



CLE Town Planning + Design

# CENTRAL PRECINCT LOCAL STRUCTURE PLAN Lot 9004 Eglinton

Part Two - Explanatory Report

AUGUST 2021



Title: Central Precinct Local Structure Plan Lot 9004 Eglinton  
Part Two | Explanatory Section

Prepared for: Prime Eglinton Pty Ltd C/- Urban Quarter

CLE Reference: 3109Rep228C

Date: 9 August 2021

Status: Final

Review date: 9 August 2021

Prepared by: CLE Town Planning + Design

Project team: CLE Town Planning + Design  
Strategen JBS&G  
Lloyd George Acoustics  
Plan E  
Cossill & Webley  
Stantec  
MNG

This report is for the exclusive use of the Client, pursuant to Agreement between the Client and CLE Town Planning + Design. CLE accepts no liability or responsibility whatsoever in respect of any use of or reliance upon any information contained within this report by anyone who is not party to the Agreement and/or has come into possession of the Report through parties other than the Client or CLE.

CLE is not accountable for any information which may be contained within the Report which has been supplied by others and reproduced by CLE in this report.

Copyright and any other Intellectual Property arising from this report and the provision of the services in accordance with the Agreement belongs exclusively to CLE unless otherwise agreed and may not be reproduced or disclosed to any other person other than the Client without the express written authority of CLE.

Any reproduction by the Client is to reference CLE as the original author.

Plans and figures contained in this report have been prepared for general information purposes only and may inadvertently use uncontrolled data from external sources. CLE does not guarantee the accuracy of the plans and they should not be used for any detailed site design. The content of this report including all plans remains the property of CLE.

© CLE 2021

# Table of Contents

---

## 1.0 PLANNING BACKGROUND

- 1.1 Introduction and Purpose
- 1.2 Land Description
  - 1.2.1 *Location*
  - 1.2.2 *Area and Land Use*
  - 1.2.3 *Legal Description and Ownership*
  - 1.2.4 *Surrounding Land Use and Context*
- 1.3 Planning Framework
  - 1.3.1 *Metropolitan Region Scheme Zoning*
  - 1.3.2 *City of Wanneroo District Planning Scheme No.2*
- 1.4 Strategic Planning Framework
  - 1.4.1 *Perth and Peel @ 3.5 Million (March 2018)*
  - 1.4.2 *North West Metropolitan Sub-regional Planning Framework (2018)*
  - 1.4.3 *Alkimos-Eglinton District Structure Plan (2010)*
  - 1.4.4 *Other Planning Considerations*
- 1.5 Other Approval and Decisions
  - 1.5.1 *Western Precinct Local Structure Plan 102*
  - 1.5.2 *North Alkimos Local Structure Plan 73*
  - 1.5.3 *Eglinton Local Structure Plan 82*
  - 1.5.4 *City of Wanneroo Policies*
- 1.6 Pre-Lodgement Consultation

## 2.0 SITE CONDITIONS AND CONSTRAINTS

- 2.1 Topography, Landform and Soils
  - 2.1.1 *Acid Sulphate Soils*
  - 2.1.2 *Contamination*
- 2.2 Biodiversity and Natural Assets
  - 2.2.1 *Flora and Vegetation*
  - 2.2.2 *Fauna*
- 2.3 Groundwater and Surface Water
  - 2.3.1 *Ground Water*
  - 2.3.2 *Surface Water*
- 2.4 Bushfire Management
- 2.5 Cultural Heritage
- 2.6 Noise Considerations

---

### **3.0 LAND USE AND SUBDIVISION REQUIREMENTS**

- 3.1 Land Use
- 3.2 Residential
  - 3.2.1 *Dwelling Yields and Density Targets*
  - 3.2.2 *Lot / Dwelling Types*
  - 3.2.3 *R-Code Variations*
- 3.3 Public Open Space
  - 3.3.1 *Description of Public Open Space*
  - 3.3.2 *Streetscape*
  - 3.3.3 *Public Open Space Provision and Schedule*
- 3.4 Water Management
  - 3.4.1 *Stormwater Management*
  - 3.4.2 *Groundwater Management*
  - 3.4.3 *Post Development Monitoring and Implementation*
- 3.5 Bushfire Management
- 3.6 Movement Network
  - 3.6.1 *Existing Movement Network*
  - 3.6.2 *Proposed Movement Network*
    - 3.6.2.1 *North-South Neighbourhood Connector*
  - 3.6.3 *Assessment of Traffic Impact*
- 3.7 Noise Management
- 3.8 Educational Facilities
- 3.9 Centres
- 3.10 Infrastructure Coordination, Servicing and Staging
  - 3.10.1 *Earthworks Strategy*
  - 3.10.2 *Sewer*
  - 3.10.3 *Water Supply*
  - 3.10.4 *Gas*
  - 3.10.5 *Power*
  - 3.10.6 *Telecommunications*
  - 3.10.7 *Development Staging*
- 3.11 Developer Contributions

# Figures

---

Figure 1	Location Plan
Figure 2	Site Plan
Figure 3	District Context Plan
Figure 4	Metropolitan Region Scheme Zoning
Figure 5	District Planning Scheme No.2 Zoning
Figure 6	North West Sub-regional Planning Framework
Figure 7	Alkimos Eglinton District Structure Plan
Figure 8	Western Precinct Local Structure Plan 102
Figure 9	North Alkimos Local Structure Plan No.73
Figure 10	Eglinton Local Structure Plan No.82
Figure 11	Concept Plan
Figure 12	Local Structure Plan
Figure 13	POS 3 Concept and Cross Section
Figure 14	Post Development Bushfire Hazard Level Contour Map
Figure 15	Road Hierarchy Plan
Figure 16	Indicative Neighbourhood Connector Road Typologies (18m Wide Reserve)
Figure 17	Noise Façade Treatments
Figure 18	Cross-section

# Tables

---

Table 1	Land Use Summary
Table 2	Public Open Space Schedule

# Appendices

---

Appendix 1	Certificate of Title
Appendix 2	Environmental Assessment Report (Strategen JBS&G)
Appendix 3	Bushfire Management Plan (Strategen JBS&G)
Appendix 4	Transportation Noise Assessment (Lloyd George Acoustics)
Appendix 5	Landscape Master Plan (Plan E)
Appendix 6	Local Water Management Strategy (Cossill & Webley)
Appendix 7	Transport Impact Assessment (Stantec)
Appendix 8	Engineering Report (Cossil & Webley)

## 1.0 PLANNING BACKGROUND

### 1.1 Introduction and Purpose

The Central Precinct Local Structure Plan (CPLSP) is prepared on behalf of the landowner Daws and Sons Pty Ltd, represented by Urban Quarter. The CPLSP is lodged in accordance with the provisions of the City of Wanneroo District Planning Scheme No.2 (incorporating the Schedule 2 Deemed Provisions of the *Planning and Development (Local Planning Schemes) Regulations 2015* to guide the subdivision and development.

This report, consistent with the WAPC's Structure Plan Framework (2015) comprises a Part 1 section outlining implementation requirements and the plan, with Part 2 outlining the background, policy context and rationale for Part 1. Technical Appendices have been prepared to inform and supports Part 1 and 2. The *Planning and Development (Local Planning Schemes) Regulations 2015*, require that due regard be given to the provision of the CPLSP in determining statutory planning applications for the site.

The Technical Appendices are as follows:

- Environmental Assessment Report;
- Transport Impact Assessment;
- Engineering & Servicing Report;
- Transportation Noise Assessment;
- Bush Fire Management Plan;
- Local Water Management Strategy; and
- Landscape Master Plan.

The CPLSP has been prepared in the context of the Alkimos Eglinton District Structure Plan (AEDSP), which covers the site and surrounding area. Its objective is to facilitate coordinated development of the site in conjunction with the surrounding area, taking into consideration the specific attributes of the site, the intentions of the landowner and the various policy requirements impacting its design and delivery as an urban development site.

Preparation of the CPLSP will facilitate the growth of the existing community, and continue the development of the East of the Beach Estate. The CPLSP will facilitate the creation of between 450 and 470 dwellings, as well as contributing to the extensive public open space network and expanding the existing local road network.

## 1.2 Land Description

The following section provides a brief summary of the location, land use and ownership relevant to the CPLSP.

### 1.2.1 Location

The CPLSP is located at Lot 9004 Eglinton, refer Appendix 1. The site is located northeast of Bluewater Drive, approximately 660 metres (m) east of Marmion Avenue, 3.2 kilometres (km) east of the coast and 42km north of the Perth Central Business District (CBD), refer Figure 1.

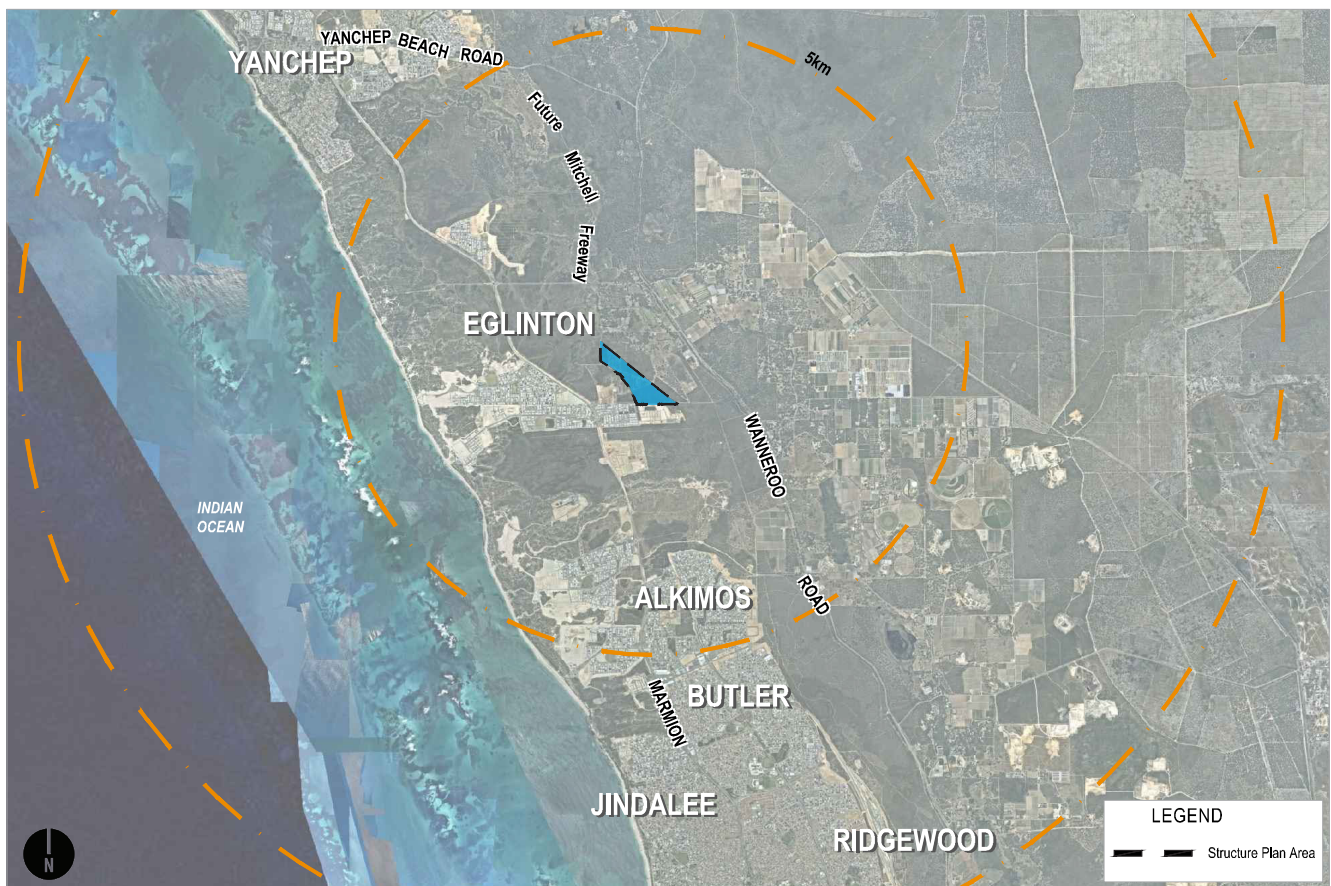


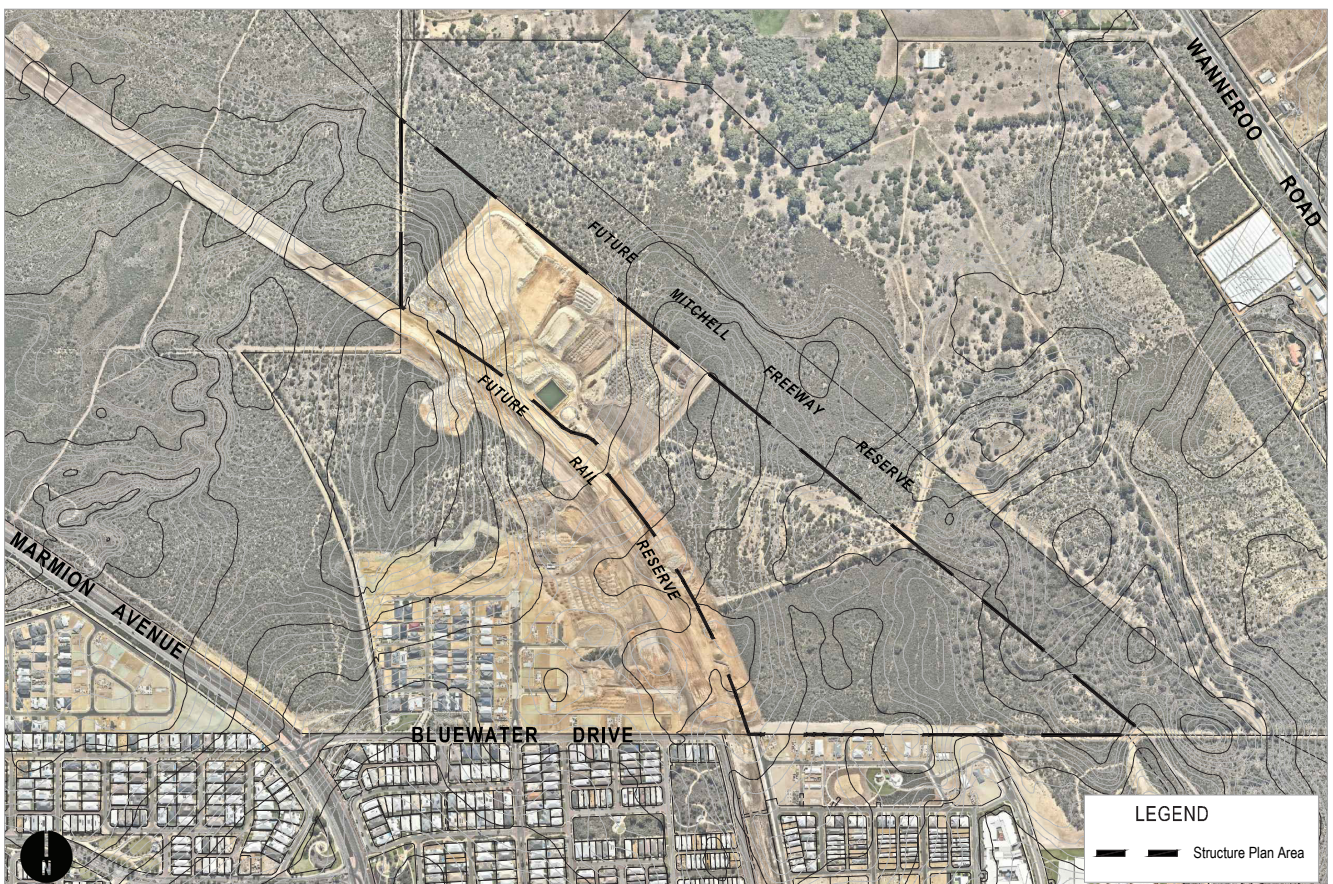
Figure 1 - Location Plan

Source: Nearmap



### [1.2.2 Area and Land Use](#)

The original Lot 6 landholding constitutes a total area of approximately 140 hectares (ha) and has previously been used for broad acre agricultural purposes. Land west of the CPLSP is the subject of an existing subdivision approval and residential development has progressed. The CPLSP applies to the 35ha portion of vacant land, bound by the rail reserve on its western boundary and the Mitchell Freeway road reserve on its eastern boundary (the site) (refer Figure 2). Partial clearing of the site has been undertaken by the PTA to assist in the delivery of the proposed rail line in the adjoining rail reserve to the west.



**Figure 2 - Site Plan**

Source: Nearmap

### [1.2.3 Legal Description and Ownership](#)

The site is defined on Certificate of Title as Lot 9004 and is owned by Daws and Son Pty Ltd (refer Appendix 1).

1.2.4 Surrounding Land Use and Context

The CPLSP sits within the context of the AEDSP which provides for the urban development of approximately 2606ha of land within Perth’s North-West Corridor, including the subject site. Staged development of the AEDSP area is substantially progressed, with the land immediately to the south and west of the site in the process of being subdivided to accommodate residential and mixed use development. The Alkimos City Centre is located further to the south (refer Figure 3) and the future Eglinton Centre is located to the north of the site.

The planned extension of the north-west corridor rail line and the subsequent rail extension to Yanchep is scheduled for completion by the end of 2022. The Mitchell Freeway extension remains unscheduled at this time.

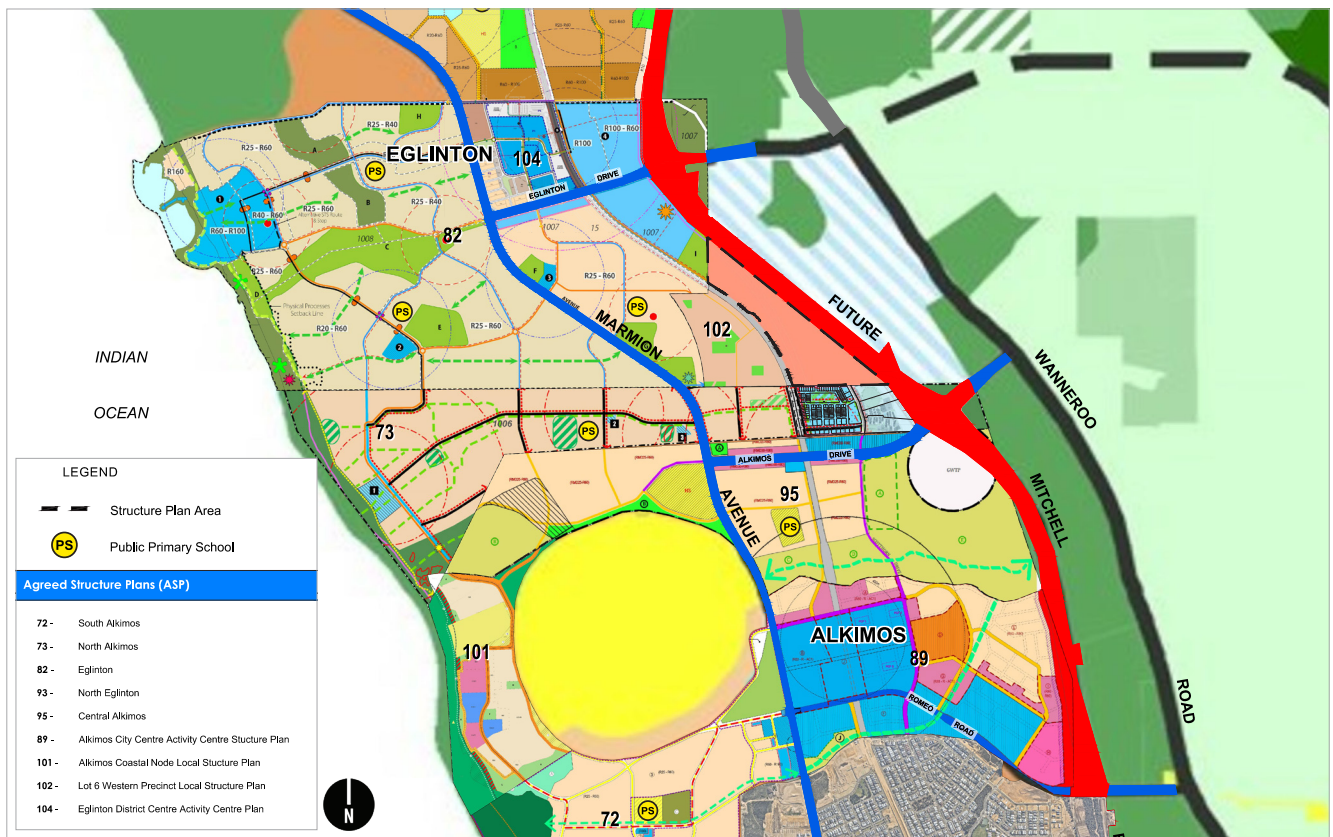


Figure 3 - District Context Plan - Endorsed Structure Plans

Source: City of Wanneroo

1.3 Planning Framework

1.3.1 Metropolitan Region Scheme Zoning

The CPLSP is zoned ‘Urban’ under the Metropolitan Region Scheme (MRS) and adjoins a 120m wide Primary Regional Road reserve on its eastern boundary and a 40m wide Railways reserve on its western boundary (refer Figure 4).

The development provided for within the CPLSP is consistent with the site’s zoning under the MRS.

1.3.2 City of Wanneroo District Planning Scheme No.2

The CPLSP is zoned 'Urban Development' in accordance with the City of Wanneroo's District Planning Scheme No.2 (DPS2) (refer Figure 5). The purpose of the 'Urban Development' zone is to "provide for the orderly planning and development of larger areas of land in an integrated manner within a regional context whilst retaining flexibility to review planning with changing circumstances". The preparation and adoption of a local structure plan is a precursor to the subdivision and development of the land within the Urban Development zone in accordance with the provisions of the Scheme.

Developer contributions will be levied as a condition of subdivision under the provisions of the City of Wanneroo's District Planning Scheme No.2 Development Contribution Area No.1 provisions. The contributions cater for the provision of range of district recreational and community facilities as outlined in Schedule 15 of the City's District Planning Scheme. The contributions are calculated based on m<sup>2</sup> rate rather than number of lots created.

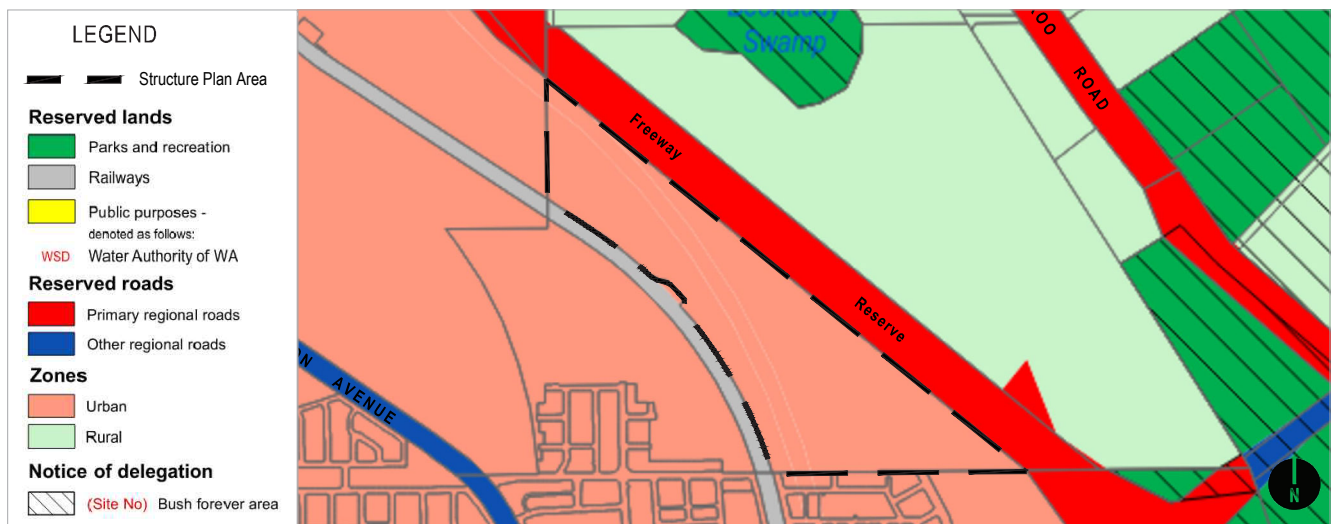


Figure 4 - Metropolitan Region Scheme Zoning

Source: Department of Planning, Lands and Heritage

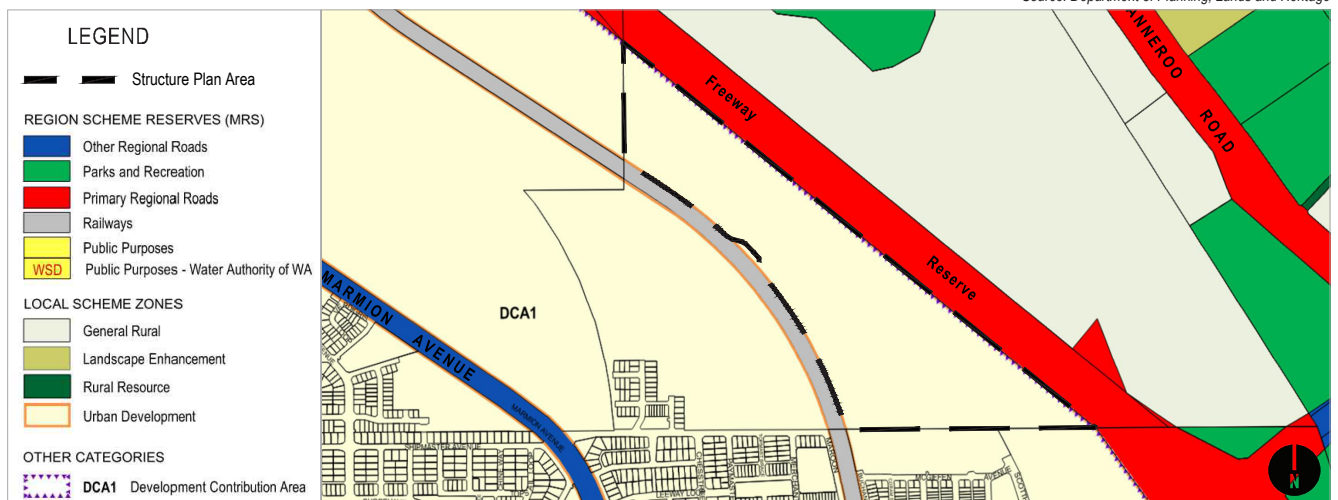


Figure 5 - District Planning Scheme No.2 Zoning

Source: Department of Planning, Lands and Heritage

## 1.4 Strategic Planning Framework

### 1.4.1 Perth and Peel @ 3.5 Million (March 2018)

The *Perth and Peel @ 3.5 million (March 2018)* suite of policies forms the spatial framework and strategic plan for Perth and Peel. Its purpose is to establish a blueprint for supporting a population of 3.5 million by 2050 through the finalisation of four sub-regional planning frameworks. The CPLSP is located within the North West Sub-regional area (see section 1.4.2).

### 1.4.2 North West Metropolitan Sub-regional Planning Framework (2018)

The Framework provides the next level of detail about the planned pattern of growth in the sub region. The Framework identifies the CPLSP area as 'Urban' with a Short Term (2015-2021) timeframe (refer Figure 6). The designation of the CPLSP area as 'Urban' with a short term timeframe in the Framework is consistent with the current MRS and DPS zonings.

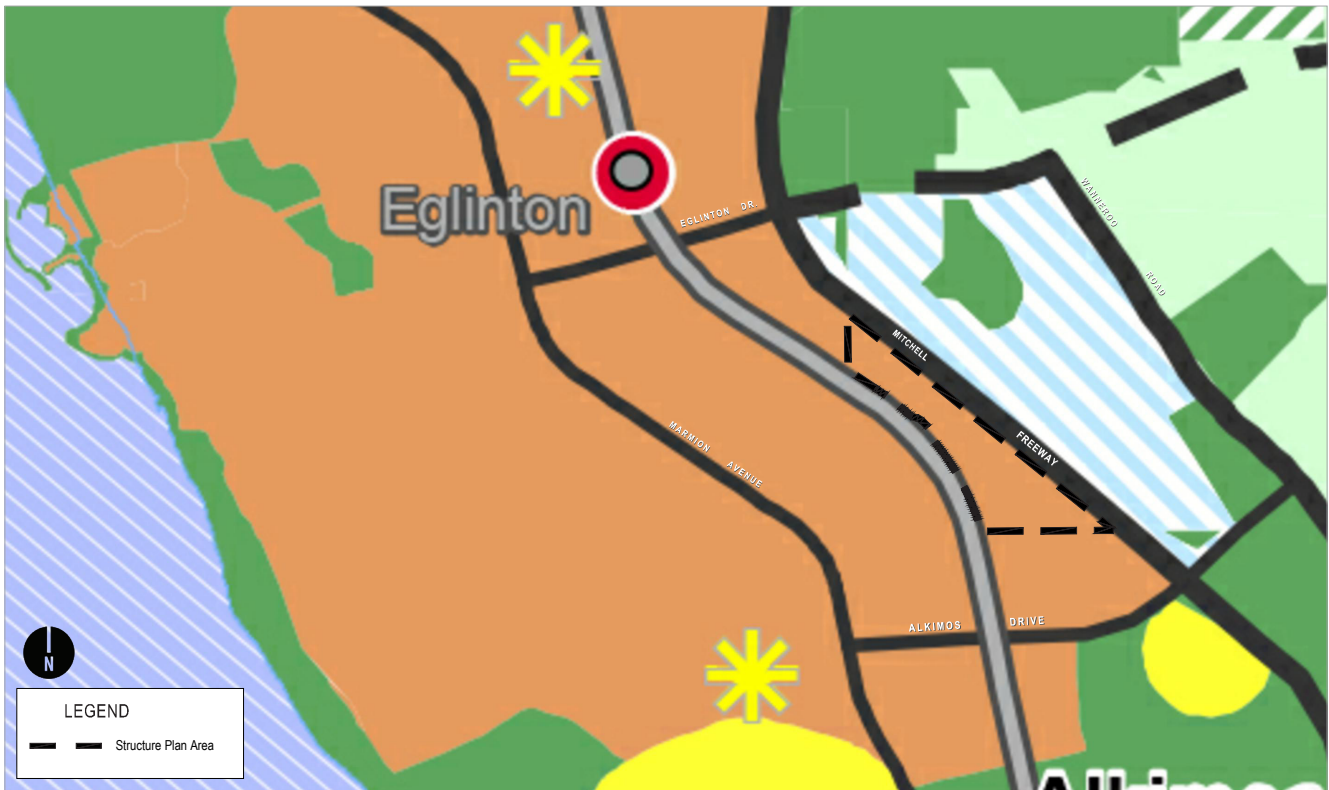


Figure 6 - North West Sub-regional Planning Framework

Source: Department of Planning, Lands and Heritage

### [1.4.3 Alkimos-Eglinton District Structure Plan \(2010\)](#)

The CPLSP is located within the Alkimos Eglinton District Structure Plan (AEDSP). The AEDSP was prepared to provide an overarching planning framework for the 2,606ha Alkimos-Eglinton area as part of the planning for the north-west metropolitan growth corridor. It also serves to guide more detailed local structure planning and subsequent development of the area. The AEDSP was adopted by the City of Wanneroo as Agreed Structure Plan No. 18 and endorsed by the Western Australian Planning Commission (WAPC) in March 2011 (refer Figure 7).

The AEDSP provides for:

- Extension of the regional road network (Including Marmion Avenue and the Mitchell Freeway) up through the DSP area;
- Extension of the northern suburbs rail line with stations at Alkimos Secondary Activity Centre and Eglinton District Centre;
- Construction of the Alkimos Waste Water Treatment Plant with appropriate buffers in place;
- Reservation of coastal foreshore reserves and extension of open space linkages to connect these to the east;
- Development of the Alkimos and Eglinton activity centres supported by a number of smaller neighbourhood centres and coastal nodes to service the retail, commercial and service needs of the catchment communities, and provide opportunities for local employment;
- A service commercial precinct intended to accommodate employment opportunities; and
- Development of much of the balance of the land for urban purposes.

In March 2020, the WAPC endorsed Amendment No.2 to AEDSP, which designated the CPLSP area as 'Urban' from 'Service Commercial'. This will ultimately facilitate the logical progression of urban (residential) land use and development within CPLSP site, for which the purpose of this LSP accords.



Figure 7 - Alkimos Eglinton District Structure Plan

Source: City of Wanneroo

### [1.4.4 Other Planning Considerations](#)

The following section summarises the policies and strategies relevant to the CPLSP as urbanisation proceeds.

#### [1.4.4.1 State Planning Policy 3.7 \(SPP3.7\) – Planning in Bushfire Prone Areas](#)

The *SPP3.7 Planning in Bushfire Prone Areas* was gazetted in December 2015 and acts in concert with the Regulations and Guidelines to inform planning decision making to limit risk to life and property associated with bushfire risk. The Policy requires assessment of bushfire risk at an escalating level of detail in the various stages of the planning process for all land identified as 'Bushfire Prone' with the maps published by the Office of Bushfire Risk Management.

The CPLSP is designated as bushfire-prone in the mapping maintained by the Department of Fire and Emergency Services. As such *SPP 3.7* is applicable. Accordingly, a Bushfire Management Plan (Strategen JBS&G) has been prepared in accordance with the *SPP 3.7* Guidelines. The recommendations of the Bushfire Management Plan are summarised in Sections 2.4 and 3.5, and the report itself constitutes Appendix 3.

#### [1.4.4.2 State Planning Policy 5.4 \(SPP5.4\) Road and Rail Noise](#)

The *SPP5.4 Road and Rail Noise* was gazetted in September 2019 and seeks to minimise the impact of road and rail noise on noise-sensitive land-use and/or development within the specific trigger distance of strategic freight and major traffic routes. For areas within designated strategic freight and major traffic routes and passenger railways, the Policy requires assessment to determine the likely level of transport noise and the subsequent extent of management/mitigation required.

Given the CPLSP is located in proximity to the future passenger rail and freeway, a Transportation Noise Assessment (Lloyd George Acoustics) has been prepared. The Assessment demonstrates that any transport noise impacts can be managed through the implementation of noise mitigation measures, refer Sections 3.7 and Appendix 4.

The Transportation Noise Assessment prepared for the site is discussed in further detail in section 2.6 and 3.7 below.

#### [1.4.4.3 Liveable Neighbourhoods](#)

*Liveable Neighbourhoods* is the WAPC's primary operational policy guiding structure plan and subdivision design for residential neighbourhoods. The document outlines a series of objectives and design requirements seeking to deliver more sustainable, amenable and 'liveable' suburbs for new communities. The policy is largely based on a 'new urbanist' approach to design, integrating transport, land uses, water management and other elements making up new urban areas.

The proposed CPLSP (and the DSP framework within which it operates) is consistent with Liveable Neighbourhoods given its:

- Application of a connected and legible 'modified grid' road network;
- Integration of safe and accessible pedestrian and cycle facilities that provide connectivity within and across the site;
- Provision of a hierarchy of open space areas, accommodating a range of functions including recreation, vegetation retention and water management; and
- Inclusion of urban densities consistent with strategic state targets that are responsive to the local site context and amenities.

Further discussion of these elements is detailed in subsequent sections of this report.

#### *1.4.4.4 SPP 7.3: Residential Design Codes*

The Residential Design Codes (R-Codes) form the basis for assessment of all single, grouped and multiple-dwelling developments in Western Australia. They are applicable to the structure plan area by virtue of the proposed Residential zone.

The R-Codes can be varied through use of (relevantly) Local Planning Policies and Local Development Plans. Standard variations to the R-Codes will be available to the structure plan area through the reference to the City's Local Planning Policy 4.19 in Part 1 of the structure plan (see also Section 1.3.5.1 of this report), and other variations may become active in future through Local Development Plans.

1.5 Other Approval and Decisions

1.5.1 Western Precinct Local Structure Plan 102

The land west of the CPLSP is covered by the endorsed Western Precinct Local Structure Plan 102 (LSP 102) (refer Figure 8). The WPLSP was endorsed by the WAPC in May 2018.

The WPLSP facilitates the creation of a residential neighbourhood that responds to the surrounding land use context and natural environment, as well as the planning framework established by the Alkimos Eglinton District Structure Plan. Implementation of the WPLSP, now referred to as East of the Beach Estate, is substantially preserved. The WPLSP is located west of the CPLSP area and separated by railway reserve.

The CPLSP provides for the logical progression and growth of residential land for the East of the Beach project. The WPLSP had indicatively a rail crossing to connect the WPLSP and CPLSP as shown on the WPLSP. Further investigations into the viability of the crossing have identified that it is no longer feasible. PTA has been advised that there will no longer be a crossing in this location, and PTA has subsequently confirmed that it does not require this crossing, nor is in a position to fund a crossing in this location. It is noted that the Alkimos Eglinton District Structure Plan did not identify a crossing in this location and the traffic assessment associated the structure planning for the project demonstrates that traffic movement in this location is not contingent on a crossing in this location.

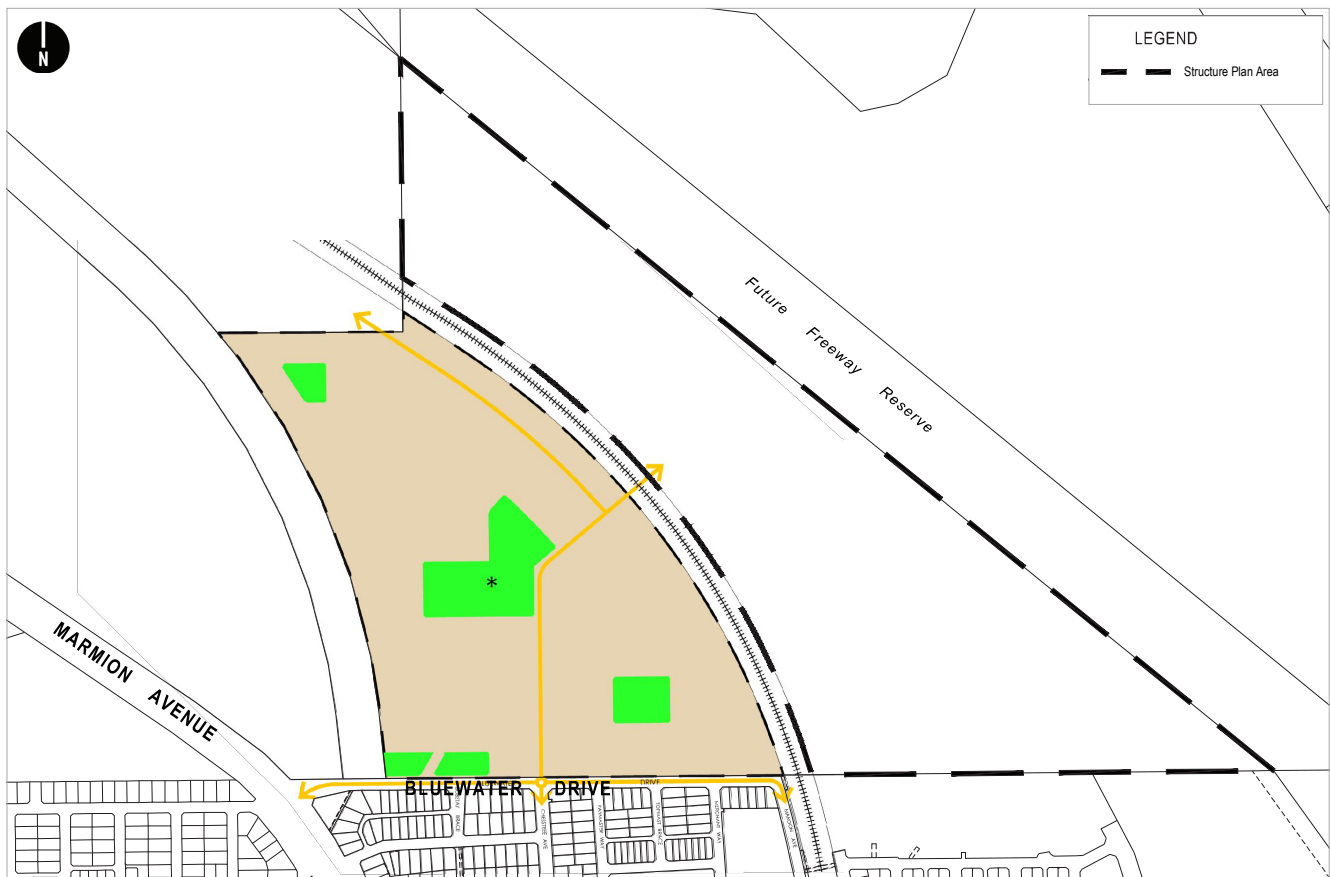


Figure 8 - Western Precinct Local Structure Plan 102

Source: City of Wanneroo



### 1.5.2 North Alkimos Local Structure Plan 73

The North Alkimos Local Structure Plan No.73 (LSP 73) is located immediately south of the subject site (refer Figure 9). The LSP was endorsed by the WAPC in June 2015.

The eastern end of the LSP 73 abuts the CPLSP area with Bluewater Drive providing a shared road along this common boundary. The CPLSP will ensure integration with the established road network within the LSP 73 including the extension of Scotthorn Drive.

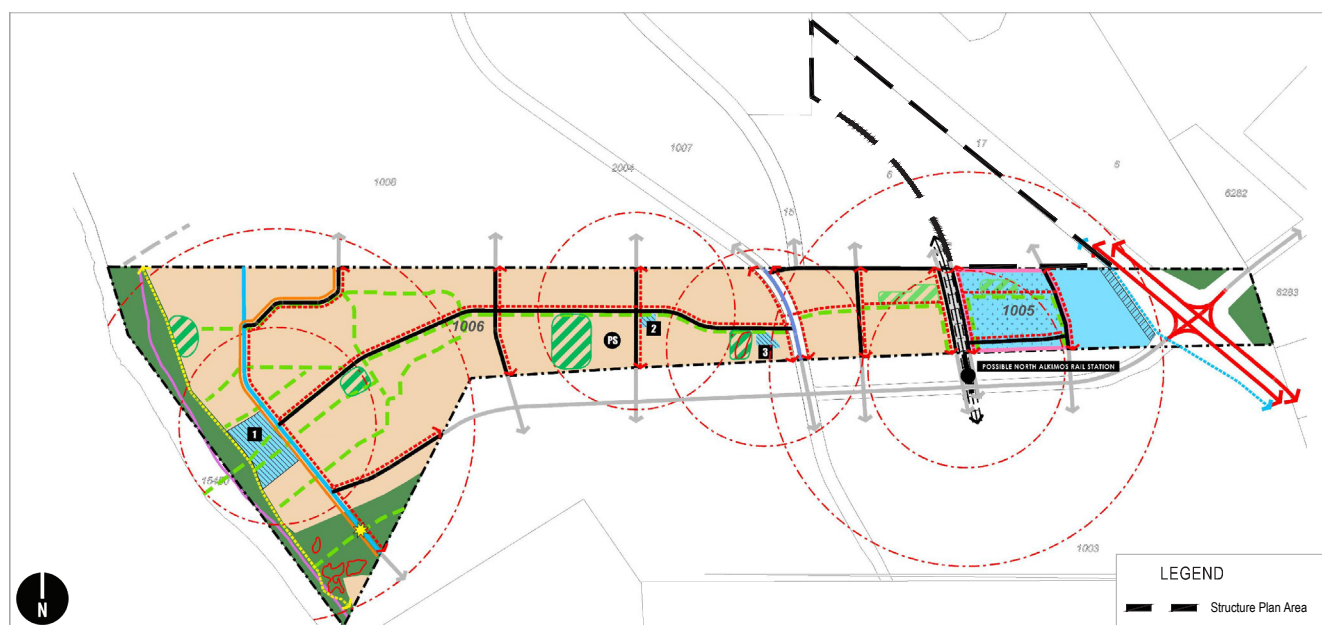


Figure 9 - North Alkimos Local Structure Plan No.73

Source: City of Wanneroo

### 1.5.3 Eglinton Local Structure Plan 82

The Eglinton Local Structure Plan No.82 (LSP82) applies to the land north and north-west of the CPLSP. The LSP82 was endorsed by the WAPC in February 2013 and has been progressed considerably (refer Figure 10). The area within LSP82 immediately north of the CPLSP area was designated as Service Commercial in the AEDSP. Further refinements through the endorsement of the LSP82, zoned a portion of this land Centre requiring the preparation of a future structure plan. The other portion, directly adjoining the CPLSP area has been designated as Strategic Open Space.

The LSP82 similarly provides a range of services to future residents within the CPLSP and providing an important catchment for future uses in the LSP82 such as the primary school to the west of the CPLSP area.

The CPLSP will facilitate an appropriate interface to the conservation land to the north via open space and a road reserve to ensure a seamless interface between adjoining structure plan areas.



Figure 10 - Eglinton Local Structure Plan No. 82

Source: City of Wanneroo

1.5.4 City of Wanneroo Policies

The following section summarises the City of Wanneroo policies relevant to the CPLSP as urbanisation proceeds.

1.5.4.1 LPP 4.19 Medium Density Housing

In April 2016, the WAPC released Planning Bulletin 112, which contains a set of standard variations (known as R-MD Codes) to the deemed-to-comply provisions of the R-Codes for single house in the ‘Development’ zones where a coding of R25 to R60 applies.

To enable these to be implemented on an estate-wide basis through reference in a structure plan, the City of Wanneroo has adopted a Local Planning Policy, LPP 4.19 (October 2018). This is referenced in Part 1 of this structure plan, making the R-MD Codes applicable within the CPLSP. These apply unless a Local Development Plan containing additional variations has been approved in accordance with the Planning and Development (Local Planning Schemes) Regulations 2015.

1.5.4.2 LPP 4.13 Public Open Space

The purpose of the LPP 4.13 is to:

- Ensure that POS is delivered in a manner which optimises community benefit;
- Provide local interpretation of the WAPC’s Livable Neighbourhoods Operational Policy; and
- Guide Council, its officers and applicants in the planning for the POS in urban areas.

The CPLSP satisfies the principles of LPP4.13 as outlined in Section 3.3.

## 1.6 Pre-Lodgement Consultation

The CPLSP has been prepared in consultation with a range of stakeholders including:

- City of Wanneroo;
- Department of Planning, Lands and Heritage;
- Department of Education;
- Main Roads WA;
- Water Corporation;
- Public Transport Authority;
- Department of Parks and Wildlife; and
- Western Power.

## 2.0 SITE CONDITIONS AND CONSTRAINTS

The following sections outlined the site conditions and constraints applicable to the CPLSP. This summary is informed by the Environmental Assessment Report (Strategen JBS&G), refer Appendix 2. The Environmental Assessment Report (EAR) demonstrates that all environmental factors affecting the CPLSP, including groundwater, drainage and bushfire management have been addressed.

Importantly, the EAR details, and includes the EPBC approval (EPBC 2017/7872) relevant to the entirety of the CPLSP area.

### 2.1 Topography, Landform and Soils

The topography and the soils within the CPLSP area are suitable for urban development. The topography, landform and soils are characterised by:

- Undulating site with elevation ranging between 30m and 40m Australian Height Datum (AHD);
- Surface geology of the site is Spearwood dunes and ranges from white to yellow sands to light brown sandy loam; and
- Soil type is dominated by Karrakatta Sand Yellow Phase and Quindalup South oldest dune Phase and Spearwood Sand Phase.

A preliminary karst assessment was undertaken by CMW Geosciences indicating that karst in the CPLSP area posed a very low risk and can be managed through design and engineering processes and the subsequent Geotechnical Investigation Report.

#### 2.1.1 Acid Sulphate Soils

The Swan Coastal Plain Acid Sulphate Soils (ASS) risk mapping identified no known risk of ASS occurring within 3m of the natural surface of the CPLSP area. ASS investigations are therefore not considered necessary for the CPLSP area.

#### 2.1.2 Contamination

The CPLSP is not located within any Department of Water and Environmental Regulation (DWER) listed contaminated sites, with the past and present use of the site not generating a high risk of contamination.

## 2.2 Biodiversity and Natural Assets

### 2.2.1 Flora and Vegetation

The CPLSP comprises remnant vegetation which includes areas of Banksia Woodland TEC. Flora and vegetation surveys have been undertaken over the CPLSP. The key findings of the surveys are as follows –

- Five vegetation types are found within the CPLSP including 5.66ha of Banksia Woodland and 3.82ha of regrowth;
- There are no Bush Forever sites occurring within the CPLSP; and
- No threatened flora species were recorded within the CPLSP area.

The northern portion of the site includes intact native vegetation in 'Very Good to Excellent' condition of which a portion is retained and conserved within the proposed northern POS area. This will ultimately facilitate the extension of contiguous vegetation conservation, given the existing 4.36ha of conservation adjoining the northern boundary of the CPLSP area, covered by a separate Federal approval.

It should be noted that since the initial survey was undertaken, 12.29 ha of vegetation has been cleared by PTA under EPBC 2017/7872 for the construction of the Butler to Eglinton railway.

### [2.2.2 Fauna](#)

Desktop research undertaken by Strategen has identified several conservation significant fauna that are potentially located within the vicinity of the CPLSP area.

An inspection was undertaken of the CPLSP area for black cockatoo habitat including a vegetation assessment and significant tree assessment. No potentially significant trees were recorded within the CPLSP area and therefore no potential black cockatoo breeding or roosting habitat occurs within the CPLSP area.

The CPLSP area contains black cockatoo foraging habitat with a considerable 1.93ha portion being retained as part of the northern conservation POS area. It is expected that further conservation measures can be addressed during the future planning stages at subdivision.

## **2.3 Groundwater and Surface Water**

### [2.3.1 Ground Water](#)

Maximum groundwater level ranges from 3m to 4m AHD within the CPLSP area from west to east. The depth to groundwater ranges approximately from 28.3m to 32.5m below natural ground level across the CPLSP.

The CPLSP area is located within the Priority 3 Public Drinking Water Source Area (PDWSA), with residential development a permitted use within a PDWSA. A 300 m Well-head Protection Zone (WPZ) applies to groundwater abstraction wells within P3 PDWSAs, and is located approximately 230m southwest of the site boundary. It should be noted that within P3 areas, drinking water sources need to co-exist with higher intensity land uses compared to P1 and P2 areas.

### [2.3.2 Surface Water](#)

There are no surface water bodies within CPLSP area. The nearest wetland is a Sump-land Resource Enhancement Wetland (UFI 8016) adjacent to the northern boundary of Lot 9004 Taronga Place, approximately 400m from the CPLSP area. Surface water is largely retained within the site due to the high permeability of the underlying soils and the wetland is up-gradient of the site.

## **2.4 Bushfire Management**

The existing conditions of the CPLSP have been assessed from a bushfire risk and planning perspective as required under *State Planning Policy 3.7 (SPP3.7)* as the site is identified within a designated bushfire prone area according to the DFES State Map of Bush Fire Prone Areas. A Bushfire Management Plan (BMP) has been prepared in accordance with *SPP3.7* and the assessment is contained within Appendix 3 to this report. The BMP considers the site's topography and effective slope under vegetation, weather conditions, bushfire history and pre- and post-development bushfire hazard levels.

The assessment concludes that bushfire hazards within and adjacent to the CPLSP area can be managed in accordance with the Guidelines for Planning in Bushfire Prone Areas and the associated Australia Standard 3959. More specifically, it notes that:

- The site currently contains or abuts Class A Forest and Class D Scrub, with the future rail corridor bordering the western site boundary, the developed area south of the CPLSP area and the cleared northern portion of the site excluded under Clause 2.2.3.2 (e) and (f) of AS3959-2009.
- The eastern boundary of the site abuts Class A Forest and Class D Scrub within the future Mitchell Freeway Reserve. Post development, this area will be an Extreme bushfire hazard level and that BAL contour mapping at the subdivision stage will demonstrate that the lots along the eastern boundary will achieve a BAL-29 or lower.
- Post development, the majority of the site, with the exception of areas of POS, will be cleared and classified as Excluded under Clause 2.2.3.2 (e) and (f) of AS3959-2009.
- The northern POS area is to be retained for conservation purposes and has been assessed as Class D Scrub. A minimum separation distance of 17m is required to facilitate habitable development, which is to be achieved via the adjoining road reserve. This will be addressed via a detailed BAL Contour assessment as part of future subdivision.
- The remainder of POS/drainage areas will ultimately comprise a combination of low threat/non-vegetated areas and classifiable vegetation on completion of development.
- Post development, the entire CPLSP area will be within either a Low or Moderate bushfire hazard level.

### 2.5 Cultural Heritage

The Department of Planning, Lands and Heritage (DPLH) Aboriginal Heritage Inquiry System did not identify any Aboriginal registered sites within or adjacent the CPLSP. There are also no heritage listings identified on the Heritage Council's inherit database within the CPLSP.

### 2.6 Noise Considerations

A Transportation Noise Assessment (Lloyd George) assessing the impacts of the future Yanchep railway reserve and the primary regional road reserve for the future Mitchell Freeway has been undertaken and is provided in Appendix 4. This has been prepared in accordance with State Planning Policy 5.4 – Road and Rail Noise (formerly Road and Rail Transport Noise and Freight Consideration in Land Use). As neither the railway nor the freeway has been constructed, measurements of the existing noise levels have not been considered. Instead, the assessment is based on computer modelling, specifically SoundPLAN 8.0.

The report presents a number of options for addressing the requirements of *SPP 5.4* via the construction of noise walls along the rail and regional road reserve boundaries, the requirement of notification on titles, as well as the application of Quiet Design Packages where required. These options will be discussed further in Section 3.7.

## 3.0 LAND USE AND SUBDIVISION REQUIREMENTS

### 3.1 Land Use

The CPLSP provides the framework for urban development within the broader context of the Alkimos-Eglinton District Structure Plan (AEDSP) area. The plan provides a level of detail that builds upon and refines the principles of the AEDSP whilst also remaining flexible in recognition of more detailed stages of planning as part of subdivision design.

The CPLSP Concept Plan has been prepared to demonstrate how residential development could occur based on the principles and requirements of the LSP (refer Figure 11).

It is important to note that the Concept Plan represents only one way future development could occur. The design and lot layout will likely be refined at the time of subdivision.

The key aspects of the Concept Plan are as follows:

- Allow for the creation of a diverse range of high-quality housing choices that appeal to a wide market segment.
- Deliver high quality open space areas and streetscapes, reflective of conservation values.
- Deliver a permeable, interconnected road and path network.
- Ensure direct and legible entry points in the CPLSP area via Scotthorn Drive and future connections to the north.
- Provide an urban form that responds to the local context.
- Value existing natural features within public open space areas throughout the CPLSP area and balance these features with competing demands.
- Establish an appropriate interface with the adjoining rail and freeway reserves to protect the amenity of future residents.



Figure 11 - Concept Plan

Source: Nearmap

Based on these key principles, the CPLSP (refer Figure 12) provides a framework for the creation of:

- A total of approximately 450 to 470 dwellings with residential densities ranging from R30 to R60. Medium to high residential densities are focused around key areas of open space, while the balance of the CPLSP area shall comprise more traditional single house lot product.
- Approximately 3.9ha of public open space in four locations ensuring opportunities for passive recreation delivering key drainage objectives and in doing so meeting the minimum 10% public open space requirement outlined in Liveable Neighbourhoods.
- A permeable movement network that connects into existing road networks and provides for pedestrian and cycling infrastructure, and future public transport services.
- A managed interface with the rail and freeway reserves to the west and east respectively via the construction of noise walls to minimise impacts of rail and freeway noise on future residential development.
- Provision for a 132kv transmission line via an indicative location adjoining the freeway reserve boundary to the east, should this infrastructure be required in the future.



Figure 12 - Local Structure Plan



A Land Use Summary is included as Table 1, and should be read in conjunction with the Master Plan (Appendix 5), and the Public Open Space Schedule shown as Table 2.

Table 1: Land Use Summary

ITEM	DATA	STRUCTURE PLAN REF.
Total area covered by the CPLSP	35.48ha	Section 1.2.2
Area of each land use proposed	<ul style="list-style-type: none"> <li>• Residential 21.12ha</li> <li>• Road Reserves 10.42ha</li> </ul>	
Estimated lot yield	450 - 470	
Estimated number of dwellings	450 - 470	
Estimated dwelling density	13.24dph (gross Urban zoned) 22.25dph (Net Developable)	Section 3.2
Estimate Population	1175 @ 2.5 ppl/household	
Amount of Public Open Space	3.94 (10.4% creditable)	Section 3.3

## 3.2 Residential

The CPLSP provides for the delivery of a range of lot types, housing products and lifestyle options in a manner that generally satisfies the targets set out in Perth and Peel @ 3.5 million.

The delivery of quality housing is a key objective of the CPLSP. Key to this is the delivery of housing that addresses and surveys public spaces, incorporation of solar passive design principles for private outdoor living areas and ensuing garages / carports are appropriately located in relation to the abutting rail and freeway reserves.

### 3.2.1 Dwelling Yields and Density Targets

The CPLSP provides the framework to deliver a range of housing types and tenures to facilitate residential yields commensurate with the strategic and statutory planning framework, as well as the site's location within the broader district context. The CPLSP has the potential to yield around 450 to 470 dwellings accommodating approximately 1175 people (at 2.8 people per household). Densities range from R30 to R60, based on the following principles:

- A base coding of R30 applies, providing opportunities to deliver a range of front loaded lots ranging in size from 300m<sup>2</sup> to 450m<sup>2</sup>.
- Medium density R40 areas are typically located fronting areas of public open space and along neighbourhood connectors (where a higher level of amenity exists), ranging in size between 180m<sup>2</sup> to 300m<sup>2</sup>. This density coding provides the opportunity to deliver cottage style housing (single or double storey, front loaded) or for contemporary 'compact' lots that typically book end street blocks.
- The R60 will be applied to areas adjacent to public open space. This coding provides opportunities for small cottage lots that can accommodate contemporary double storey residential development.
- The allocation of a density range from R30 to R60 applied to the Structure Plan provides flexibility for density allocation at subdivision with a clear set of criteria to ensure densities are sited appropriately. Given the site is only 35.4ha, allocating specific densities across the plan could result in unnecessary and time consuming structure plan modifications to simply make minor modifications to an R-Code boundary.

The LSP achieves 22 dwellings per site hectare (strictly residential zoned land, excluding open space and roads).

The overall residential dwelling yields, and subsequently achieving State density targets, within the CPLSP is impacted by its site context. Generally this includes extensive areas of single sided road (entire length of the freeway reserve and approximately half of the rail reserve) required to respond to BAL and acoustic impacts and possible future infrastructure (transmission easement). It is also acknowledged that the location itself, lends itself to larger lots given the absence of a centre, where higher densities are more typical. The marketing of the CPLSP will respond to this and preliminary market feedback indicates that there is a desire for larger product of this nature in this location.

### [3.2.2 Lot / Dwelling Types](#)

A diverse mix of lot and housing typologies will be achieved. There may be opportunities for the proponent to build out pockets of medium density housing to deliver a range of housing types and amenity.

### [3.2.3 R-Code Variations](#)

The City of Wanneroo's Medium Density Housing Standards (RMD) Local Planning Policy (R-MD Codes LPP) sets out acceptable variations to the deemed-to-comply provisions of the R-Codes for the lots coded R30 to R60. The variations set out in the R-MD Codes LPP apply to the CPLSP and thereby constitute Acceptable Development within the CPLSP area. This will avoid the need for LDP's over the majority of lots, improving efficiencies and minimising costs to the end user and to the local government.

LDP's will only be confined to following site specific considerations that may require detailed design responses:

- Lots abutting areas of public open space; and
- Lots affected by rail and road noise.

#### *Lots abutting areas of Public Open Space*

Liveable Neighbourhoods supports residential lots directly abutting open space under particular circumstances and where the functionality of the POS is not compromised, and where dwellings address the open space providing adequate visual surveillance.

Typically, the interface to public open space will be via roads, however, in some instances direct lot frontage is an appropriate design response to provide greater product diversity, address amenity and increase surveillance of the public spaces. To ensure these public open spaces are not compromised by such a design initiative subsequent subdivision design and engineering detail will ensure that visitor parking is provided along adjacent streets, and the adjacent residential lots are elevated where possible above the POS ground level to create a visible separation between the private and public realm.

Where lots interface with open space, LDP's will need to be prepared to control built form.

These LDP's will address:

- Built form orientation;
- Minimum setbacks to the public open space;
- Major openings (other than bedrooms) to address open space; and
- Permeable fencing to ensure constant surveillance.

#### *Lots affected by Road and Rail Noise*

LDP's will be prepared for lots deemed to be affected by noise from the future extension of the passenger rail line and future extension of the Mitchell Freeway along the eastern and western boundaries of the CPLSP area.

### 3.3 Public Open Space

The CPLSP establishes a framework for the delivery of public open space that can serve a variety of functions throughout the CPLSP area balancing active and passive recreational pursuits and delivering key drainage objectives.

A Landscape Master Plan (Plan E) including cross-sections have been prepared to outline the intended function and design principles of each open space area (refer Appendix 5).

#### 3.3.1 Description of Public Open Space

The CPLSP incorporates four key areas of open space. The following provides a brief overview of each open space parcel within the CPLSP area.

##### *POS 1 – Local Park*

- Located at the northern-west end of the CPLSP area adjoining the existing conservation area to the north providing opportunity for a consolidated area of retained vegetation;
- Retention of high-quality vegetation where possible;
- Approximately 2ha in area;
- Supports both active and passive recreation;
- Buffer planting to freeway; and
- Supports 1:1, 1:5 and 1:100 drainage events above ground.

##### *POS 2 – Local Park*

- Located along the north-east boundary of the CPLSP;
- Approximately 3,100m<sup>2</sup> in area;
- Supports passive recreation;
- Includes turfed areas and feature planting; and
- Includes axial pathways and informal shade structures to supports its passive recreational function.

##### *POS 3 – Local Park*

- Centrally located and represents an important focal point for the CPLSP;
- Approximately 9,400m<sup>2</sup> in area;
- Supports both active and passive recreation;
- Existing treeline to be retained where possible;
- Pedestrian paths connecting active and passive areas;
- Active recreation and play equipment provided throughout; and
- Supports 1:1, 1:5 and 1:100 drainage events above ground.

POS 4 – Pocket Park

- Located along the south-east boundary of the CPLSP;
- Approximately 6,500m<sup>2</sup> in area;
- Revegetation planting to provide buffer to the freeway interface to the east; and
- Supports 1:1, 1:5 and 1:100 drainage events above ground.

Cross-sections for each of area of open space have also been prepared to demonstrate indicatively the way in which drainage, topography and landscaping can be accommodated within the open space areas. The cross-section applicable to the larger POS 3 Neighborhood Park is provided at Figures 13a and 13b.



Figure 13a - POS 3 Concept

Source: Plane E

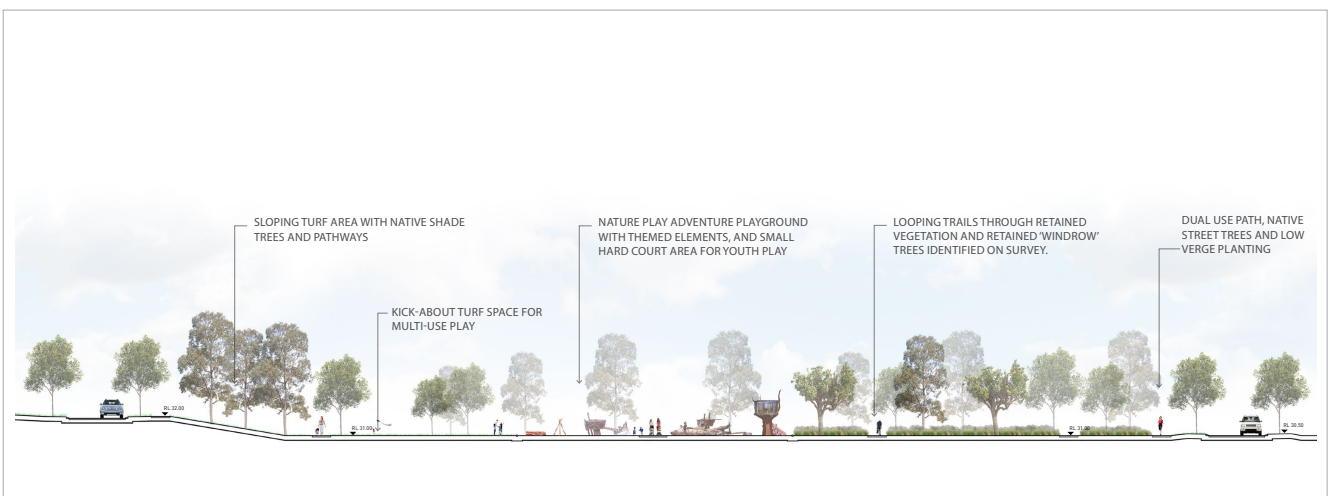


Figure 13b - POS 3 Cross Section

Source: Plane E

### 3.3.2 Streetscape

While not usually acknowledged as traditional public open space pursuant to Liveable Neighbourhoods, streetscapes make up an important component of the public realm, and the quality of landscaping within the key streets assists to deliver a true sense of place within new urban areas. Delivering quality streetscape is a key objective of the CPLSP.

The CPLSP provides the opportunity for a higher standard of landscaping along the main north-south neighbourhood connector where a wider boulevard style access street with landscaped verges will promote a sense of place on arrival as well as forming a key view corridor from the entry road at Scotthorn Drive to the large central open space to the north. A number of key local roads will also provide opportunities for a high level of streetscape design, and the detailed engineering and landscaping schedule of these key streets will be determined in consultation with the City at subdivision stage.

### 3.3.3 Public Open Space Provision and Schedule

Based on a gross subdivisible area of 35.48ha, the 10% open space requirement for the CPLSP area is 3.51ha. The CPLSP allows for the provision of approximately 3.9ha of gross public open space.

A public open space (POS) schedule calculated in accordance with the WAPC Liveable Neighbourhoods and the City of Wanneroo's Local Planning Policy 4.3: Public Open Space has been prepared for the WPLSP, refer Table 2. Once Liveable Neighbourhoods credits are applied, the open space provision is consistent with the requirements of WAPC policy and Liveable Neighbourhoods to provide 10% creditable public open space, refer Table 2. There will be a minimum 10% public open space provision over the entire CPLSP. Importantly all open space area within CPLSP meets active and passive recreation needs, as well as drainage requirements.

Table 2: Public Open Space (POS) Schedule

LSP Site Area (excluding existing road reserves)		35.48
<b>Deductions</b>		
Drainage 1:1 year event	0.31	
Sewer Pump Station	0.09	
<b>Gross Subdivisible Area</b>		<b>35.08</b>
Public Open Space @ 10%		3.51
<b>Public Open Space Requirement</b>		
May Comprise:		
Minimum 8% unrestricted POS	2.81	
Maximum 2% restricted POS	0.70	
<b>Total POS Required</b>		<b>3.51</b>
<b>Public Open Space Provided</b>	<b>Unrestricted POS Area</b>	<b>Restricted POS Area</b>
Park 1	1.93	0.05
Park 2	0.21	0.04
Park 3	0.95	0.00
Park 4	0.34	0.12
<b>Total (ha)</b>	<b>3.43</b>	<b>0.20</b>
<b>Additional Deductions</b>		
Restricted Open Space Surplus		0.00
<b>Revised Public Open Space Contribution</b>		
Minimum 8% unrestricted POS provided	3.43	9.8%
Maximum 2% restricted POS provided	0.20	0.6%
<b>Total Creditable POS Provided</b>	<b>3.63</b>	<b>10.4%</b>

Notes:

- In accordance with Liveable Neighbourhoods: the area subject to inundation more frequently than a one year average recurrence interval rainfall event is not included as restricted or unrestricted open space and is a deduction from the net site area (LN R33); areas for the detention of stormwater for a greater than one year average recurrence interval up to the five year recurrence interval is restricted open space up to 20%, the area greater than 20% is a deduction (not applicable in this case) (LN R26 & Table 11); areas for the detention of stormwater for a greater than five year average recurrence interval is within unrestricted open space (LN R25).
- This Schedule is for plan CLE Ref. 3109-242E and uses the drainage calculations prepared by Cossill & Webley (21.07.2021).

The following outlines the key aspects of public open space provision based on the requirements of the *Liveable Neighbourhoods and Local Planning Policy 4.3* Public Open Space requirements:

- The CPLSP provides 3.9ha gross open space, with all open space areas serving a shared drainage function, while not compromising the informal active and passive recreation use;
- Liveable Neighbourhoods allows up to 2% of the 10% requirement to comprise of restricted use open space. The balance of restricted use open space becomes a deduction;
- Based on the requirements of Liveable Neighbourhoods, a maximum of 0.7ha can be creditable restricted use open space and a minimum of 2.8ha unrestricted open space;
- Approximately 0.2ha of open space will receive drainage from the 1 in 1 to 1 in 5 year drainage event in landscape infiltration basins and swales in accordance with water sensitive urban design principles. The 1 in 1 to 1 in 5 year event is treated as restricted use open space in accordance with Liveable Neighbourhoods; and
- All other POS areas are unrestricted open space, providing a range of passive and active functions, as well as local amenity for future residents. The total unrestricted use open space is 3.43ha, while total creditable open space is 3.63 (10.4%).

The CPLSP and the related areas of POS have considered the requirements of the *City's Local Planning Policy 4.3 – Public Open Space (LPP4.3)* in its provision of POS and retention of vegetation. Schedule 5 of *LPP4.3* establishes a scoring system which requires demonstration regarding the suitability of the POS retention areas which has been incorporated into the provision of POS across the CPLSP area.

### 3.4 Water Management

A Local Water Management Strategy (LWMS) has been prepared for the site by Cossil and Webley Consulting Engineers to support of the CPLSP. The LWMS has been prepared in accordance with the WAPC's Better Urban Water Management and is provided in Appendix 6.

In summary, the LWMS:

- Defines the principles and objectives for total water cycle management on the site;
- Describes the existing site characteristics, opportunities and constraints, and identifies the critical management issues;
- Discusses potential water sources to support development of the LSP area;
- Provides a recommended monitoring framework; and
- Identifies issues to be addressed at subdivision stage via an Urban Water Management Plan (UWMP).

The LWMS provides the framework and parameters to guide detailed water planning (via an Urban Water Management Plan) to enable implementation of water sensitive urban design principles, in line with state and local government objectives and policies. The LWMS has informed the CPLSP design and POS allocation and layout to achieve integrated outcomes.

### [3.4.1 Stormwater Management](#)

Section 6 of the LWMS outlines the stormwater management strategy proposed for the CPLSP which is based on Better Urban Water Management principles and practices. This is in line with the Department of Environment's Stormwater Management Manual and the City of Wanneroo's Water Management Strategy. The Strategy seeks to maximise infiltration at source through the use of roadside swales, bio-retention areas, verge swales, tree wells, open based pit and pipe structures, community education and street sweeping.

The portion of the 1:1 year event not retained at source will be directed into POS storage and infiltration basins. Runoff from 1:5 year storm events will be transported via the piped drainage to infiltration swales situated within POS areas. Larger 1:100 events will be channelled via overland flow paths within the road reserve to POS areas. The sizing of basins to accommodate such events within each catchment has been calculated and incorporated into the POS planning with more detailed design to occur through the UWMP process. Building levels will be required to maintain appropriate freeboard (300-500mm) above the maximum storm event levels.

All runoff from lots greater than 300m<sup>2</sup> will be retained on-site within soakwells and garden areas. Lots less than 300m<sup>2</sup> will retain the 1yr 1hr ARI event in on-site soakwells.

Water quality is proposed to be managed by application of a treatment train incorporating structure and non-structural controls including:

- At source controls;
- Transit measures including use of bio-retention swales at appropriate locations; and
- End of pipe controls to be incorporated into drainage design.

### [3.4.2 Groundwater Management](#)

Section 7 of the LWMS discusses information relating to groundwater management. The report provides that "due to the depth to the groundwater, the proximity to the coast and the highly permeable insitu soils, it is unlikely that the existing groundwater levels or quality will be affected by the proposed development."

Whilst subsoil drainage is not required, a number of strategies are proposed to satisfy groundwater quality objectives including use of bio-retention swales, minimisation of turfed areas, use of native vegetation where practical and the promotion of loamy topsoil to improve the efficiency of fertilisers and retain phosphorous.

### [3.4.3 Post Development Monitoring and Implementation](#)

The implementation of the LWMS will largely occur through the preparation and implementation of the more detailed Urban Water Management Plan which will be prepared at the subdivision stage, as a condition of subdivision. This will consolidate the recommendations of the LWMS and will guide detailed design and subsequent construction of drainage infrastructure and implementation of management programs and initiatives. A monitoring program is also proposed within Section 9 of the LWMS which outlines post-development outcomes and impacts in line with the LWMS.

### 3.5 Bushfire Management

An assessment of the site's conditions and the ability for CPLSP to comply with *State Planning Policy 3.7 (SPP3.7)* is provided in a Bushfire Management Plan (BMP) prepared by Strategen, refer Appendix 3. The report has been prepared as an addendum to the existing Bushfire Management Plan prepared to support previous stage of planning for the CPLSP area, specifically Amendment 2 to the AESDP. The addendum responds to existing and post-development site conditions, reflecting only the relevant changes made by the proposed CPLSP and demonstrates how compliance with *SPP3.7* is achieved. The report outlines that:

- The majority of the CPLSP area is expected to be cleared to accommodate urban development, with the remaining classifiable vegetation in POS areas being Class D Scrub and other low threat/non-vegetated landscaping, and unmanaged native vegetation.
- Class A Forest in the south-east portion of the CPLSP area will eventually be cleared, but will remain within the Mitchell Freeway reserve until this land is cleared for future freeway construction.
- The post development BHL assessment demonstrates that all future habitable development will be located within the CPLSP area will either be located within Low or Moderate bushfire hazard level areas.
- Due consideration is to be given to the future clearing of the Mitchell Freeway road reserve and the development site of the Eastern Precinct. Due to the uncertainty regarding when these areas will be cleared, this vegetation will need to be considered as part of this BMP.
- Asset Protection Zones (APZs) in accordance with Acceptable Solution 2.1 of the Guidelines for Planning in Bushfire Prone Areas to achieve a minimum of BAL-29 are to be implemented as required.
- A 15m wide APZ is proposed within the Mitchell Freeway Reserve, adjoining the eastern boundary of the project area. This is to be constructed on a staged basis within the reserve and will assist in delivering a BAL-29 or lower outcome for lots at the eastern interface of the project area in relation to the temporary bushfire hazards within the freeway corridor. The final width may be increased subject to confirmation final vegetation classifications and affective slope as part of detailed subdivision design.
- The required APZs and setback requirements are to be determined at future planning stages based on future subdivision/development design.
- Two access routes are required for the Central Precinct and will ultimately be delivered via primary access to Marmion Avenue in the southwest (via Bluewater Drive) and future access connections via the proposed Neighbourhood Connector to the north (through future development land) and southeast (to the future Alkimos Drive and Mitchell Freeway).
- The preparation of future BMP's are to accompany future subdivision and development applications to refine the recommendations and BAL assessment reflective of detailed lot layout and current site conditions.
- Notifications on title of lots subject to BAL construction standards are to be applied as conditions of subdivision.

In summary, the BMP demonstrates that a proposal for the subject land for residential development can meet bushfire requirements of *SPP 3.7* and the Guidelines through the application of routine requirements, management and design detail.



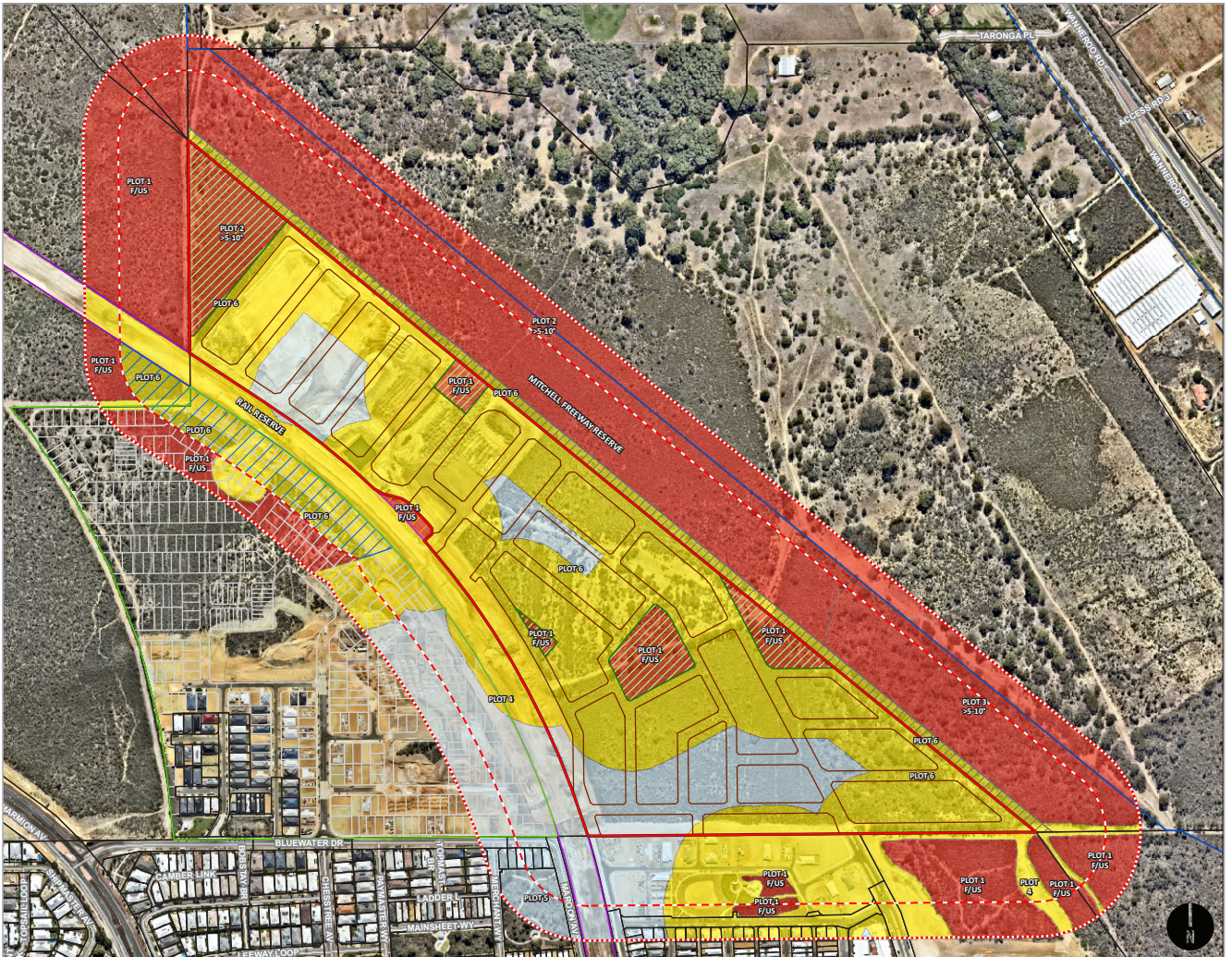


Figure 14 - Post Development Bushfire Hazard Level Contour Map

Source: Strategen JBS&G

### 3.6 Movement Network

A Transport Impact Assessment has been prepared by Stantec, refer Appendix 7. The Transport Impact Assessment demonstrates that the CPLSP area can be supported by the existing and proposed external traffic network depicted on the CPLSP as well as the street layout shown on the development concept plan.

This section provides a summary of the key elements of the Transport Impact Assessment including details of the existing and proposed road networks, the road hierarchy and traffic generation. Further consideration is also given to public transport, cyclist and pedestrian network provision.

#### [3.6.1 Existing Movement Network](#)

The characteristics of the movement network surrounding the CPLSP is as follows:

**Mitchell Freeway** as detailed in the AEDSP indicates that the Mitchell Freeway is proposed to be extended north from its current terminus at Hester Avenue in Clarkson. The Mitchell Freeway will eventually form the major north-south distributor for the northwest corridor, with the freeway reserve directly adjoining the site along the eastern boundary. The proposed Mitchell Freeway/ Alkimos Drive interchange reserve abuts the CPLSP area to the south.

**Marmion Avenue** is a Distributor A four-lane, dual carriageway undivided road running in a northwest-southeast direction. The road plays a strategic role in the movement of traffic in the northwest development corridor and is further planned to come a future four-lane Integrator Arterial 'A' road. Marmion Avenue intersects Bluewater Drive to the south-west of the CPLSP area, which provides the current primary access to the area.

**Wanneroo Road** is a four-lane dual carriageway Primary Regional Road, which runs north-south to the east of the CPLSP area. The road narrows to a two-lane single carriageway heading north running parallel along the eastern boundary of the subject site. The future Mitchell Freeway/Alkimos Drive interchange reserve proposes to provide access off Wanneroo Road to the CPLSP area.

**Bluewater Drive** is a two-lane, two-way Neighbourhood Connector road running east-west along the southern boundary of the CPLSP. It is undivided with a 6.6m wide vehicle carriageway provided within a 16m road reserve, with this set to be widened to 20m as part of LSP proposal. Access will be provided off Bluewater Drive to the CPLSP area along the southern boundary of the site.

### 3.6.2 Proposed Movement Network

#### Road Network

The proposed road network follows a logical and orderly hierarchy which provides legible and useable networks for all modes of transport for travel, to, from and within the area. The network has been defined by predicted traffic volumes, road function and design characteristics. As the CPLSP is bound to the east by the rail reserve, access and movement related to the LSP is general focused to the north and south. The proposed LSP road network therefore has been designed with regard to the adjoining structure plans in the area which are currently under construction, particularly that of the Shorehaven Estate to the south.

The Road Hierarchy Plan shows the hierarchy of the movement network planned for the area and the connections to the existing network (refer Figure 15).

Given the relatively small scale of the Central Precinct within the wider DSP area, it is not possible to provide new long distance links for travel throughout the DSP area. Despite this, the CPLSP provides for a connected road network that ensures legible district wide connections that aim to complement and provide consistency to adjacent LSPs and the DSP area. The CPLSP does not have direct frontage to strategic roads in the area; instead access is gained via the higher order road network development with the DSP, together with connections to and through the adjacent LSP areas.

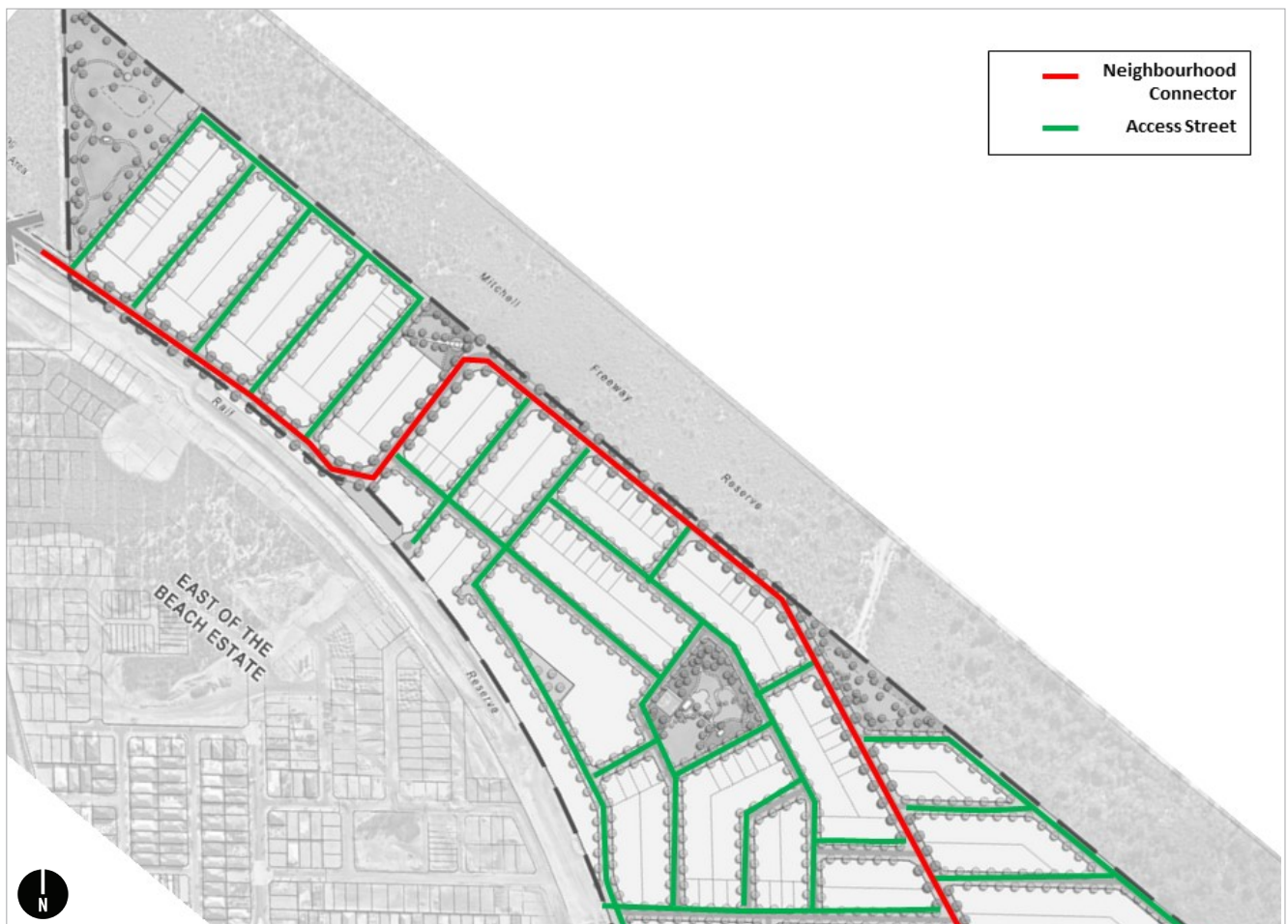


Figure 15 - Road Hierarchy Plan

Source: Stantec

A total of four access points are provided for connecting to surrounding and existing development areas. Of the four access points, three provide through-roads to the Shorehaven development to south providing good connection to the future Alkimos Drive, which in turn will provide access to Marmion Avenue and Mitchell Freeway.

The CPLSP area comprises a network of roads including a number of local access roads and laneways, as well as a Neighbourhood Connector running south-east to north-west. The CPLSP links to Shorehaven at three locations, at Scotthorn Drive and Buchanan Avenue, and at least one minor road between the two.

Road reserves and street cross sections are provided in accordance with the standards set out in Liveable Neighbourhoods as follows:

- Neighbourhood Connector = 18m – 24.4m
- Local Access Road = 14.2m – 15m
- Laneway = 6m – 6.4m

#### [3.6.2.1 North-South Neighbourhood Connector](#)

The Neighbourhood Connector (NC) (refer Figure 16) provides a link between Scotthorn Drive in Shorehaven to the south through to the future Eglinton Estates development in the north. The NC will also provide residents with access to the future Alkimos Drive interchange on the Mitchell Freeway.

The NC has been designed to accommodate on-street cycle lanes and has been located in a way that minimises the impact of the street on the surrounding residents by co-locating the NC with both the Freeway Reserve in the central section and the rail reserve in the north. By locating the NC in this manner it avoids running a higher order street through the centre of the development and assists in delivering pedestrian friendly, safe streets on the local streets within the precinct.

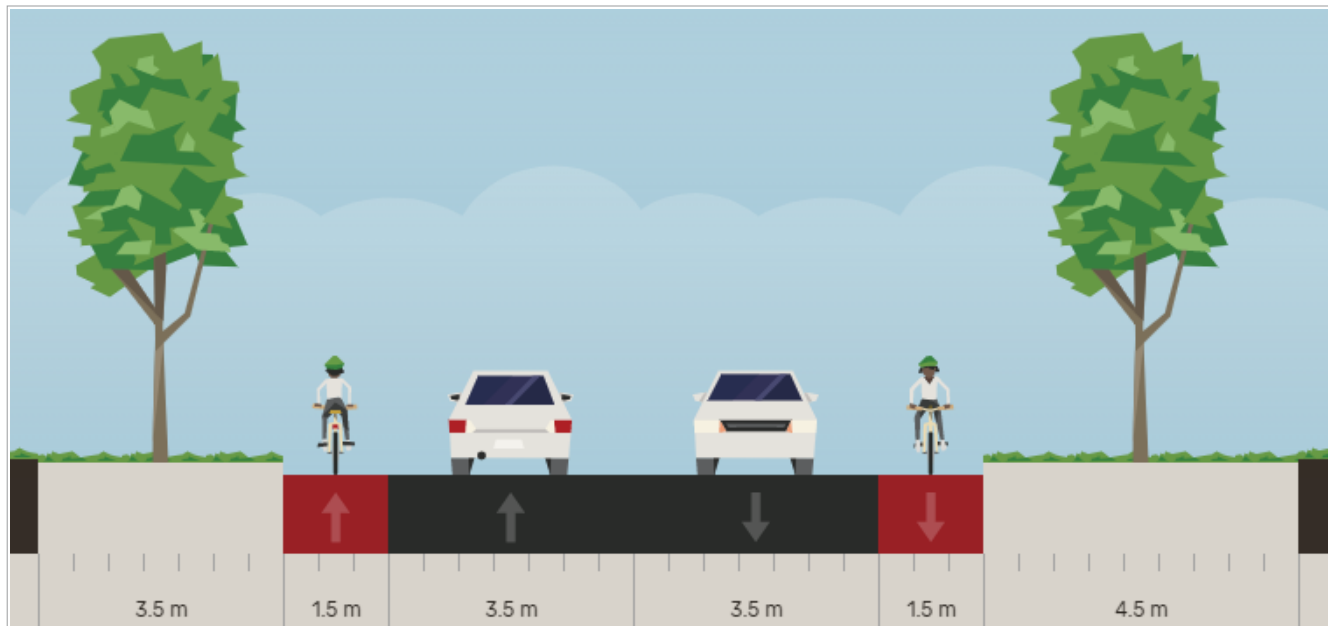


Figure 16 - Indicative Neighbourhood Connector Road Typologies (18m Wide Reserve)

Source: Stantec

### *Pedestrian and Cycle Networks*

The CPLSP facilitates a safe and convenient pedestrian and cycle movement through the provision of indirect through vehicle routes and landscaped environments, as detailed in the Transport Impact Assessment.

The key principles for determining the hierarchy of pedestrian and cycling facilities is as follows:

- A minimum of a shared path on all Neighbourhood Connector roads, with on-road cycles provided where relevant; and
- A minimum of one footpath on all Access Streets with a path on both sides for key roads.

These principles are in line with the City of Wanneroo's Bike Plan document, "Cycle Wanneroo". Additionally, footpaths will be provided in accordance with Liveable Neighbourhoods. Their application will be confirmed and refined as part of further planning at the detailed design stages.

### *Public Transport*

The CPLSP is planned to be serviced by the proposed extension of the railway line from Butler to Yanchep, via Alkimos and Eglinton directly adjoining the western boundary of the site. The DSP proposes railway stations at Eglinton, approximately 1.5km north of the CPLSP area, and at Alkimos City Centre, approximately 2.5km to the south.

Locally, the operation of bus services on Marmion Avenue in the vicinity of the CPLSP will continue, with further stops added as the area develops. The proposed walking network provides good access links to Marmion Avenue via the Western Precinct LSP to access these services.

### 3.6.3 Assessment of Traffic Impact

The CPLSP road network has been guided by the DSP, adjoining LSP's and Liveable Neighbourhoods. The following section summaries traffic impacts for existing and proposed network and demonstrates that the expected traffic volumes can be accommodated within the planned road network.

Traffic modelling has been based on the following land use assumptions:

- 470 residential dwellings

A trip generation ratio of 8 trips per day and 0.8 trips per peak hour per dwelling has been applied, consistent with the WAPC Guidelines. The traffic generation expected from the 470 residential dwellings is 3,760 vehicle trips per day which will be distributed through the four key access intersections.

The majority of vehicle movements (80%) will be through the southern portion of the site to gain access to the future Alkimos Drive via Scotthorn Drive and two other local access roads. The remainder of vehicle movements are distributed to the north to adjoining local structure plans to/from Eglinton Drive. Vehicle movements on the internal and external street networks do not exceed the maximum capacities set out in Liveable Neighbourhoods.

It is noted that there will not be a rail crossing between the CPLSP area and the adjoining WPLSP, with access to be taken via the future Alkimos Drive connection to the south and then north via Scotthorn Drive. As development progresses to the north of the site, connection will ultimately be provided via Eglinton Drive.

Traffic generated by this area and other existing and planned road networks have been included in the Traffic Impact Assessment and it is expected the external traffic generation can be adequately accommodated on the future planned external road network.

### 3.7 Noise Management

A Transportation Noise Assessment has been prepared by Lloyd George Acoustics in support of the CPLSP.

This document assesses the impacts of the future Yanchep passenger rail line along the western boundary of the site and the future Mitchell Freeway extension along the eastern boundary of the site. The Transport Noise Assessment has been prepared in accordance with *State Planning Policy 5.4 – Road and Rail Noise (SPP5.4)*.

As neither the railway nor the freeway has been constructed, measurements of the existing noise levels have not been considered. Instead, the assessment is based on computer modelling, specifically SoundPLAN 8.2.

The assessment concludes that future transport noise impacts generated by road and rail can be managed through the implementation of noise mitigation measures and satisfy the requirements of *SPP5.4*. These are summarised as follows:

- Construction of a noise wall ranging in height between 2.5m and 3m along the rail reserve boundary to the west, with the exception of the northern portion of the rail reserve immediately adjoining a road. All development along this facade achieves noise levels below the target criteria
- Construction of a noise wall ranging in height between 2.5m and 4m, along the primary regional road reserve to the east, with the exception of a small break along the portion adjoining the POS site, to be solid, free of gaps. Quiet House Design packages are required for some lots and applicable to ground and upper floors (refer Figure 17);
- All affected lots are to include façade protection measures via Quiet House Design Packages A, B and C; and
- Notifications on titles for affected lots as required under *SPP5.4*.

Final details regarding wall heights and applicable house design packages will be confirmed at detailed design.

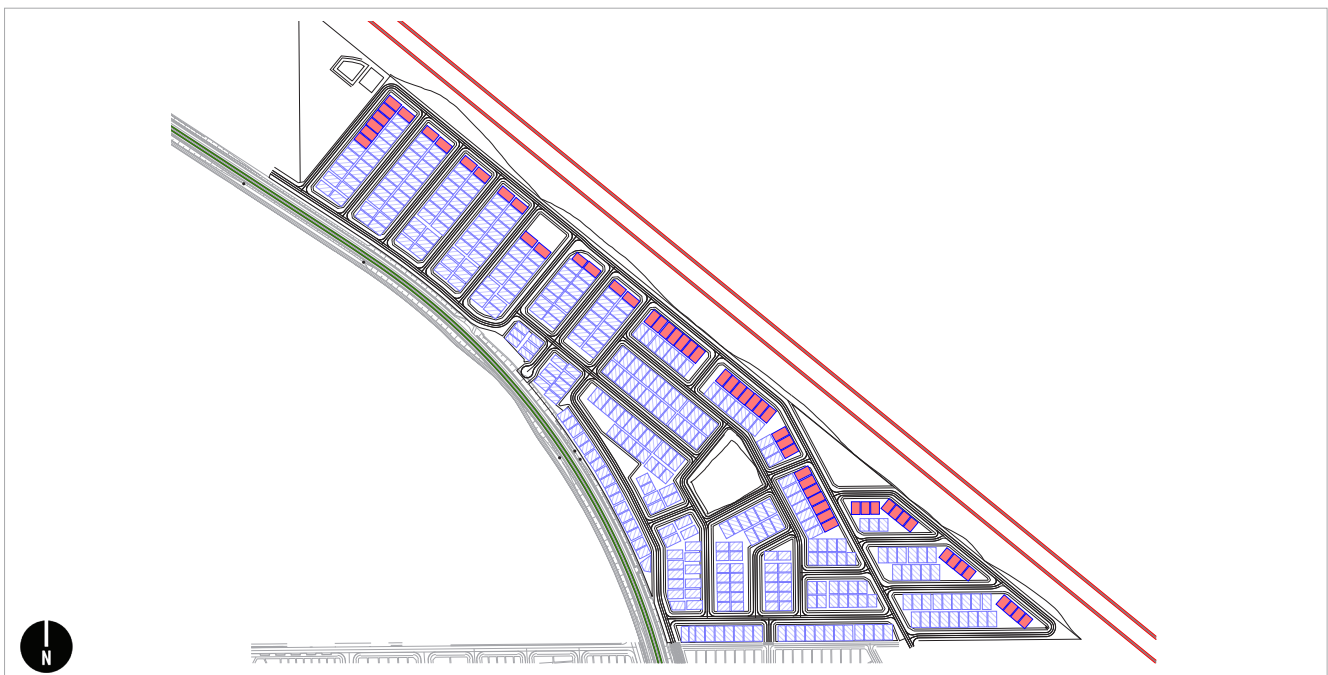


Figure 17 - Noise Façade Treatments

Source: Lloyd George Acoustics

### 3.8 Educational Facilities

The CPLSP is well serviced by existing and planned education facilities as established by the AEDSP. The AEDSP has located each school centrally located within its surrounding catchment.

To the west of the CPLSP and immediately west of the Western Precinct LSP within the Eglinton LSP (LSP 82) a 4.0ha public primary school has been designated. To the south of the CPLSP within the Central Alkimos LSP (LSP 95) a 4.0ha public primary school site has also been identified. The CPLSP provides an important catchment to both planned primary schools, with future subdivision plans to provide direct access to future schools, as demonstrated by the Concept Plan.

Pre-lodgement liaison has been undertaken with the Department of Education (DoE) regarding the details and timing for lodgement of the CPLSP and the DoE has provided its in principle support of the proposal. As part of this process, a meeting with the DoE took place in November 2020 to discuss school catchment areas, and future residential yields within the site and in proximity.

The DoE has indicated in pre-lodgement discussions that there may be enough demand, based on forecast residential yields for an additional primary school. The DoE has acknowledged in these discussions, that given its limited catchment and access (by virtue of the freeway reserve to the east of the site and rail reserve to the west of the site), the CPLSP does not present an ideal location for a future primary school, should future demand generate the need for an additional primary school. Accordingly there are no school sites proposed within the CPLSP.

### 3.9 Centres

The AEDSP provides a network of planned activity centres to service the retail, commercial and service the needs of the residential community. The Alkimos Secondary Activity Centre is located south of the CPLSP area whilst the Eglinton District Centre is planned north-west of it, catering for higher order services and amenities. Together these centres are expected to service the majority of commercial needs of the CPLSP community and accommodate recreational and community facilities also.

### 3.10 Infrastructure Coordination, Servicing and Staging

An Engineering and Servicing Report has been prepared by Cossill & Webley Consulting Engineers to demonstrate that the land is capable of accommodating residential development and a logical extension of infrastructure within the CPLSP area. The Engineering Report is provided at Appendix 8. The following summarises key conclusions from the report:

#### 3.10.1 Earthworks Strategy

Siteworks are expected to involve clearing of the urban portions of the site (excluding areas in which vegetation has been identified for retention) and earth working ground levels to accommodate future development. This approach allows for the potential retention of vegetation within the large central area of public open space, tying into existing and proposed levels of Shorehaven Estate to the south, maintaining a level at or above (average of 3 metres separation) to the proposed rail design levels to the west and future freeway design levels to the east to optimise noise considerations.

An investigation of Karst risk has been undertaken by CMW Geosciences to confirm the suitability of the site for development, the likelihood of karst presence, and appropriate responses to this. This investigation has confirmed the risk of karst collapse is negligible within the site where karst risk may occur in areas of deep fill (greater than 10m). CMW's assessment recommends the treatment of karst risk through fill and further geotechnical site investigation prior to future development.

### [3.10.2 Sewer](#)

The southern portion of the CPLSP site is to be serviced by a connection to the existing sewer reticulation network located within the Shorehaven Development south of the site. This eventually will gravitate via the existing Alkimos WWPS (Waste Water Pumping Station) No 59 to the Alkimos Wastewater Treatment Plant (WWTP) located south-west of the site.

The investigation undertaken by Cossill and Webley Consulting Engineers has outlined that a small WWPS (Alkimos WWPS "P") will be required to be constructed to service the northern portion of the CPLSP area. The intent is for this to gravitate into the proposed sewer reticulation network within the southern portion of the CPLSP area.

### [3.10.3 Water Supply](#)

A Water Corporation DN700 trunk main has been installed along Marmion Avenue to Shorehaven Boulevard providing for extension of water reticulation to the site. A proposed DN200 water main link to the west across the rail line will provide a logical water supply connection to the CPLSP area. Alternatively, the existing DN250 water main to the south could be extended to service the site. Areas of urban development will be serviced by a network of distribution water mains, from the reservoir, connected to the reticulation network.

The Water Corporation has long term distribution network planning for additional higher order trunk lines through the district to support the continued growth of the DSP area. This is to include the construction of a DN900 water main in Romeo Road (Alkimos City Centre), linking a DN1200 main in east Romeo Road with the other trunk distribution mains south into Butler. The balance of the trunk main network will be progressively extended by the Water Corporation directly or through Developer Constructed works under a pre-funding agreement.

The site (and majority of the Alkimos Eglinton area) is within a ground water source area identified by the Water Corporation.

### [3.10.4 Gas](#)

The existing high pressure gas network has recently been extended along Marmion Avenue from Butler to Yanchep by Atco Gas. This has been designed to service the development corridor including the Alkimos Eglinton DSP area, and the CPLSP area.

Gas supply through the CPLSP area will be provided and funded by Atco Gas concurrent with other service installation.

### [3.10.5 Power](#)

Power supply is available from the Yanchep Zone Substation at the intersection of Romeo Road and Wanneroo Road via an existing 22kV high voltage underground power cable in the eastern verge of Marmion Avenue.

There is also an existing overhead power cable that runs from the Yanchep zone substation north in Wanneroo Road and west on Pipidinny Road.

It is expected that the new Eglinton zone substation (currently shown south of Eglinton Drive and between the Railway reserve and the Mitchell Freeway reserve but a site has not been acquired by Western Power) will need to be established to accommodate the growth of new and existing loads in the region. Due to factors such as changing energy use, more efficient appliances, and emerging technologies, the timing of the substation is uncertain and is expected to be beyond the next 10 years. A series of HV feeds, switch stations and transformers will be required throughout the site to meet individual site requirements.



### 3.10.5.1 Transmission Powerline

The Alkimos Eglinton District Structure Plan depicts an indicative location for the extension of a 132kv transmission line to supply a new zone sub-station with the area. At the time that the AEDSP was endorsed, the indicative location for this infrastructure was within the Service Commercial area between the rail line and the freeway reserve as agreed with Western Power. Since this time, a large part of the Service Commercial land has been replaced by residential land. The CPLSP has been modified in its entirety from Service Commercial to Residential since the adoption of AEDSP Amendment 2.

Specifically the AEDSP provides that:

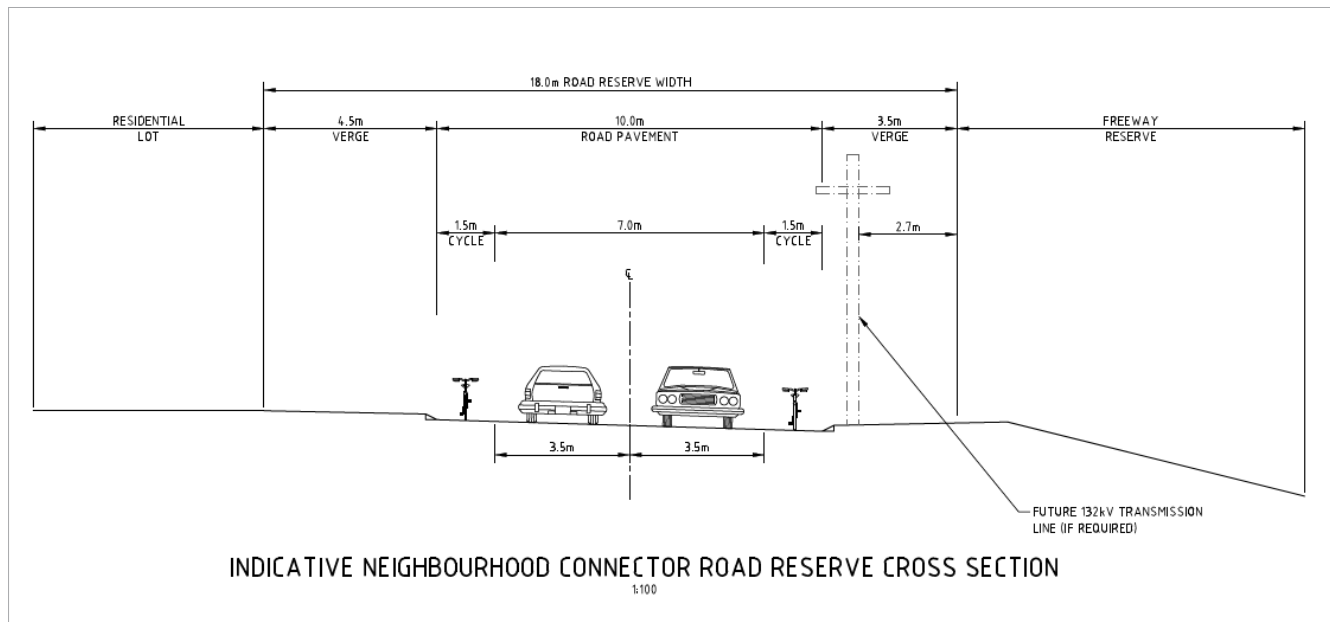
*A key objective of the development planning is to maximise the amenity of the residential and commercial areas through good urban design, adopting Liveable Neighbourhood principles. It is considered that this would be put at risk if unsightly, overhead transmission line were installed through the area. The transmission lines comprise very high, large diameter poles which would be very much out of scale with urban development.... At this stage it is envisaged that the transmission line would be located alongside the western boundary of the Mitchell Freeway reserve, either within a local frontage road or within a services corridor. Discussions are being held with WPC and MRWA regarding potential for easements to overlap the Freeway Reserve.*

The CPLSP provides an indicative location for this potential future infrastructure. In recent discussions with Western Power, as part of the preparation of the CPLSP, Western Power indicated that it would consider an alternative location for this infrastructure, supported by the necessary documentation and process. Western Power acknowledged that the current location as shown on the AEDSP is not ideal given the residential context and the potential for the sterilisation of residential land given the easement width requirements for this type of infrastructure. This position is somewhat consistent with the AEDSP objectives. Furthermore, Western Power indicated that alternative locations could be investigated, including co-location of infrastructure within the freeway reserve or relocating the infrastructure along Wanneroo Road, subject to all relevant agency agreement. Western Power also indicated that due to changes to community behaviour and the generation of solar energy this infrastructure may not ultimately be necessary.

Importantly, the relocation of this infrastructure is consistent with the overarching State policy framework as per Perth&Peel@3.5million. This key policy frameworks references an expectation that servicing agencies will work collaboratively to maximise shared infrastructure corridors and sites, as per Section 2.7 of the document.

Reflective of this agency liaison, the location of the transmission powerline has only been shown indicatively on the CPLSP. In the event that a more appropriate location for this infrastructure is determined with agreement from relevant agencies, there may be some refinement to the location of the Neighbourhood Connection to shift it westward to support residential land on both sides of this key road.

Given the siting of this infrastructure is likely to be considered beyond the endorsement of the CPLSP, refinement of the key design elements in response to any changes to the need or siting of the transmission infrastructure, should be permitted as part of subdivision design and a future subdivision application, and not warrant the need for a structure plan amendment.

**Figure 18 - Cross-section***Source: Cossill & Webley*

Further detail regarding the siting of the potential future transmission powerline can be found in Appendix 8 – Engineering and Servicing Report. A indicate cross-section has also been prepared to demonstrate the possible siting of this infrastructure and its interface to the CPLPS and freeway reserve.

### [3.10.6 Telecommunications](#)

The site is within the National Broadband Network (NBN)'s fixed line footprint and hence will be serviced under that agency's roll-out scheme for optic fibre. The developer will be responsible for installing pit and pipe infrastructure that can accommodate the fibre, of with which NBN will provide. Subsequent broadband services can be provided by either NBN or an alternative service provider, enabling access for all lots to a high speed telecommunications network.

The design of road reserves, pavement and verge provisions will ensure adequate allowance for services including broadband, which will be accommodate at detailed subdivision stage.

### [3.10.7 Development Staging](#)

The staging of the development will be strongly influenced by market forces. Whilst conceptual staging is still being refined, initial stages of the development will commence from southern end of the site adjoining Shorehaven, where utilities are already available in the immediate vicinity. Subsequent stages are likely to continue in a northward direction.

## 3.11 Developer Contributions

Developer Contributions will be levied as a condition of subdivision under the provisions of the City of Wanneroo's District Planning Scheme No. 2 Development Contribution Area No.1 provisions. The contributions cater for the provision of range of district recreational and community facilities as outlined in Schedule 15 of the City's District Planning Scheme. The contributions are calculated based on m<sup>2</sup> rate rather than number of lots created.



**CLE** Town Planning + Design

2 ABBOTSFORD STREET WEST LEEDERVILLE, WA, 6007

PO BOX 796, SUBIACO WA 6904

[ADMIN@CLEPLAN.COM.AU](mailto:ADMIN@CLEPLAN.COM.AU)

+61 8 9382 1233