dwelling on the new lot. Prior to any new building permit application on any new lots with a BAL rating of BAL-29 or above will require a new BAL rating to determine the actual BAL rating.

As outlined in the BMP, implementation of the BMP applies to the developer, local government and prospective landowners to ensure bushfire management measures are adopted and implemented on an ongoing basis.

2.5 Heritage

2.5.1 Indigenous heritage

A search of the Department of Aboriginal Affairs register of Aboriginal heritage sites provides an understanding of the archaeological and ethnographic sites in a given area as well as providing information about previous surveys. The subject site is contained within the 'Ki-it Monger Brook 2' registered site (site ID 3583). The site is also contained within other heritage listed place 'Ellen Brook: Upper Swan' (site ID 3525). Development of the land will not compromise the cultural and heritage values of these sites.

2.5.2 European heritage

The subject site does not contain any European heritage sites listed in the State Register of Heritage Places, local government inventory or other lists.

2.6 Context and other land use constraints

The site context and constraints have been identified and are discussed below. Refer to Figure 4, context and constraints.

2.6.1 Residential interface

The subject site abuts future residential development to the north and south. Integration with the surrounding residential development is an important factor which has been considered in the preparation of the Structure Plan. The existing approved road network through the land to the south has influenced the road configuration through the subject site to ensure seamless connectivity. The layout of the structure plan allows for the road network within the subject site to be extended through the northern land in the future. The street block dimensions have been specifically designed to ensure the land to the north is able to be subdivided and developed in the future, in a coordinated and integrated manner.

2.6.2 Bushfire hazard

The subject site is identified as being within a bushfire prone area on the Department of Fire and Emergency Services bushfire prone areas mapping system. The BMP prepared for the subject site indicates that the existing vegetation surrounding the land to the south and east is classified as being of Moderate to Extreme bushfire hazard. The future subdivision of the land must comply with the approved BMP for the subject site, and future dwellings must comply with the required building construction standards to achieve an appropriate BAL rating and to meet the requirements of Australian Standard 3959-2009 where applicable.

2.6.3 Bush Forever

The subject site is located adjacent to Bush Forever Site No. 86 (Burley Park and Adjacent Bushland) to the east, and Bush Forever Site No. 88 (Ashton Road Bushland) to the west. The aim of the Bush Forever Policy is to provide a policy and implementation framework that will ensure bushland protection and management issues in the Perth Metropolitan Region are appropriately addressed and integrated with broader land use planning and decision-making. The Structure Plan area is physically separated from the Bush Forever sites by Chittering Road and Burley Road, and the subdivision and development of the subject site is not expected to result in any adverse impacts on the biodiversity and associated environmental values of the surrounding Bush Forever sites.