



It is certified that this Structure Plan was approved by resolution of the Western Australian Planning Commission on 22 / 3 / 2017

This Structure Plan expires on 22/3/2027

Signed [Signature]

Director, Planning and Development

File No. 110/159

20
Approved
Subdivision

| LEGEND | |
|--|------------------------------|
| Local Scheme Zones | |
| | Residential R30 |
| | Residential R40 |
| | Residential R60 |
| Local Scheme Reserves | |
| | Parks and Recreation |
| | Local Roads |
| Other Elements that Inform the Structure Plan | |
| | Structure Plan Area Boundary |
| | LDP Required |

STRUCTURE PLAN MAP

Lot 21 on P 3562
583 Rockingham Road, MUNSTER

| | | |
|----------------------|---|---|
| Plan No. 20777-04B | PERTH OFFICE: Level 1, 252 Fitzgerald Street, Perth WA 6000 T: 08 9228 9291 E: perth@harleydykstra.com.au W: www.harleydykstra.com.au Offices also at Albany, Bunbury, Busselton and Kelmscott | COPYRIGHT: This document is and shall remain the property of HARLEY DYKSTRA. The document may only be used for the purpose for which it was commissioned and in accordance with the terms of engagement for the commission. Unauthorized use of this document in any form whatsoever is prohibited. |
| Date 3/8/16 | | |
| Drawn JV | | |
| Checked DM | | |
| Revision B | | |
| Scale 1:500@A3 | | |

NOTE: This plan has been prepared for planning purposes. Areas, Contours and Dimensions shown are subject to survey.



Harley Dykstra

PLANNING & SURVEY SOLUTIONS



Structure Plan

Lot 21 (583) Rockingham Road, Munster

Prepared by Harley Dykstra Pty Ltd

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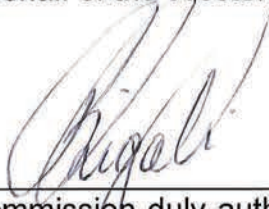
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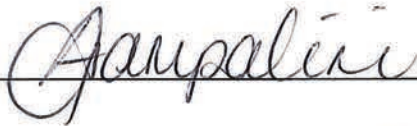
This structure plan is prepared under the provisions of the City of Cockburn
Town Planning Scheme No.3

IT IS CERTIFIED THAT THIS STRUCTURE PLAN WAS APPROVED BY
RESOLUTION OF THE WESTERN AUSTRALIAN PLANNING COMMISSION
ON: 22 March 2017

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

23-March 2017

Date

Date of Expiry: 22 March 2027

TABLE OF AMENDMENT(S)

| Amendment No. | Summary of Amendment | Amendment Type | Date approved by WAPC |
|----------------------|-----------------------------|-----------------------|------------------------------|
| | | | |
| | | | |
| | | | |
| | | | |

Executive Summary

Structure Plan Lot 21 (583) Rockingham Road, Munster

This report represents an application to the City of Cockburn to consider a proposed Structure Plan over Lot 21 (583) Rockingham Road, Munster (“the subject land”). The subject land has a total area of 8018m² and is situated approximately 20km south-west of the Perth CBD, 2.5km east of the Indian Ocean coastline, 250m south-west of the Stock Road/Beeliar Drive intersection, and 7km west of Cockburn Central and the Kwinana Freeway.

The proposed Structure Plan will facilitate future subdivision and development to create green-title residential lots at densities of Residential 30 (R30) a grouped dwelling site (survey-strata lots) at Residential 40 (R40) and a potential Residential 60 (R60) multiple dwelling site.

The Structure Plan Summary Table below details the nature and key outcomes of the Structure Plan.

Table 1

| ITEM | DATA | STRUCTURE PLAN REF (section no.) |
|---|-------------------------------|----------------------------------|
| Total area covered by the Structure Plan | 8018m ² | Section 1.2.1, 3.2.2 |
| Area of each land use proposed: | | |
| Residential | 5998m ² (74.8%) | Section 3.3.1 |
| Total estimated lot yield (Includes survey-strata lots) | 15 lots | Section 1.1 |
| Estimated number of dwellings | 24 dwellings | Section 3.3.1 |
| Estimated population | 62 persons | Section 3.3.1 |
| Estimated residential site density | 40 dwellings per site hectare | Section 3.3.1 |
| Estimated area and percentage of Public Open Space given over to: | | |
| - Regional open space | Nil | - |
| - Local parks | 805m ² (10.0%) | Section 3.2.2 |

Part One - Implementation

Structure Plan Lot 21 (583) Rockingham Road, Munster

1.0 Structure Plan Area

This Structure Plan shall apply to Lot 21 (583) Rockingham Road, Munster being the land contained within the inner edge of the line denoting the Structure Plan boundary on the Structure Plan Map (**Plan 1**).

2.0 Operation

The date the Structure Plan comes into effect is the date the Structure Plan is approved by the WAPC.

3.0 Staging

Staging of the Structure Plan is dependent upon a Structure Plan being approved and subdivision implemented over Lot 22 Mayor Road, including road construction to service R40 coded lots depicted on the Structure Plan.

4.0 Subdivision and Development Requirements

| | | |
|-----|--|--|
| 4.1 | Land Uses & Permissibility | <p>The land use designations for the Structure Plan Area are as indicated on the 'Structure Plan Map'. These will guide the future subdivision and development of the land for residential purposes.</p> <p>Land use permissibility within the Structure Plan Area shall be generally in accordance with the corresponding Zone under the City of Cockburn Town planning Scheme No.3</p> |
| 4.2 | Residential Density | Residential densities applicable to the Structure Plan Area shall be those residential densities shown on the 'Structure Plan Map'. |
| 4.3 | Waste collection access | The lot on the northern end of the 15m road reserve should include a temporary easement for the provision of a cul-de-sac head providing for waste collection access (see Part Two – Section 3.8.2 Waste Collection). |
| 4.4 | Staging of subdivision and development | Subdivision/development is to proceed in two stages. The Public Open Space reserve shall be developed and ceded as part of the first stage of subdivision. The grouped dwelling site shall comprise stage 2 and shall only be developed/subdivided once the road along the northern boundary of the site is constructed to its full width. |
| 4.5 | Provision for Visitor Parking | Visitor car parking for the Stage 2 grouped dwelling site to be provided within the verge of the full width road running along the northern boundary of the site to the satisfaction of the Local Government. |

Subdivision and Development Requirements Cont.

| | | |
|-----|------------------------|--|
| 4.6 | Notifications on Title | In respect of applications for subdivision of land the City of Cockburn shall recommend to the Western Australian Planning Commission that a condition be imposed on the grant of subdivision approval for a notification to be placed on the Certificate(s) of Title(s) to advise of the following: <i>Land or lots may be affected by midge infestation.</i> |
|-----|------------------------|--|

5.0 Local Development Plans

Local Development Plans (LDPs) are required to be prepared and implemented pursuant to the provisions of the City of Cockburn Town Planning Scheme No.3 and the *Planning and Development (Local Planning Schemes) Regulations 2015*, for lots comprising one (1) or more of the following site attributes:

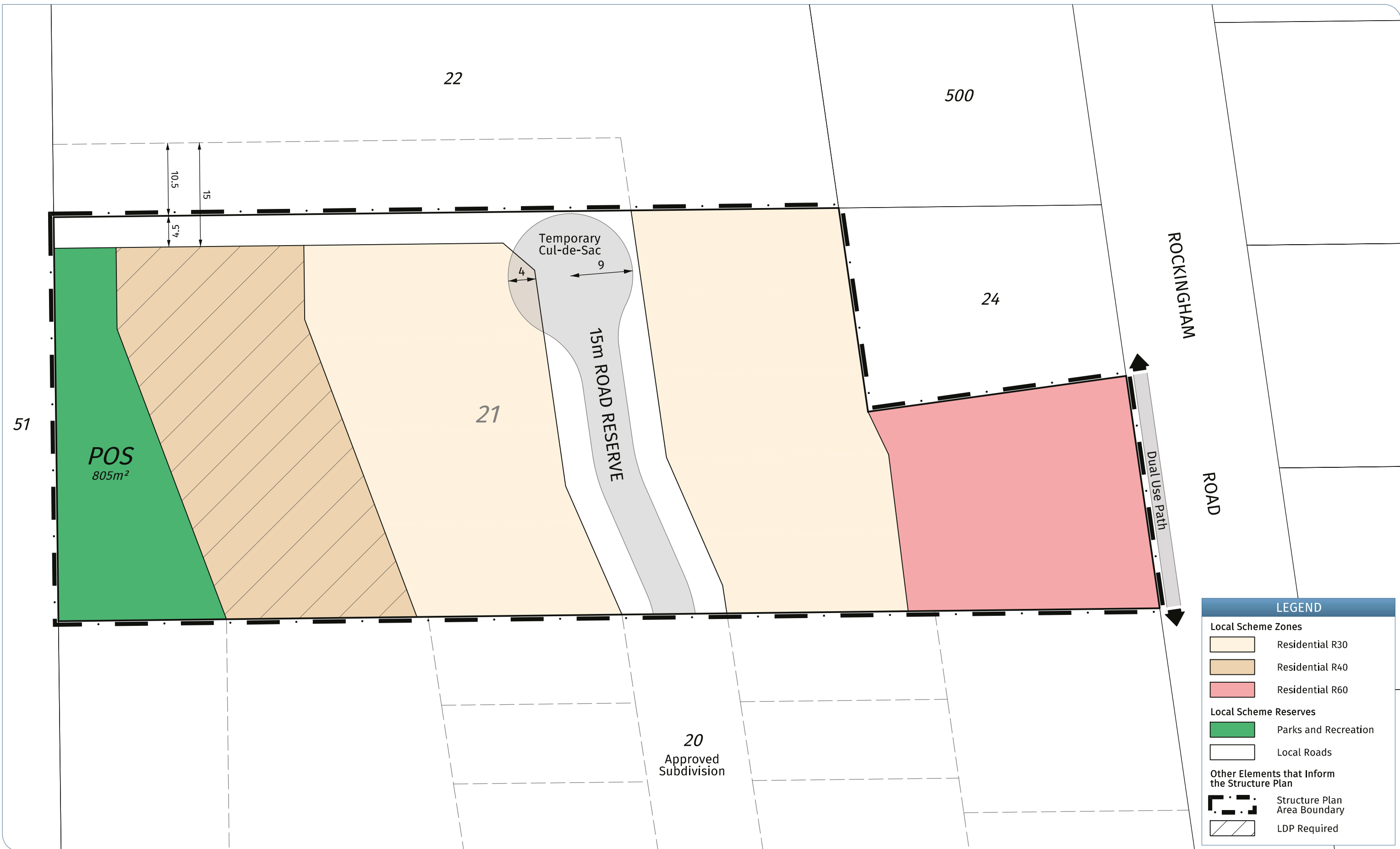
1. Lots where specific vehicle access and egress control is required; and
2. Lots abutting public open space (POS).

6.0 Other Requirements

The developer is to make satisfactory arrangements with the City of Cockburn to provide proportional contributions toward those items of development infrastructure defined in the City of Cockburn Town Planning Scheme No. 3 for Development Contribution Area 13 (DCA 13) and Development Contribution Area 6 (DCA 6).

Plan 1

Structure Plan Map



STRUCTURE PLAN MAP

Lot 21 on P 3562
583 Rockingham Road, MUNSTER

Plan No. | 20777-04B
Date | 3/8/16
Drawn | JV
Checked | DM
Revision | B

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Harley Dykstra

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Part Two - Explanatory Report

DOCUMENT CONTROL

| Control Version | DATE | Status | Distribution | Comment |
|-----------------|------------|----------------|-----------------|-----------------|
| A | 26/05/2016 | Draft | Client | Review |
| B | 16/06/2016 | Final | Local Authority | For Lodgement |
| C | 14/09/2016 | Amended Report | Local Authority | For Lodgement |
| D | 19/10/2016 | Amended Report | Local Authority | For Lodgement |
| E | 15/03/2017 | Amended Report | WAPC | For Endorsement |

Prepared for: M & S Oreb
Prepared by: DM
Date: March 2017
Job No: 20777
Ref: RevE-15.03.2017

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Please note that the information in this report may not be directly applicable towards another client. The Consultant warns against adapting this report's strategies/contents to another land area which has not been researched and analysed by the Consultant. Otherwise, the Consultant accepts no liability whatsoever for a third party's use of, or reliance upon, this specific document.

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1 PLANNING BACKGROUND

1.1 Introduction and Purpose

This submission has been prepared by Harley Dykstra on behalf of M & S Oreb in respect of Lot 21 (583) Rockingham Road, Munster (“the subject land”). Structure Plans are being prepared or have been implemented over lots to the west, north and south of the subject land. Accordingly, it is timely for a Structure Plan over Lot 21 to be progressed, as one of the few remaining lots in the immediate locality to still require a Structure Plan.

The ultimate objective of this submission is to facilitate the subdivision and development of the land for residential land uses in a manner that interacts appropriately with the developing urban environment in this locality.

The intended land uses within the Structure Plan include:

- Eleven (11) residential lots including one (1) grouped dwelling lot and one (1) multiple dwelling lot at density codings R30, R40 and R60; and
- One (1) area of public open space (POS) located along the western boundary of the Structure Plan area, linking to identified POS on Lot 20 to the south and proposed POS over Lot 51 Mayor Road to the west.

This proposal is accompanied by a Structure Plan Map (**Plan 1**) prepared in accordance with the *Planning and Development (Local Planning Schemes) Regulations 2015*, which is included at Part One of this Report.

The Explanatory Section of this Structure Plan Report includes a detailed description of the proposal, provides an evaluation of the relevant town planning, local water management and servicing considerations applicable to the land, and details the rationale supporting the proposed Structure Plan.

The Structure Plan has been formulated by Harley Dykstra in collaboration with specialist consultants, who have provided input in relation to matters as follows:

| | |
|------------------------------------|--|
| Bioscience | - Local Water Management Strategy, Contaminated Sites Investigations, Landscape Concept Plan, Geotechnical Investigations |
| Porter Consulting Engineers | - Servicing Report |

Copies of the relevant consultant Reports are appended to this submission and key findings incorporated within the body of the Report. The Consultants’ Reports confirm there are no significant constraints to progressing urban development of the land. This Structure Plan Report also acknowledges previous planning, environmental and engineering work undertaken on land in the locality which has informed the preparation of this proposal.

1.2 Land Description

1.2.1 Location

The subject land is located within the suburb of Munster and is situated approximately 20km south of the Perth CBD, 2.5km east of the Indian Ocean coastline, 250m south-west of the Stock Road/Beeliar Drive intersection, and 7km west of Cockburn Central and the Kwinana Freeway (**Figure 1** refers). Beeliar Village is located 970m east of the subject land and includes a Coles supermarket, fuel station, a number of fast food outlets, and medical consulting rooms. South Coogee Primary School and St Jerome's Primary School are located 900m east and 630m north-west of the subject land respectively. Santich Park and Radonich Park are located 260m north-east and 630m east of the subject land respectively and offer both passive and active recreational opportunities.

The subject land is 8018m² in area and has frontage to Rockingham Road.



Figure 1 – Location Plan

1.2.2 Area and land use

The subject land is located within the City of Cockburn, with lots to the south currently being redeveloped as residential dwellings under approved Structure Plans. A Structure Plan has recently been submitted to the City of Cockburn over Lots 22 and 51 Mayor Road to the north and west which will facilitate the development of this land for residential dwellings. Market Garden Swamp No.3 is located approximately 150m south-west of the subject land and thus will not have any significant impact on the subject land.

The endorsed and proposed Structure Plans surrounding the subject land have informed the preparation of the Lot 21 Structure Plan and thus the proposed Structure Plan is compatible with the existing and proposed land uses in the locality.

The subject land currently contains a single residential dwelling fronting Rockingham Road and several outbuildings and sheds, with the balance of the lot remaining vacant of development. The historical use of surrounding land was for market gardening and farm houses. Whilst several of the original dwellings remain, market gardens are no longer operating. Progressive residential redevelopment of surrounding land is now occurring through the Structure Plan process. The Aerial Photograph at (**Figure 2 below**) depicts the nature of existing land use.



Figure 2 – Aerial Photograph

1.2.3 Legal description and ownership

The table below provides details in respect to the legal ownership of the subject land.

Table 1

| Lot No. | House No. | Plan / Diagram | Volume | Folio | Registered Proprietor(s) |
|---------|-----------|----------------|--------|-------|--------------------------|
| 21 | 583 | P3562 | 488 | 128A | Mick Oreb Sjajna Oreb |

A copy of the Certificate of Title is included at **Appendix 1**.

1.3 Planning Framework

1.3.1 Zoning and reservations

City of Cockburn Town Planning Scheme No. 3

The subject land is designated “Development Zone” under Town Planning Scheme No.3 (TPS 3). The objective of the Development Zone is to provide for future residential, industrial or commercial development in accordance with a comprehensive Structure Plan prepared under the Scheme. Thus, this proposal is consistent with the intention of the Development Zone and will facilitate future residential development at the subject land.

Schedule 11 – *Development Areas* enables additional provisions applicable to subdivision and development to be incorporated into the Scheme. The subject land is located within Development Area 5 for which the following provisions apply:

| Ref No. | Area | Provisions |
|---------|----------------------------|---|
| DA 5 | Munster (Development Zone) | <ol style="list-style-type: none"> 1. An approved Structure Plan together with all approved amendments shall apply to the land in order to guide subdivision and development. 2. To provide for residential development except within the buffers to the Woodman Point WWTP, Munster Pump Station and Cockburn Cement. 3. The local government will not recommend subdivision approval or approve land use and development for residential purposes contrary to Western Australian Planning Commission and Environmental Protection Authority Policy on land within the Cockburn Cement buffer zone. |

The subject land is not located within any of the above mentioned buffers.

In addition, the land is included within a Special Control Area – Development Contribution Area 6 (DCA6) and Development Contribution Area 13 (DCA13) of the Scheme, which details common infrastructure costs applicable to DCA 6 and DCA 13. Special provisions apply to the subject land as set out in Schedule 12 – *Development Contributions Plans*.

1.3.2 Planning Strategies

1.3.2.1 (Draft) Perth and Peel@3.5million

The WAPC’s (Draft) Perth and Peel@3.5million document establishes the vision for future growth of the Perth and Peel Metropolitan Regions and provides a framework to guide the delivery of housing, infrastructure and services necessary to accommodate anticipated population growth over the next 35 years. The document is expected to be finalised in 2016.

The document includes the Sub-Regional Planning Framework consisting of three sub-frameworks, namely for the North-West, the North-East and the South Metropolitan Region. The subject land has been identified as ‘Urban’ under the draft South Metropolitan Peel Sub-Regional Planning Framework as have surrounding properties.

Land further south-west along the eastern edge of Lake Coogee is identified as “Industrial Investigation” due to this land’s location within the Woodman Point Waste Water Treatment Plant Buffer.

Thus, development of the subject land for residential land use is consistent with the draft South Metropolitan Peel Sub-Regional Planning Framework and works to consolidate existing and planned residential development in the locality.

1.3.2.2 City of Cockburn Local Planning Strategy

The City of Cockburn Local Planning Strategy sets out the 15 year planning direction for the municipality and focuses on strategies to increase housing densities, employment, shopping and business activities, encourage walking, cycling and public transport use and reduce car use. The proposed Structure Plan is consistent with this philosophy in that it provides for a range of dwelling types and public open space within walking distance of nearby residences, as well as a permeable road network. The increase in density will provide greater housing opportunity within the locality which will support nearby shopping facilities and businesses, resulting in increased employment opportunities. The Structure Plan is consistent with the planning already commenced in the locality and corresponds to the surrounding approved and planned Structure Plans.

1.3.3 Statutory Planning Framework

1.3.3.1 Munster – Phase 3 Local Structure Plan

The Munster-Phase 3 Local Structure Plan has been adopted by the City of Cockburn and endorsed by the WAPC in relation to land to the west of Lot 21, extending across Fawcett Road and north to Beeliar Drive. A portion of this Structure Plan to the west of Market Garden Swamp adjacent to Fawcett Road has been implemented and developed with residential dwellings, whilst land adjacent to Beeliar Drive is in the process of being developed. The Structure Plan depicts indicative lot and road layouts over the subject land and surrounding lots to the north and south. In some instances, Structure Plans have subsequently been approved and hence this indicative layout has largely been superseded.

1.3.3.2 Munster – Rockingham Road – Lot 20

A Structure Plan was adopted by the City of Cockburn and subsequently endorsed by the WAPC in September 2015 over Lot 20 Rockingham Road, immediately south of the subject land. Subdivision works have progressed on the site in accordance with the approved Structure Plan and subsequent subdivision approval. A copy of the Lot 20 Structure Plan and Plan of Subdivision is included at **Appendix 2**. The proposed Structure Plan design and road network will be integrated with the Structure Plan over Lot 20. The approved road over Lot 20 will continue through Lot 21 to be integrated with the proposed road layout over Lot 22 and Lot 51 Mayor Road. The proposed Lot 21 Structure Plan is consistent with the approved R30, R40 and R60 residential densities in the Lot 20 Structure Plan.

1.3.4 Planning Policies

1.3.4.1 State Planning Policy 3 – Urban Growth and Settlement

State Planning Policy 3 (SPP 3) sets out the principles and considerations which apply to planning for urban growth and settlement in Western Australia. The Policy seeks to ensure well planned and coherent management of urban growth having regard to a range of social, economic and environmental objectives.

The key objectives of the Policy are:

- *“To promote a sustainable and well planned pattern of settlement across the State, with sufficient and suitable land to provide for a wide variety of housing, employment, recreation facilities and open space.*
- *To build on existing communities with established local and regional economies, concentrate investment in the improvement of services and infrastructure and enhance the quality of life in those communities.*
- *To manage the growth and development of urban areas in response to the social and economic needs of the community and in recognition of relevant climatic, environmental, heritage and community values and constraints.*
- *To promote the development of a sustainable and liveable neighbourhood form which reduces energy, water and travel demand whilst ensuring safe and convenient access to employment and services by all modes, provides choice and affordability of housing and creates an identifiable sense of place for each community.*
- *To coordinate new development with the efficient, economic and timely provision of infrastructure and services.”*

The proposed Structure Plan is consistent with each of the abovementioned objectives.

1.3.4.2 State Planning Policy 3.7 – Planning in Bushfire Prone Areas

State Planning Policy 3.7 (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. SPP 3.7 applies to strategic planning proposals, including Structure Plans over land designated as bushfire prone by the Map of Bushfire Prone Areas prepared by the Department of Fire and Emergency Services. Given Lot 20 is not designated as Bushfire Prone, SPP 3.7 is not applicable to the Structure Plan area.

An extract from the Map of Bushfire Prone Areas Mapping, as it relates to Lot 21 is included at **Figure 3** below.



Figure 3 – Bushfire Prone Areas Mapping

1.3.4.3 Liveable Neighbourhoods

The WAPC's Liveable Neighbourhoods is an operational policy that guides the design and assessment of Structure Plans (regional, district and local) and subdivision for new urban neighbourhoods in the metropolitan area and country centres, on greenfield and large urban infill sites. Liveable Neighbourhoods includes the following Principle Aims that are particularly relevant to the Study Area:

- *To foster a sense of community and strong local identity and sense of place in neighbourhoods and towns.*
- *To ensure the avoidance of key environmental areas and the incorporation of significant cultural and environmental features of a site into the design of an area.*
- *To provide for a more integrated approach to the design of open space and urban water management.*
- *To ensure cost-effective and resource-efficient development to promote affordable housing.*
- *To maximise land efficiency wherever possible.*
- *To provide a variety of lot sizes and housing types to cater for the diverse housing needs of the community at a density that can ultimately support the provision of local services.*

Liveable Neighbourhoods outlines that Structure Plans should depict:

- walkable neighbourhood catchments of approximately 400m–450m radius around proposed commercial centres;
- density targets expressed as dwellings per hectare;
- existing and proposed commercial centres;
- natural features to be retained;
- proposed street block layout;

- proposed street network, including street types and path networks;
- proposed transportation corridors, public transport network and cycle and pedestrian networks;
- proposed land uses, including distribution of higher, medium and lower density residential;
- proposed schools and community facilities;
- public parkland; and
- proposed urban water management measures.

Table 1 of Liveable Neighbourhoods identifies the elements that are required to be addressed by the structure plan and/or subdivision application to allow assessment under this policy.

A significant amount of research and reporting has been previously undertaken in support of the development of surrounding land through the preparation of Structure Plans. Relevant considerations pertaining to the abovementioned planning elements have been addressed in this Report, in order to demonstrate compliance with the intent of Liveable Neighbourhoods.

1.3.4.4 Local Planning Policies

Relevant Local Planning Policies prepared by the City of Cockburn have been considered during the preparation of the proposed Structure Plan design and documentation.

The land is located within 500 metres of Market Garden Swamp No.3.

Council Policy LPP1.11 states:

“The City will require subdivider(s)/developer(s) of land between 500 meters and 800 metres of the lake or wetland edge to impose a Notification, pursuant to Section 165 of the Planning and Development Act 2005 on the title of each new residential lot advising prospective purchaser(s) that the land may be affected by midge infestation. Notice of this Notification is to be included on the Deposited Plan and shall state the following: This land may be affected by midge from nearby lakes and/or wetlands. Enquiries can be made with the City of Cockburn Environmental Services.”

The above notification will also be required to be imposed on any infill residential subdivision, strata and development on land already zoned ‘Residential’ within 500 metres. The Notification will be included on the Deposited Plan(s) of all new lots created at subdivision stage, in accordance with Council requirements.

1.4 Pre Lodgement Consultation

The City of Cockburn’s Strategic Planning section was contacted on 12 January 2016 to discuss the status of structure planning over adjacent lots, including Lots 51 and 22 Mayor Road. On 24 February 2016, the City provided a further update via email correspondence, including a draft Structure Plan over Lots 51 and 22 submitted for assessment by the City and the City’s suggested modifications to the draft Structure Plan. Preliminary verbal advice was also sought from the City in relation to proposed residential densities, road layout and POS configuration as part of the preparation of the Structure Plan over Lot 21 Rockingham Road.

2 SITE CONDITIONS AND CONSTRAINTS

2.1 Biodiversity and Natural Area Assets

The subject land is entirely cleared of native vegetation to provide for residential development and market gardening. Market gardening has since ceased and thus there is no vegetation remaining on site aside from some landscaping associated with the existing house as illustrated by the Aerial Photograph at **Figure 2**. Given the historic use of the land, flora and fauna investigations to support this proposal are not necessary. A Resource Enhancement Wetland exists approximately 130m south-west of the subject land. It is not anticipated this wetland or its buffer would be affected by subdivision and development within the Structure Plan area.

2.2 Landform and Soils

The site slopes gently to the west from a height of approximately 11m AHD along the eastern boundary to 6m AHD at the south-western corner of the site.

The LWMS prepared by Bioscience at **Appendix 3** includes a Geotechnical Investigation (Appendix 1 of the LWMS) which confirms the site has a typical soil profile consisting of between 300mm and 600mm of topsoil underlain by orange brown medium grained sand over limestone pinnacles in some locations.

Department of Environment (DER) mapping indicates the site has low risk of ASS being present within the top 3m of soil.

2.3 Groundwater and Surface Water

The Department of Water Groundwater Atlas indicates a depth to groundwater ranging between 9.5m from the natural surface along the eastern boundary to 4.5m below the natural ground level along the western boundary.

The LWMS provides further details pertaining to groundwater levels measured by monitoring bores in close proximity to the site. There are no natural water courses on the subject land. Surface water flows generated during larger rainfall events are directed towards the wetland area to the west of the site due to the natural topography of the land.

2.4 Site Contamination

Given the historic use of the subject land for market gardening, which under the DER Contaminated Sites Guidelines is considered a “potentially contaminating activity,” Bioscience conducted a Tier 1 screening risk assessment.

Based on landowner interviews, geotechnical investigation and visual assessment, Bioscience concluded the site is very unlikely to be contaminated due to past land use. A copy of the Contamination Assessment is included at **Appendix 4**.

3 LAND USE AND SUBDIVISION REQUIREMENTS

3.1 Land Use

3.1.1 *Design overview*

The Structure Plan design has been developed having regard to broad strategic planning objectives for the locality, local water management planning, provision of access and the interface with nearby Structure Plan areas.

The Structure Plan has been prepared to guide the development of the 8018m² site for residential subdivision. The Structure Plan will contribute to the development of a high quality, liveable urban precinct offering a diversity of lot products, and hence, housing choice, with access to the full range of urban services and facilities in the area, including neighbourhood centres, public open space and primary schools.

The design has regard to the existing approved Structure Plan over Lot 20 Rockingham Road, and the proposed Structure Plan prepared over Lots 22 and 51 Mayor Road, Munster which have highly influenced the proposed road, lot and public open space layout. The urban development of the land will facilitate significant improvement to underutilised lots previously used for market gardening, and will enhance public access and use of public open space throughout the locality.

Further details relating to the relevant design opportunities and constraints are provided below.

3.1.2 *Integration with adjoining lots*

The Structure Plan is bounded by Lot 20 Rockingham Road to the south, Lot 22 Mayor Road to the north, Lot 51 Mayor Road to the west and Rockingham Road to the east. A Structure Plan has been endorsed by the WAPC over Lot 20 to the south and provides for residential subdivision and development at densities of R30, R40 and R60, public open space, a north-south aligned road (Carine Parade) and a portion of east-west aligned road continuing from Monger Road (refer to **Appendix 2**). A Structure Plan is currently being prepared over Lot 22 and Lot 51 Mayor Road which anticipates the continuation of Carine Parade through Lot 21 connecting to an east-west road adjacent to and partly within, the northern boundary of Lot 21.

The design of the Structure Plan has regard for these Structure Plans prepared over adjacent land and is essentially an extension of the layout and density of land to the south. The POS over Lot 20 is to extend over Lot 21, and connect to POS within Lot 51 to provide consolidated areas of POS. R40 grouped dwellings are to be orientated to address this public open space to increase passive surveillance of public spaces.

Linkages to the developing Structure Plan areas to the north and south shall also be reinforced by the provision of footpaths and shared paths.

3.2 Public Open Space

3.2.1 Existing POS

The subject land is well served by public open space and recreational opportunities afforded by the site's proximity to Santich Park 260m north-east, Radonich Park 630m east and the Market Garden Swamp No.3 foreshore reserve 150m south-west of the subject land. The foreshore is progressively being improved and developed as public open space following implementation of approved Structure Plans and residential development.

3.2.2 Proposed POS

The design and location of Public Open Space (POS) with the Structure Plan area is intended to achieve the following aims:

- Integration with adjoining POS to the south to create a larger, more useable area of POS and provide pedestrian linkages between subdivisional roads and throughout the wider locality.
- To maximise available areas for a range of uses and functions, as well as achieving improved efficiencies in terms of maintenance and management;
- Increasing passive interaction opportunities with other residents as a means to address social isolation and improve wellbeing;
- Encourage maximum surveillance of POS areas to discourage opportunities for anti-social behaviour.

A total of 805m² of Public Open Space has been provided as unrestricted POS, in accordance with the 10% site contribution required by Liveable Neighbourhoods. No POS is required to accommodate drainage basins associated with 1 year ARI and 5yr ARI rainfall events, as detailed in the LWMS at **Appendix 3**.

3.3 Residential

3.3.1 Land Use and Residential Density

The Structure Plan has regard for the progressive residential development occurring to the south of the Structure Plan area, and the proposed residential development over Lots 22 and 51 Mayor Road to the north and west of the Structure Plan area. Thus, retail, commercial and industrial land uses are not proposed.

The proposed residential density is consistent with the strategic direction of the Sub-Regional Planning Framework which promotes higher densities in undeveloped areas zoned for urban use, particularly in areas close to transit corridors and high amenity. The Sub-Regional Planning Frameworks encourage new urban development to use an average residential density target of 15 dwellings per gross hectare of urban zoned land to guide the allocation of residential densities.

The site benefits from high amenity due to its proximity to Beeliam Village and a number of areas of POS, as well as being in a strategic location along Rockingham Road and in close proximity to Stock Road, which is a Primary Regional Road under the Metropolitan Region Scheme. Thus, the Structure Plan is proposed for residential development at density codings of R30, R40 and R60 to capitalise on these attributes. This achieves an appropriate

residential density of 40 dwellings per site hectare. Based on 2011 ABS statistics and an expected dwelling yield of 24 dwellings, the estimated population of the Structure Plan area is 62 persons at 2.6 persons per dwelling.

3.3.2 Residential lot layout

The road network has been designed to facilitate the creation of regular shaped lots, capable of accommodating an appropriate mix of single, grouped and multiple residential dwellings, with direct access from each green title lot to a public street. Common property will provide access to grouped and multiple dwellings over the R40 and R60 coded land, respectively.

Single residential lots coded R30 are proposed to be provided with direct access from the north-south extension of Carine Parade, whilst access to the R60 site will be derived via Rockingham Road. Access to the R40 site will be via the proposed road running east west along the northern boundary of Lot 21 and partly located within Lot 22 Mayor Road. Visitor car parking for the R40 site is to be provided within the road verge of the east west road. Development / subdivision of the R40 site could only occur once the road is constructed to its full width. R40 dwellings are expected to front the POS to allow for passive surveillance of this area.

3.3.3 Residential lot size

The Structure Plan proposes the creation of standard street blocks that are robust and adaptable to accommodate a variety of lot sizes. A Concept Subdivision Plan is included at **Appendix 5**, which illustrates a potential lot layout. The R40 site would be capable of accommodating five (5) grouped dwellings serviced by a 6m wide common property access. The R60 site would be capable of accommodating approximately 10-11 multiple dwellings (assuming a typical unit size of 70m²) in the event the existing dwelling was removed and the site was redeveloped in the future.

3.4 Movement Networks

3.4.1 Existing Movement Network

Regional Road Network

The subject land is well connected with the metropolitan and wider regional road network, given its frontage to Rockingham Road and close proximity to Stock Road and Beelieri Drive. The regional road network provides efficient access to the wider Perth Metropolitan Region including commercial and employment centres.

Local Road Network

The local road network has not yet been established but as shown in the LSP for Lot 20 at **Appendix 2**, Carine Parade will be extended as a 6m wide red asphalt kerbed road with a 1.5m path to service the green title lots depending on the timing of subdivision of Lot 22, a temporary turnaround may be required and could utilise the partial road reserve along the northern boundary. Based on developments to the south, if no agreement is made with the owner to the north to construct a cul-de-sac head on Lot 22, temporary easements will be required over the cul-de-sac head where it impacts on Lots within Lot 21.

Public Transport Network

The site is located adjacent to a Transperth bus route running along Rockingham Road and providing a service between Rockingham Train Station and Fremantle Train Station, with

stops at Kwinana Bus Station and Phoenix Shopping Centre. A bus stop is available along Beeliar Drive approximately 130m north-east of the subject land and is serviced by two bus routes providing access between Cockburn Central Train Station and Fremantle Train Station operating relatively frequently. The bus services also stop at Divine Mercy College, Emmanuel Catholic College and Cockburn Gateway Shopping City.

Bus routes linking the subject land to the rail system will ensure that future residents have convenient access to an efficient public transportation network.

Cycle Network

A Principal Shared Path currently exists along Beeliar Drive originating 340m north-east of the subject land and providing cycle paths from Stock Road to Cockburn Central, ultimately linking in with the cycle network along the Kwinana Freeway.

The Department of Transport's Principal Shared Path Program for 2014-2023 proposes a cycle path extending from Fremantle towards Rockingham, utilising Stock Road and Rockingham Road as the primary route.

Thus, the subject land has convenient access to the existing and proposed Principal Shared Path network which provides access to a high level of services and facilities.

Pedestrian Network

The progressive development of the area will facilitate the provision of a significantly upgraded pedestrian network. Future subdivision within the locality will facilitate the provision of a connected network of pedestrian paths linking various areas of POS and the Market Garden Swamp No.3 foreshore, and the existing surrounding footpath network. A pedestrian path is proposed along the entire length of Carine Parade.

3.4.2 *Proposed movement network*

Access/egress to R60 coded lots will be from Rockingham Road, access/egress to R30 lots will be via the extension of Carine Parade and access/egress to R40 lots will be via the proposed subdivisional road along the southern boundary of Lot 22. Carine Parade is to be a 15m wide road reserve and will be constructed to City of Cockburn specifications, including kerbing and piped drainage and provision of footpaths. Access to R40 and R60 dwellings is expected to be via common property with sufficient road verge available for rubbish collection.

3.4.3 *Traffic generation*

The proposed subdivisional road network for the locality has been designed to service future subdivision and development over Lot 21 and thus is capable of accommodating the increased traffic associated with residential development of the subject land. Access to the various proposed lots over the subject land will be derived from two different roads (Rockingham Road and Carine Parade) and thus vehicles will be disbursed across the local road network minimising traffic impact.

The anticipated total daily traffic volume associated with the proposed residential development of the subject land is minimal. A total of 24 dwellings are anticipated within the Structure Plan area, comprising nine (9) green title and five (5) survey-strata lots serviced by subdivisional roads. An additional ten (10) dwellings may be developed on the R60 site at a later stage. Based on an average traffic generation rate of 8 vehicles per day (vpd) per dwelling, *Transport Assessment Guidelines for Development (WAPC 2006)* 112 vpd would be distributed within the new subdivisional road network and up to 80 vpd would

utilise Rockingham Road. Therefore, it is concluded that the proposed road network has the capacity to accommodate the anticipated Structure Plan traffic and the Structure Plan will not have an adverse impact on traffic operations.

3.5 Water Management

The WAPC's Better Urban Water Management (BUWM) document identifies the requirement to prepare a Local Water Management Strategy (LWMS) to support a proposed Structure Plan. The LWMS (**Appendix 3**) has been prepared to support the proposed Structure Plan in accordance with the requirements of the BUWM document. The LWMS outlines the key elements required to achieve best practice stormwater management for the site and presents the management strategy for groundwater, surface water, and water use. The LWMS:

- Describes the predevelopment environment;
- Sets out a Local Water Management Strategy for the Structure Plan Area, including details relating to:
 - (a) Water Use and sustainability initiatives;
 - (b) Surface Water Management;
 - (c) Groundwater Management;
 - (d) Water Quality Management; and
 - (e) Construction Management.
- Describes implementation of the LWMS including requirements for subsequent investigations (i.e. Urban Water Management Plan).

The following stormwater management measures are proposed:

Lots

- 20 year ARI events to infiltrate close to source within soak wells;
- Overland flow to drainage in road reserve and POS (soak wells and storage chambers) in 100 year ARI events.
- Sub-catchment D4 (R60 lots) fronting Rockingham Road to provide storage for the 20yr ARI event in soak wells, with surface water runoff in excess of the 20 year ARI event having an overload flow path to Rockingham Road.

Road Reserves

- Roads and POS to infiltrate 100 year events at source via soak wells and chambers.

3.6 Education Facilities

South Coogee Primary School and St Jerome's Primary School are located 900m east and 630m north-west of the subject land respectively. Divine Mercy College and Emmanuel Catholic College are located 3.6km and 5km east of the subject land respectively.

Lakeland Senior High School is located 5.75km north-east of the site. Hamilton Senior High School and South Fremantle Senior High school are located 5.0km and 7.0km north of the site respectively, although it is noted these two high schools will amalgamate with a new school to open in 2018. The new school, Fremantle College, will be located on the existing South Fremantle Senior High School site.

3.7 Activity Centres and Employment

The subject land is located approximately 6.4km west of Cockburn Central which offers a high level of commercial, retail, medical, community, entertainment and specialty facilities including Gateway Shopping Centre as well as a high level of employment opportunities.

Cockburn Commercial Park is located 1.5km north-east of the subject land and extends north-west to North Lake Road and north to Phoenix Road. The Commercial Park incorporates over 100 businesses and thus offers a high level of commercial and industrial services as well as employment opportunities at a local and regional level.

The Australian Marine Complex is located approximately 1.9km south-west of the subject land and also offers a high level of employment opportunities and industrial services.

3.8 Infrastructure Coordination, Servicing and Staging

3.8.1 Servicing

Porter Consulting Engineers have prepared a Servicing Report, a copy of which is attached as **Appendix 6**. Details of service infrastructure available to the site are included below:

Reticulated Sewer

There is existing sewer reticulation in Carine Parade that can be extended to service the proposed green title lots. The proposed strata lots will need to be serviced in the future when Lot 22 to the north is developed, as the sewers in Carine Parade are not deep enough. Sewers along Rockingham Road will need to be extended immediately in front of the existing dwelling fronting Rockingham Road, with the sewer in a 3m easement. This will be required to be extended the full frontage of the lot to cater for future development north of the site.

Power Supply

Extending the existing HV and LV power in Carine Parade will service the green title lots. Power to the strata lots will need to occur when Lot 22 to the north is developed. The Western Power Network Capacity Mapping Tool confirms that there is sufficient power supply in the area with over 20MVA available in the area. This means that no network upgrades will be required.

However, the determination of whether a new transformer and substation for the additional 8 green title lots and Strata development cannot be determined until an application is made to Western Power for a Design Information Package at detailed design stage as it is specific to load calculations in the immediate area. If a substation is required, this would be placed in the POS area and would not impact on the developable area that is proposed.

If the existing dwelling on Rockingham Road is to initially remain, it will be required to have the existing overhead consumer line undergrounded as part of the power works to the development.

Water Supply

Currently there is a 100mm water main along the western side Rockingham Road servicing the existing dwelling on the subject land.

New water pipes have been constructed to service the residential development to the south over parent Lots 18 and 19 Rockingham Road and are proposed to continue through Lot 20 to service new lots. It is expected that these services can be extended along Carine Parade and other subdivisional roads to service the proposed development. The proposed R60 development can be serviced by the water main within the Rockingham Road reserve.

Retaining Walls

Due to the gradient across the site, a 2.5-3.0m high retaining wall is expected to be required along the eastern boundary of the 5 strata lots. This is because the green title lots facing Carine Parade extension will need to be level with this road.

Retaining walls up to 0.5m high may be required along the western boundary of the two existing dwellings depending on finished ground levels. Finished Levels would be determined following feature survey and detailed design.

It is assumed battering from along the northern boundary from Lot 21 into Lot 22 will be permitted, however, should battering not be allowed, a temporary retaining wall up to 0.5m high may be required. Once Lot 22 is developed, this temporary wall can be removed.

Drainage

The site will need to contain up to the 1:100 year storm event for runoff from the proposed road reserves due to there being no outlet to an existing street system or drainage network system. Lots are required to store up to the 1 in 20 year storm event on site and excess stormwater from the lots over and above this event up to the 1 in 100 year event, also will need to be catered for.

Whilst the Servicing Report advises stormwater from the 1 in 100 year event could be contained in the POS area via a basin or underground drainage structures, the LWMS recommends storage within a combination of soak wells and chambers located within road reserves and the POS area. The City of Cockburn has accepted underground storage systems within road reserves to service previous developments to the south. Underground storage would also be the preferred outcome for this development, subject to detail design at UWMP stage. In any event, the ultimate drainage design will not impact on the area of creditable (unrestricted) POS.

Telecommunications

The extension of the existing NBN infrastructure along Carine Parade will service the proposed green title lots. It is expected that the strata lots will be serviced with NBN when the road within Lot 22 is developed. Whilst the development is under 100 lots, NBN will likely be the service provider given they have the infrastructure immediately adjacent. Application to NBN to be the service provider would be made at detailed design stage.

NBN is expected to be extended along Rockingham Road in front of the southern existing home as part of the works to the development.

Gas

Gas mains are located within the Rockingham Road reserve, which would be suitable to service future development of the R60 lot. It is expected that gas pipework within Carine Parade can be extended to service green title lots, with survey-strata lots capable of being serviced following the construction of the east-west continuation of Carine Parade.

3.8.2 Waste Collection

Lots created as part of Stage 1 shall be serviced by the City's general waste and recycling disposal trucks via the provision of a temporary cul-de-sac at the northern end of the north-south road.

Stage 2 lots/development shall be provided with a bin presentation area within the proposed east-west road reserve along the northern lot boundary, comprising one bin presentation pad per dwelling, a minimum 1.8m long by 1m wide. The indicative location of a bin presentation area of suitable dimensions is illustrated on the Concept Subdivision Plan at **Appendix 5**.

3.8.3 Staging

The landowner intends to progress the subdivision in two (2) stages. Staging of the subdivision is illustrated on the Concept Subdivision Plan at **Appendix 5**.

Stage 1 will comprise:

- the creation of nine (9) R30 lots serviced by the north-south road;
- a lot fronting Rockingham Road which may be developed in the future at a density of R60;
- the POS reserve; and
- a balance R40 lot.

Prior to the R40 coded survey-strata lots being created (stage 2) construction of the east-west section of Carine Parade along the northern boundary of the site is required.

In the event the subdivision over Lot 22 and Lot 51 Mayor Road precedes the subdivision of Lot 21, subdivision within the Structure Plan area could proceed in a single stage.

3.9 Developer Contribution Arrangements

Under the City of Cockburn Town Planning Scheme No.3, clause 6.3.1-*Development Contribution Areas* provides for a cost contribution scheme to be established, to ensure the equitable sharing of costs between owners towards infrastructure required as a result of the subdivision and development of land within the Developer Contribution Area (DCA). The subject land is included within Development Contribution Area 6 (DCA6) and Development Contribution Area 13 (DCA13), which details common infrastructure costs applicable to DCA 6 and DCA 13. Special provisions apply to the subject land as set out in Schedule 12 – *Development Contributions Plans*.

3.10 Implementation

The proposed Structure Plan has been prepared in accordance with the requirements of the *Planning and Development (Local Planning Schemes) Regulations 2015*. Further, the Structure Plan complies with the applicable State and Local Planning Policy Framework as set out in section 1.3 of this Report.

The *Planning and Development (Local Planning Schemes) Regulations 2015* stipulates the manner by which the Structure Plan will be processed by the City of Cockburn and thereafter, the Western Australian Planning Commission to enable final approval.

Following adoption of the Structure Plan, Local Development Plans, Development and Subdivision Applications can be considered and approved where they comply with the Structure Plan.