CENTRAL ALKIMOS
LOCAL STRUCTURE PLAN NO.95

AUGUST 2023

ENDORSED VERSION (AMENDMENT 03)

HATCH | RobertsDay

DevelopmentWA lendlease

Title:	Central Alkimos Local Structure Plan
Project:	Central Alkimos
Prepared for:	DevelopmentWA + Lend Lease
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Version:	M
Date of Release:	AUGUST 2023
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This structure plan is prepared under the provisions of the City of Wanneroo District Planning Scheme No.2

IT IS CERTIFIED THAT THIS STRUCTURE PLAN WAS APPROVED BY RESOLUTION OF THE WESTERN AUSTRALIAN PLANNING COMMISSION ON: 6 FEBRUARY 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

6 February 2017

Date

Date of Expiry: 6 FEBRUARY 2034

TABLE OF AMENDMENTS

Amendment No.	Summary of the Amendment	Amendment Type	Date Approved by WAPC
01	Amend Part 1 by: 1. Replacing Table 1 Strategic Local Public Open Space; 2. Replacing Plan 1 Local Structure Plan to show amendments to Strategic POS and Neighbourhood Connectors.	Standard	02 September 2019
02	Amend Part 1 by: 1. replacing the existing Part 1 Plan 1 - Central Alkimos Structure Plan with the amended Plan 1. 2. **in**serting the following provision under Part 1, Clause 4.5 - 4.5 - Movement Network: *'c. Primary access from Alkimos Drive to the Mixed Use, Commercial and Business zoned lots is to be provided via service roads to the satisfaction of the City. The access is to ensure that customers, residents and visitors can suitably access the lot boundaries fronting Alkimos Drive in accordance with Figure 12: Integrator A (boulevard 70km/hr) cross section and Requirement 67 (Service Roads) of Liveable Neighbourhoods.'* 3. **in**serting the following provision under Part 1, Clause 5 - Local Development Plans: h R40 and R60 coded terrace lots, to facilitate the delivery of as-of-right two storey dwellings with walls on both side boundaries. Amend Part 2 by: 1. replacing existing Part 2 Figure 15 - Master Plan with the amended Figure 15. 2. replacing existing Part 2 Figure 18 - Road Hierarchy with the amended Figure 18. 3. modifying other existing figures/plans, and texts where required in Part 2 Section 3 - Local Structure Plan, to reflect all the changes proposed above. 4. adding Addendum - Traffic Impact Analysis: Technical Notes (GTA dated 11 May 2020) to Appendix E Traffic and Movement Network Report.		18 October 2021
03	Amend Part 1 by replacing the existing Part 1 Plan 1 - Central Alkimos Structure Plan with the amended Plan 1. Amend Part 2 by: 1. replacing existing Part 2 Figure 15 - Master Plan with the amended Figure 15. 2. modifying other existing figures/plans, and texts where required in Part 2 Section 3 - Local Structure Plan, to reflect all the changes proposed above.		09 August 2023

SUMMARY TABLE

Item	Data	Structure Plan Ref (section no.)
Total area covered by the structure plan	267ha	Section 1.2.2
Area of each land use proposed: • Residential • Commercial • Mixed Use • Business • Education	 57ha 0.75ha 4.0ha 4.5ha 15.8ha	Section 3.1
Total estimated lot yield	1590 lots	Section 3.3
Estimated number of dwellings	1605 dwellings	Section 3.3
Estimated residential site density	28du/ha (gross)	Section 3.3
Estimated population	4650	Section 3.3
Number of high schools	1	Section 3.6
Number of primary schools	1	Section 3.6
Estimated commercial floor space	2500m^2 (retail NLA)	Section 3.7
Estimated area and percentage of public open space given over to: • Regional Open Space • District Open Space • Neighbourhood/local parks	 100.4ha (37%) 10.7ha (4%) 16.7ha (6%)	Section 3.7
Estimated percentage of natural area	38%	Section 3.2

PART ONE
IMPLEMENTATION SECTION

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1.0 Structure Plan Area

This Structure Plan shall apply to Lot 9501 Marmion Avenue, Alkimos being the land contained within the inner edge of the line denoting the boundary on the Structure Plan Map.

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

Development of the site will commence upon issue of subdivision approval. Staging of development will rely on key development parameters, primarily relating to:

a. The construction of Mitchell Freeway extension to the Alkimos Drive interchange.

4.0 Subdivision and Development Requirements

4.1 Land Use Zones and Reserves

Land Use permissibility within the Structure Plan area shall be in accordance with the Structure Plan Map and corresponding Zones and Reserves under the Scheme.

4.2 Reports/Strategies Required Prior to Subdivision

Prior to the lodgement of subdivisions the following management plans are to be prepared, as applicable, to the satisfaction of the relevant authority and provided at the time of subdivision:

a. Vegetation and Fauna Management Plan (including the identification of areas of public open space that will be replanted with native species equating to a minimum of 3% of the required 10% public open space contribution) (City of Wanneroo, on the advice of DEC).
b. Updated Bushfire Management Plan in accordance with State Planning Policy 3.7 Planning in Bushfire Prone Areas (City of Wanneroo, DFES)
c. Public Open Space Schedule prepared in accordance with Liveable Neighbourhoods (City of Wanneroo, WAPC)
d. Average Residential Density Plan to demonstrate progress towards achieving an average density coding of R25 (City of Wanneroo, WAPC)
e. Environmental Management Plan in accordance with Minister for the Environment Statement 722 (City of Wanneroo, WAPC)

4.3 Conditions of Subdivision Approval

a. At the time of subdivision the following conditions may be recommended, as applicable, requiring the preparation and/or implementation of the following strategies:

   i. Urban Water Management Plan (City of Wanneroo, Department of Water)

   ii. Geotechnical Report (City of Wanneroo)

   iii. Conservation Management Plan (City of Wanneroo)

   iv. Acoustic Assessment (City of Wanneroo, Public Transport Authority, Main Roads WA)

   v. Fire Management Plan (City of Wanneroo, DFES)

   vi. Arrangements are to be made to the satisfaction of the Western Australian Planning Commission for the construction of Road Connection A as part of the subdivision of land once Alkimos Rail Station is operational and 15,000m2 of retail floor space has been constructed and in operation within the Alkimos City Centre.

   vii. Arrangements are to be made to the satisfaction of the Western Australian Planning Commission for the construction of Road Connection B as part of the subdivision of land once Scotthorn Drive is constructed from Alkimos Drive to the northern boundary of the Parks and Recreation reserve and Brindabella Parkway is constructed to its intersection with Scotthorn Drive.

4.4 Public Open Space

4.4.1 Local Public Open Space

The provision of a minimum of 10% public open space being provided in accordance with the WAPC's Liveable Neighbourhoods. Public open space is to be provided generally in accordance with Plan 1 and Table 1, with an updated public open space schedule to be provided at the time of subdivision for determination by the WAPC, upon the advice of the City of Wanneroo.

Table 1 : Strategic Local Public Open Space

STRATEGIC LOCAL POS SITES	SIZE (HA)	FUNCTION	MANAGEMENT RESPONSIBILITY
(A) Conservation	1.61	Conservation/Passive Recreation	City of Wanneroo
(B) Passive Recreation	5.3	Passive Recreation	City of Wanneroo

4.4.2 Strategic Regional Open Space

a. Strategic Regional Open Space is to be provided in accordance with Plan 1 and Table 2. Table 2 details the Strategic Regional Open Space within the LSP and the ultimate management responsibility. This open space is not to be included in the 10% public open space referred to in clause 4.4.1:

Table 2 : Strategic Regional Open Space

STRATEGIC LOCAL POS SITES	SIZE (HA)	FUNCTION	MANAGEMENT RESPONSIBILITY
(A) District Open Space	10.7	Active Recreation	City of Wanneroo
(B) Regional Open Space	20.3	Conservation/Passive Recreation	City of Wanneroo
(C) Regional Open Space	9.5	Passive Recreation	City of Wanneroo
(D) Regional Open Space	10.3	Passive Recreation	City of Wanneroo
(E) Regional Open Space	59.0	Conservation/Passive Recreation	Department of Parks and Wildlife

4.5 Movement Network

a. Where practical, residential development fronting Marmion Avenue is to be provided frontage access to service roads located outside of the Other Regional Roads reservation to provide suitable noise separation from Marmion Avenue.

b. Development fronting Marmion Avenue and Alkimos Drive is not permitted direct frontage access to these roads.

c. Primary access from Alkimos Drive to the Mixed Use, Commercial and Business zoned lots is to be provided via service roads to the satisfaction of the City. The access is to ensure that customers, residents and visitors can suitably access the lot boundaries fronting Alkimos Drive in accordance with Figure 12: Integrator A (boulevard 70km/hr) cross section and Requirement 67 (Service Roads) of Liveable Neighbourhoods.

4.6 Residential Design Code Variations

The City of Wanneroo's 'Variation to deemed-to-comply provisions of the R-codes – Medium-density single house development standards' Local Planning Policy (R-MD Codes LPP) sets out acceptable variations to the deemed-to-comply provision of the R-Codes for lots coded R25 – R60. The variations set out in the R-MD Codes LPP apply to this Local Structure Plan and thereby constitute Acceptable Development within the structure plan area.

CITY OF WANNEROO

Notwithstanding the provisions contained in this structure plan, the City of Wanneroo's Local Planning Policy 4.19: Medium Density Housing Standards (R-MD) ceases the effect of R-MD standards over lots coded R60 as of 10 April 2026. After this date, the provisions of the R-Codes will prevail over the R-MD standards for R-60-coded lots unless otherwise approved by the City of Wanneroo.

4.7 Residential Density

4.7.1 Dwelling Target

a. Objective:To provide for a minimum of 1605 dwellings within the Structure Plan area.

4.7.2 Density

a. Plan 1 defines the broad residential density ranges that apply to specific areas within the Structure Plan. Lot specific residential densities, within the defined residential density ranges, are to be subsequently assigned in accordance with a Residential Density Code Plan approved by the WAPC.

b. A Residential Density Code Plan is to be submitted at the time of subdivision to the WAPC and shall indicate the Residential Density Coding applicable to each lot within the subdivision and shall be consistent with the Structure Plan, and the Residential Density Ranges identified on Plan 1 and locational criteria contained in Clause 4.6.2.

c. The Residential Density Code Plan is to include a summary of the proposed dwelling yield of the subdivision.

d. Approval of the Residential Density Code Plan shall be undertaken at the time of determination of the subdivision application by the WAPC. The approved Residential Density Code Plan shall then form part of the Structure Plan and shall be used for the determination of future development applications. Variations to the Residential Density Code Plan will require further approval of the WAPC.

e. Residential Density Code Plans are not required if the WAPC considers that the subdivision is for one or more of the following:-

   i. the amalgamation of lots;

   ii. consolidation of land for "superlot" purposes to facilitate land assembly for future development;

   iii. the purposes of facilitating the provision of access, services or infrastructure; or

   iv. land which by virtue of its zoning or reservation under the Structure Plan cannot be developed for residential purposes.

4.7.3 Locational Criteria

The allocation of residential densities on the Residential Density Code Plan shall be in accordance with the following criteria:

a. RMD25 – R60
   i. A base density code of R25 is applicable for all residential lots except under the circumstances listed below;
   ii. R30 and R40 density should be provided;
      1. adjacent to public open space;
      2. fronting public transport routes; or
      3. within 400m of the neighbourhood centre.
   iii. R60 density should be provided:
      1. adjacent to public open space;
      2. fronting public transport routes;
      3. within 200m of a local or neighbourhood centre; or
      4. within 800m of the Alkimos Railway Station.

b. RMD 30 - R80
   i. Higher densities of R60 and R80 should be provided adjacent to public open space and the neighbourhood centre.
   ii. Medium density of R30 and R40 elsewhere.

4.8 Neighbourhood Centre

The retail floorspace (NLA) for the 'Commercial' zoned area is to be in accordance with Table 3.

Table 3 : Retail Floorspace Provision

CENTRE	MAXIMUM NET LETTABLE AREA
Neighbourhood Centre	2500m^2

5.0 Local Development Plans

Local Development Plans (LDP) shall be required, where applicable, as a condition of subdivision and shall be prepared in accordance with Clause 9.14 of the Scheme, for the following lots:

a. lots adjoining public open space;
b. lots affected by Fire Management Plan requirements;
c. lots affected by Quiet House Design requirements as identified in an approved Noise Management Plan;
d. lots that are zoned 'Mixed Use' (refer to clause 7.2);
e. lots that are zoned 'Business'; and
f. Neighbourhood centre site ('Commercial' zone). The LDP is to ensure that main street objectives are achieved;
g. any other lot which requires specific development standards as identified by the proponent, the City or the Western Australian Planning Commission; and
h. R40 and R60 coded terrace lots, to facilitate the delivery of as-of-right two storey dwellings with walls on both side boundaries.

6.0 Other requirements

6.1 Areas of National Environmental Significance

Areas identified as being of National Environmental Significance under the Environmental Protection and Biodiversity Conservation Act 1999 may be subject to assessment by the Federal Department of Sustainability, Environment, Water, Population and Communities, in accordance with this Act. Any conflict with this LSP arising from any such assessment must be resolved to the satisfaction of the City of Wanneroo and the Western Australian Planning Commission.

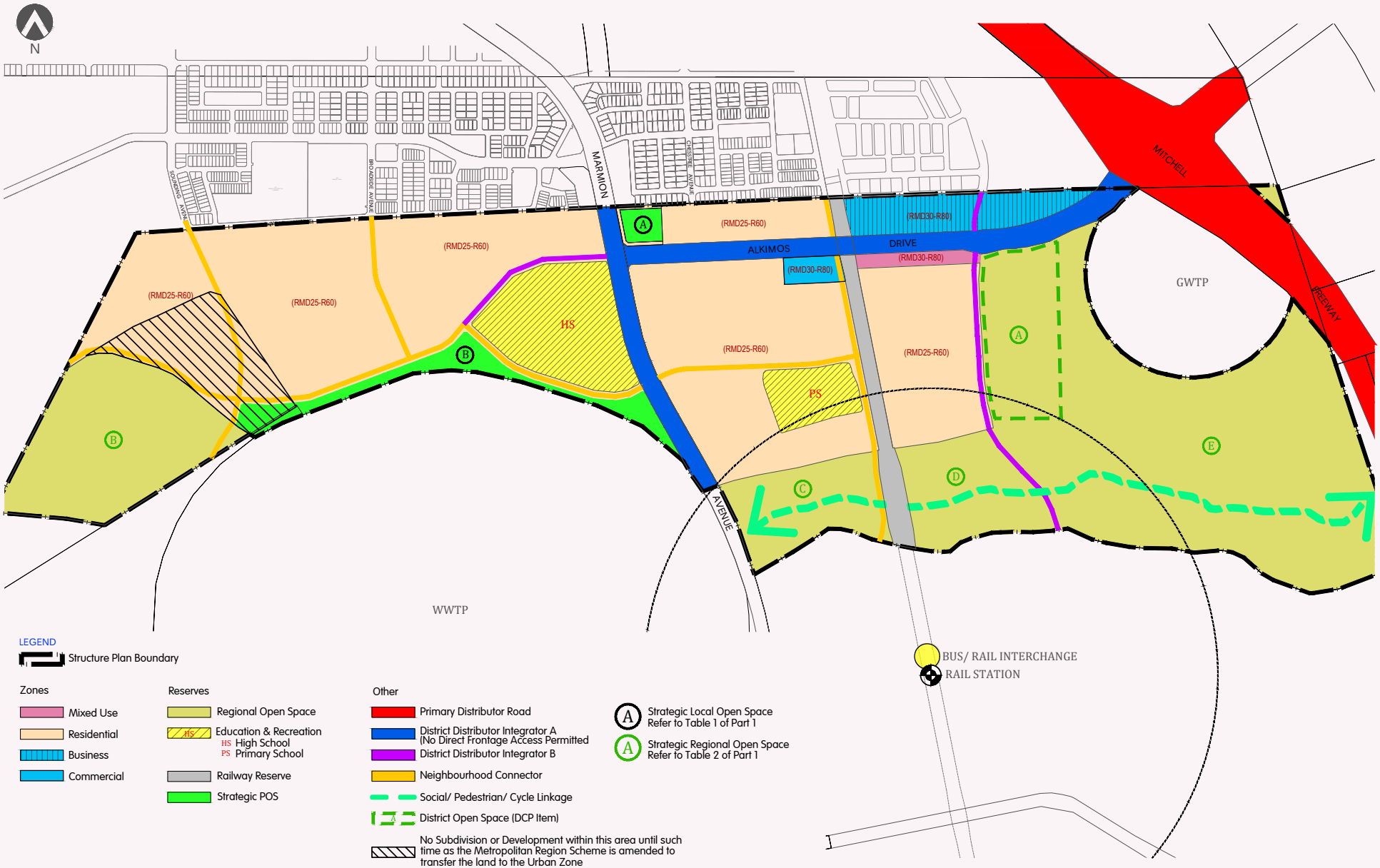
6.2 Alkimos-Eglinton District Structure Plan

The Alkimos-Eglinton District Structure Plan is subject to monitoring and review by the City of Wanneroo and/or the Western Australian Planning Commission commencing in 2017. Any amendments to the District Structure Plan may result in consequential amendments to the Local Structure Plan, which must be consistent with the District Structure Plan.

6.3 Employment Monitoring and Reporting

Monitoring of employment within the Structure Plan area will be undertaken annually during the development phase of the project and reported every five (5) years. The reporting will be made available to the City of Wanneroo, Department of Planning and other key government stakeholders in order to evaluate past performance and help set the best strategies and targets for future development activities.

Plan 1: Central Alkimos Structure Plan



PART TWO
EXPLANATORY SECTION

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Appendix B: Environmental Assessment and Justification Report (Emerge, August 2013)
Appendix C: Bushfire Management Plan (Don Spriggins, November 2012)
Appendix D: Aboriginal Heritage Management Plan (Ethnosciences, July 2012)
Appendix E: Traffic and Movement Network Report (Bruce Aulabaugh, November 2012) + Addendum - Traffic Impact Analysis: Technical Notes (GTA, May 2020)
Appendix F: Local Water Management Strategy (Emerge, November 2012)
Appendix G: Local Economic Strategy (RPS, August 2013)
Appendix H: Engineering and Servicing Report (Cossill and Webley, August 2013)
Appendix I: Environmental Sustainability Strategy (Lend Lease, May 2012)
Appendix J: Community Development Strategy (Arid Group, May 2012)

1.0 PLANNING BACKGROUND

1.1 Introduction And Purpose

The Central Alkimos Local Structure Plan (LSP) area is situated within the greater Alkimos – Eglinton District. The Alkimos – Eglinton District consists of a 2,660 hectare parcel of land located 40 km north-west of the Perth Central Business District.

The purpose of this LSP is to facilitate the subdivision and development of the subject site.

1.1.1 Vision

The vision for the LSP is to create a master-planned coastal community of global significance that's moving towards carbon-neutral living.

To achieve this, South Alkimos will be developed upon the following strategic themes:

- Green Energy
- Smart Water
- Connectivity
- Community Wellbeing
- Distinctive Design

Green Energy

Central Alkimos will explore the use of green energy to power the development. It is proposed to target a reduction in energy consumption across infrastructure delivery, land and built form development and commercial and domestic uses. The development will investigate the incorporation of renewable energy sources and energy efficient building design.

Smart Water

Central Alkimos will value water. It will challenge conventional thinking and work toward the implementation of an integrated water management system. Along with business and community this water strategy will focus on demand management, reuse, recycling and conservation initiatives.

Connectivity

Central Alkimos will be connected to a state of the art communications network and be a community focused, walkable and bicycle friendly development. It will be connected to employment opportunities in adjoining areas such as the Alkimos Secondary Centre and Neerabup and transit-oriented development principles will be applied supported by the potential of an extension to the northern rail line to the Alkimos Secondary Centre and supported by a local area transit system.

Community Wellbeing

Central Alkimos will be an outstanding place to live, learn, work and play. Affordability, diversity, availability of land supply and job creation is high on the agenda that values participation and place making. Central Alkimos will ensure the development of a community that fosters active citizenship, is safe and healthy with access to jobs, services and learning.

Distinctive Design

The design of Central Alkimos will capture the unique personality of its coastal location and the aspiration to a more dense, vibrant and flexible urban form that incorporates well-designed streetscapes, attractive and engaging public realm and the creation of outstanding public places for a wide variety of people and uses

1.1.2 Project Team

The LSP site is to be developed by DevelopmentWA and Lendlease.

Other members of the Project Team include:

• Lendlease	Project Management, Design and Sustainability
• Hatch RobertsDay	Statutory Planning and Urban Design
• Cossill + Webley	Civil Engineering
• RPS	Commercial/Retail Analysis
• Emerge	Environment + Hydrology
• Bruce Aulabaugh and Stantec	Traffic
• Herring Storer Acoustics	Acoustics
• Emerge and Associates	Landscape Architecture
• Ethnosciences	Aboriginal Heritage
• York Gum Services	Bushfire Management

1.2 Land Description

1.2.1 Location

Regional Context

The LSP site is located within the north-west sub-region of the Perth metropolitan area. The site is adjacent to the proposed Alkimos Secondary Centre and is located approximately 17 kilometres north of the Joondalup Strategic Metropolitan Centre and approximately 8 kilometres south of the Yanchep Strategic Metropolitan Centre.

Figure 1: Regional Context



District Context

The LSP site is located within the central portion of the Alkimos-Eglinton District. The Alkimos-Eglinton District Structure Plan (DSP) has been prepared to guide development of this 2626 hectare District which is proposed to create over 23,000 dwellings and house a population of approximately 57,000 residents. The DSP has been approved by the City of Wanneroo and endorsed by the WAPC.

Local Context

The land to the north is being developed for urban purposes, the land to the east is vacant but is reserved for a Water Corporation groundwater treatment plant and Mitchell Freeway extension, the land to south of the western side of Marmion Avenue is the Water Corporation waste water treatment plant and associated buffer, the land on the eastern side of Marmion Avenue is currently vacant but is the site of the Alkimos Secondary Centre. The foreshore reserve and Indian Ocean is located to the west of the site.

1.2.2 Area and Land Use

The site has a total land area of 267 hectares. The site is currently vacant.

1.2.3 Legal description and ownership

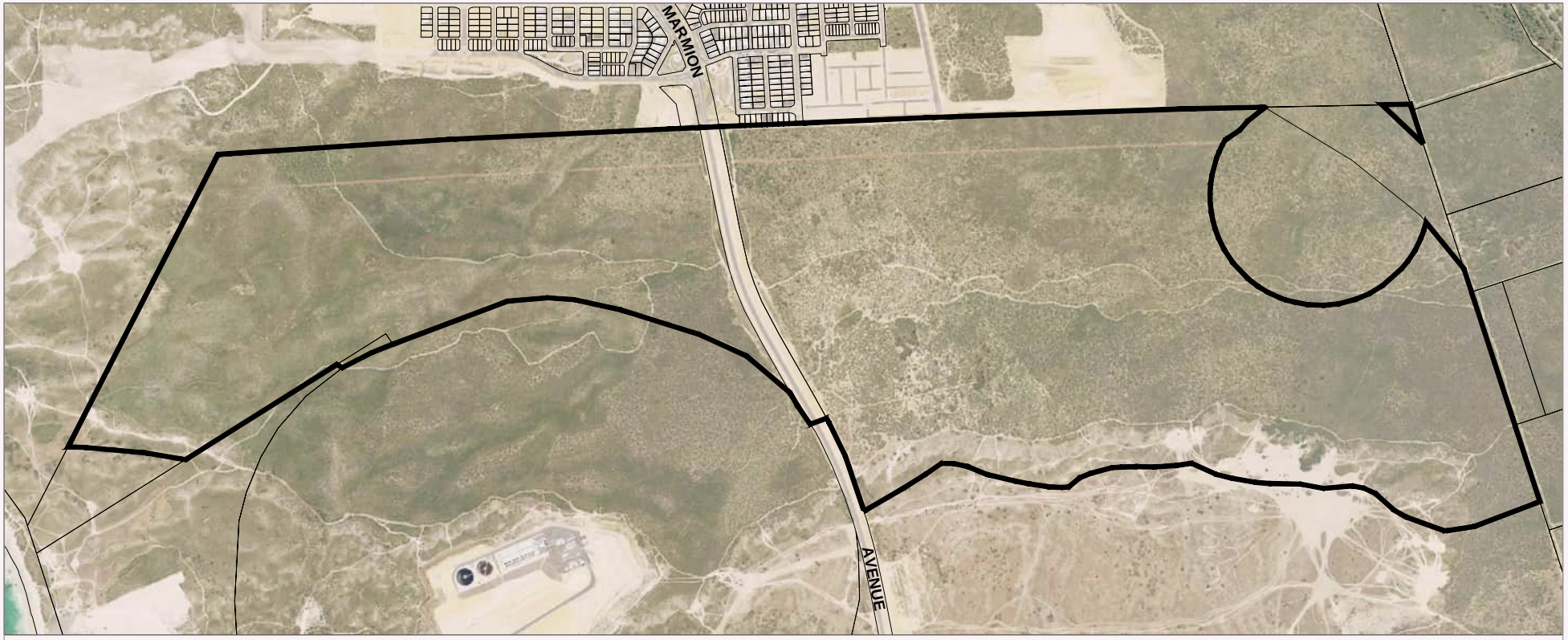
The LSP area comprises portion of Lots 9501 Marmion Avenue, Alkimos.

The legal description of the subject land is provided in Table 1. The location of these lots is shown at Figure 3.

Table 1 – Lot Details

Lot Number	Certificate of Title	Owner
9501	Volume 2819 Folio 691	Western Australian Land Authority

Figure 2: Site Plan



LEGEND

ALKIMOS CENTRAL BOUNDARY

1.3 Planning Framework

1.3.1 Zoning and Reservations

Metropolitan Region Scheme (MRS)

The current MRS zonings and reservations for the LSP area are shown in Figure 3.

The site is predominantly zoned Urban under the MRS, with a two areas reserved for Parks and Recreation, which form part of the east-west biodiversity corridor. The site is also dissected by Other Regional Roads reservations (Marmion Avenue and Alkimos Drive) and a Railways reservation.

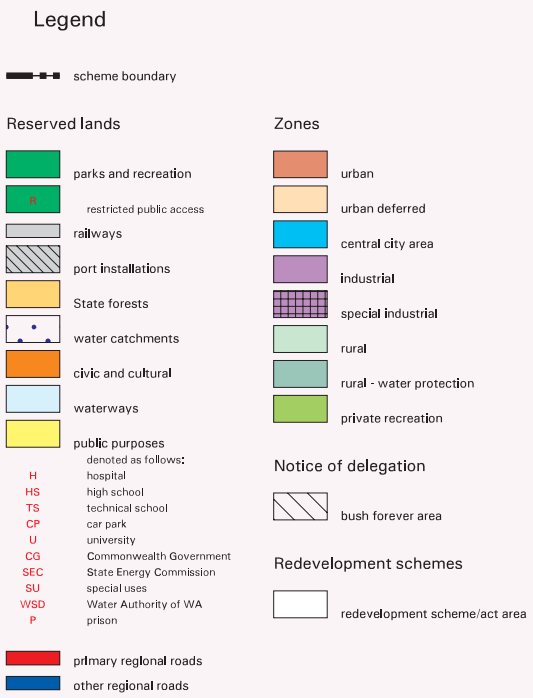
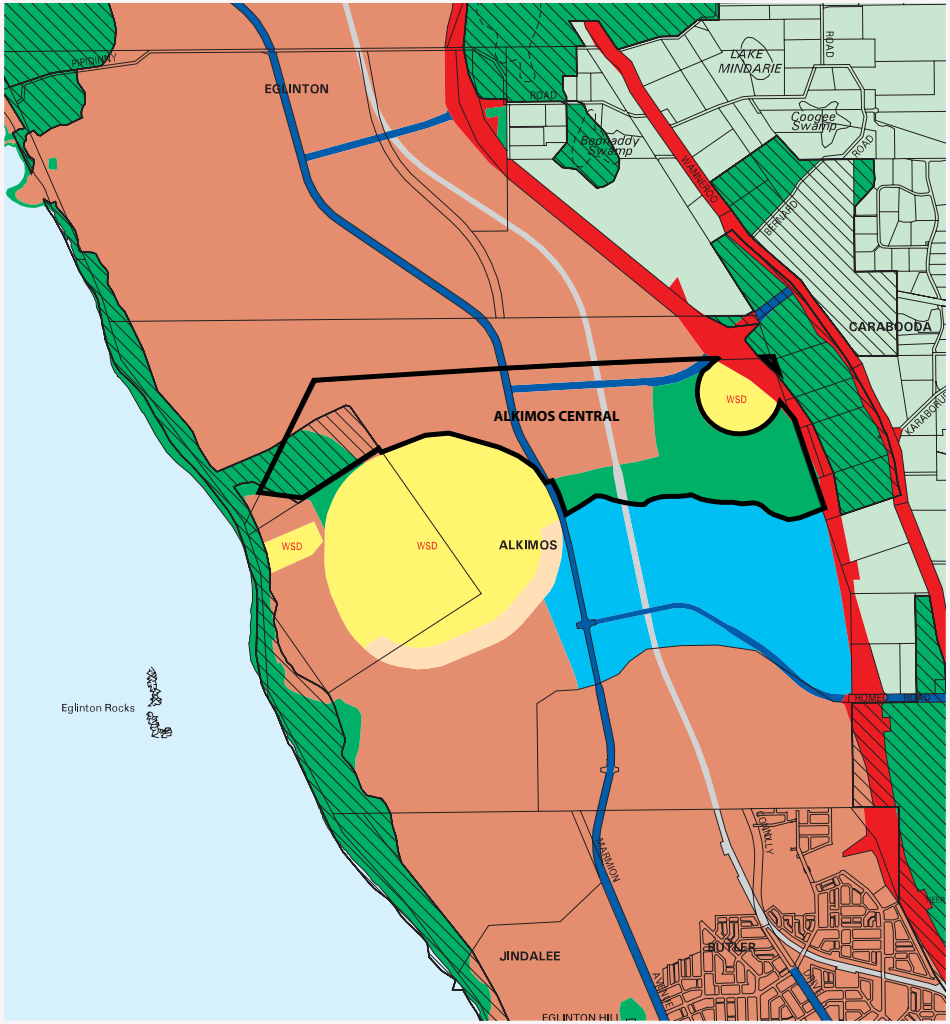


Figure 3: Metropolitan Region Scheme Zoning

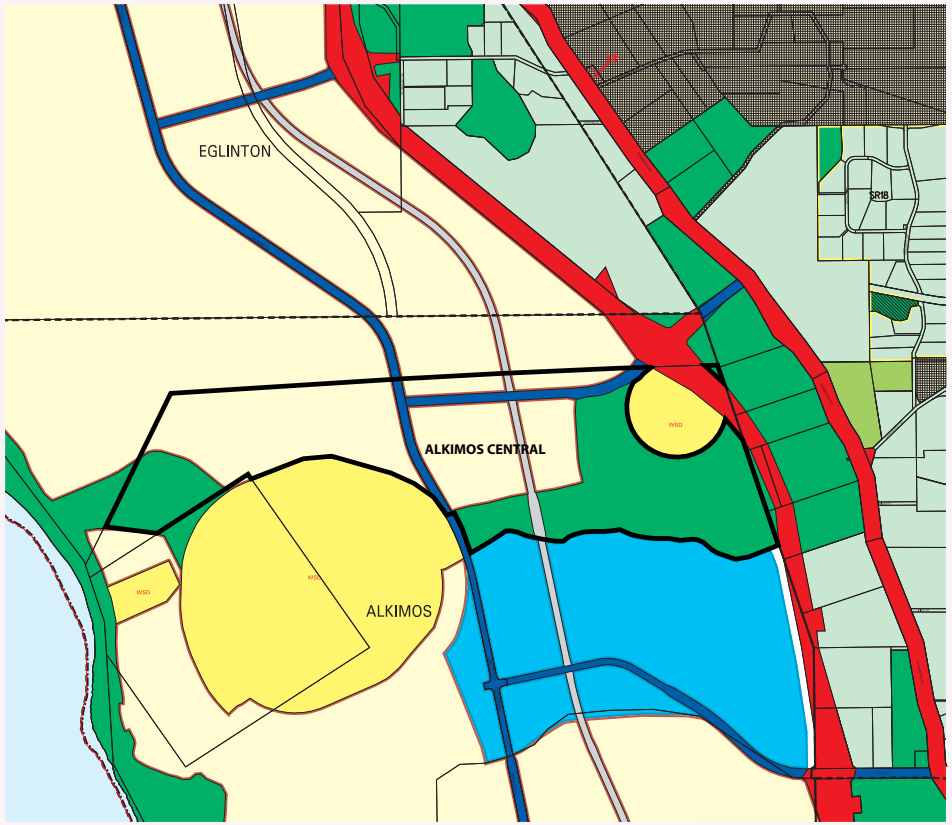


City of Wanneroo District Planning Scheme No. 2

The site is predominately zoned Urban Development with portions reserved for Parks and Recreation in accordance with the City of Wanneroo District Planning Scheme No. 2 (DPS2).



Figure 4: City Of Wanneroo District Planning Scheme No. 2 Zoning



1.3.2 Regional And Sub-Regional Structure Plans

North West Corridor Structure Plan (1992)

The North West Corridor Structure Plan (NWCSP) supersedes the 1977 North West Corridor Structure Plan. The 1992 Structure Plan is based on 60% self-sufficiency in employment. The Corridor is expected to ultimately house a resident population of 420,000 with a resident work force of 210,000 (or up to 500,000 if the Carabooda / Nowergup areas are developed).

These forecasts are substantially higher than those of the 1977 plan. The plan recognises that there will also be a need to provide around 152,220 jobs, of which 125,000 will be taken up by Corridor residents and 26,000 will be taken up by workers from outside the Corridor. The remainder of the resident workforce, an estimated 84,000, will commute to work outside the Corridor. WAPC is currently undertaking a review of the NWCSP with a number of studies being commissioned into retail, transport and environmental analysis.

Alkimos-Eglinton District Structure Plan (2010)

The subject land falls within the Alkimos Eglinton DSP area. The DSP has been adopted by the City of Wanneroo and endorsed by the WAPC.

The DSP provides a broad district level land use strategy defining the strategic planning framework for the project area. The DSP (report and plan) form the framework for more detailed Local Structure Planning over the duration of the project, which will be developed to reflect changing planning trends, demographics, community needs and market demands.

As part of the preparation of the Central Alkimos LSP and Alkimos City Centre Plan, LandCorp and Lend Lease, have been liaising with the Public Transport Authority (PTA) in respect to the location and design of the two rail stations identified in the Northern Suburbs Railway Alignment Definition (Alkimos to Yanchep) Alignment Definition Report (GHD, 2005) and the Alkimos-Eglinton District Structure Plan, that fall within their landholding. The two stations are identified as: Alkimos Town Centre (located within the Alkimos City Centre) and the Park and Ride Station at Alkimos Drive (located within Central Alkimos).

The PTA verbally advised that the Park and Ride Station at Alkimos Drive is no longer required and the park and ride facilities required to service the surrounding locality are to be provided in close proximity to the Alkimos Town Centre rail station. This advice has obvious implications in respect to the design of the Alkimos City Centre and Central Alkimos, including:

- The provision of park and ride facilities (e.g. four hectares of commuter parking) within the central core of a City Centre and its impact on the centre's form, function and land use distribution;
- The impact on residential density and mix of land uses around the currently proposed Park and Ride Station at Alkimos Drive;
- Traffic distribution; and
- Public transport routes.

In order to clarify this issue and to determine if the Park and Ride Station at Alkimos Drive was no longer required, a letter was sent to the Department of Transport (DoT). The DoT responded by letter advising that the station was no longer required. The following is an extract from the DoT's response signed by Steve Beyer (Acting Deputy Director General):

'I confirm that the North Alkimos station was not identified as a future station in the Public Transport Network Plan; and it will not be part of the master plan that is being prepared by the Public Transport Authority for the extension of the Northern Suburbs Railway to Yanchep.

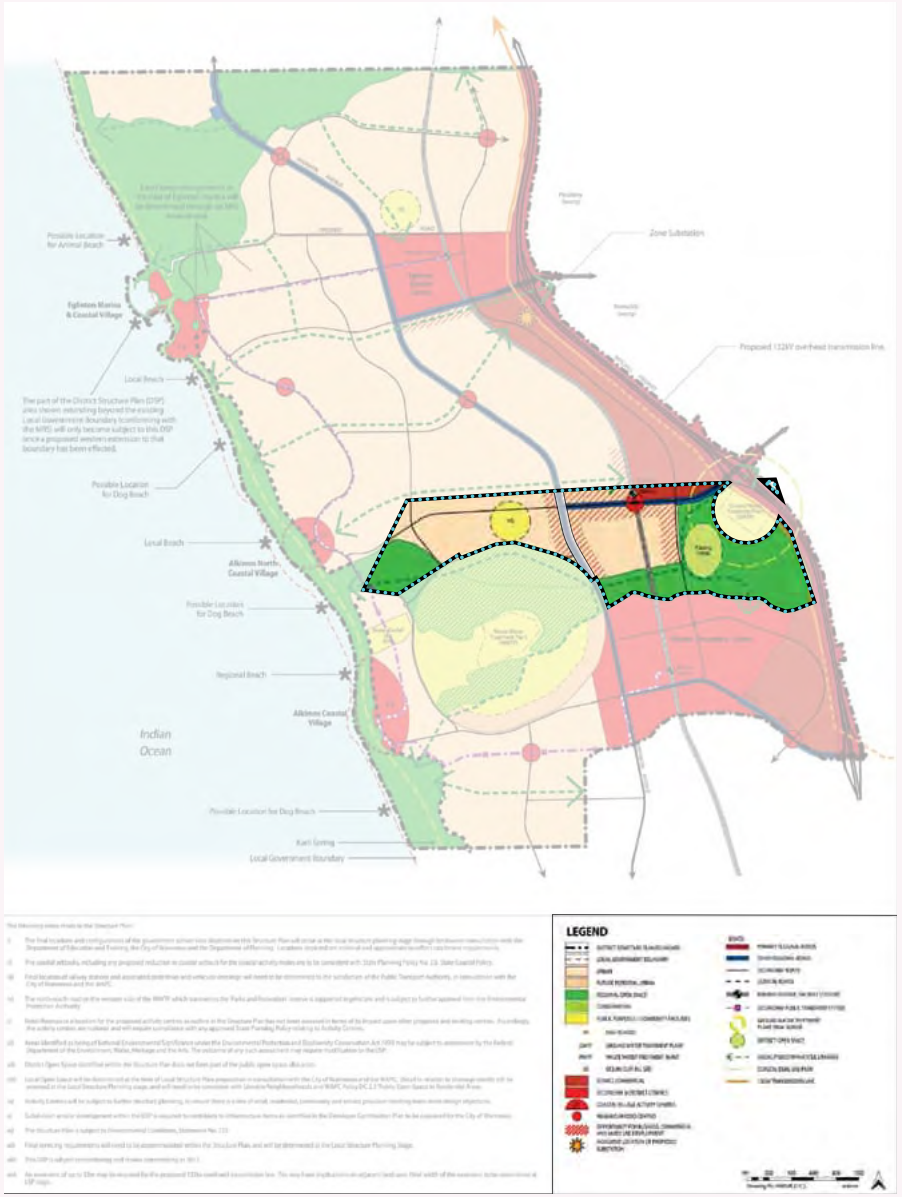
The removal of the North Alkimos (Alkimos Drive) station from the Alkimos-Eglinton District Structure Plan is therefore supported. However, the District Structure Plan will clearly need to continue to recognise and identify that major park and ride facilities will need to be located and practically incorporated into the planning, design and development of the Alkimos City Centre over the long term.'

Taking this advice into consideration it is proposed to remove any reference of the Park and Ride Station at Alkimos Drive from the DSP.

This LSP is consistent with the intent of the adopted DSP, with the general arrangement of land uses and infrastructure as depicted on the DSP Map, including proposed land uses, residential density targets, road hierarchy and linkages to surrounding existing and planned developments.

The DSP requires that at the time of lodgement of a Local Structure Plan, the proponent shall provide supporting information to demonstrate how the objectives and strategies detailed in Part 1 of the DSP have been addressed and the supporting information utilised to guide and inform the Local Structure Plan design. This supporting information can be found in Section 5.

Figure 5: Alkimos-Eglinton District Structure Plan



1.3.3 Policies

State Policies

State Planning Strategy (December 1997)

The State Planning Strategy (1997) was prepared by the WAPC as a whole of Government approach to guide sustainable land use planning throughout the State up until 2029. The Strategy is aimed at developing a land use planning system to help the State achieve a number of key goals. These include generating wealth, conserving and enhancing the environment and building vibrant and safe communities for the enjoyment of this and subsequent generations of Western Australians. The Strategy was last audited in 2000-2001.

Liveable Neighbourhoods (2007)

Liveable Neighbourhoods has been prepared to implement the objectives of the State Planning Strategy. It is an operational policy, adopted by the WAPC, for the design and assessment of structure plans and subdivision for new urban areas and large brownfield or urban infill sites in the metropolitan area and country centres.

Development Control Policy 1.6 Transit-Oriented Development (2006)

DC Policy 1.6 – Planning to Support Transit Use and Transit Orientated Development was released in January 2006 detailing the integration of public transport and land use. As the public transport system is further refined and extended, there are emerging opportunities for new developments that focus on and maximise the benefits of transit infrastructure.

The policy promotes the benefits of integrating land use and transit facilities. The objectives outlined in the policy are to:

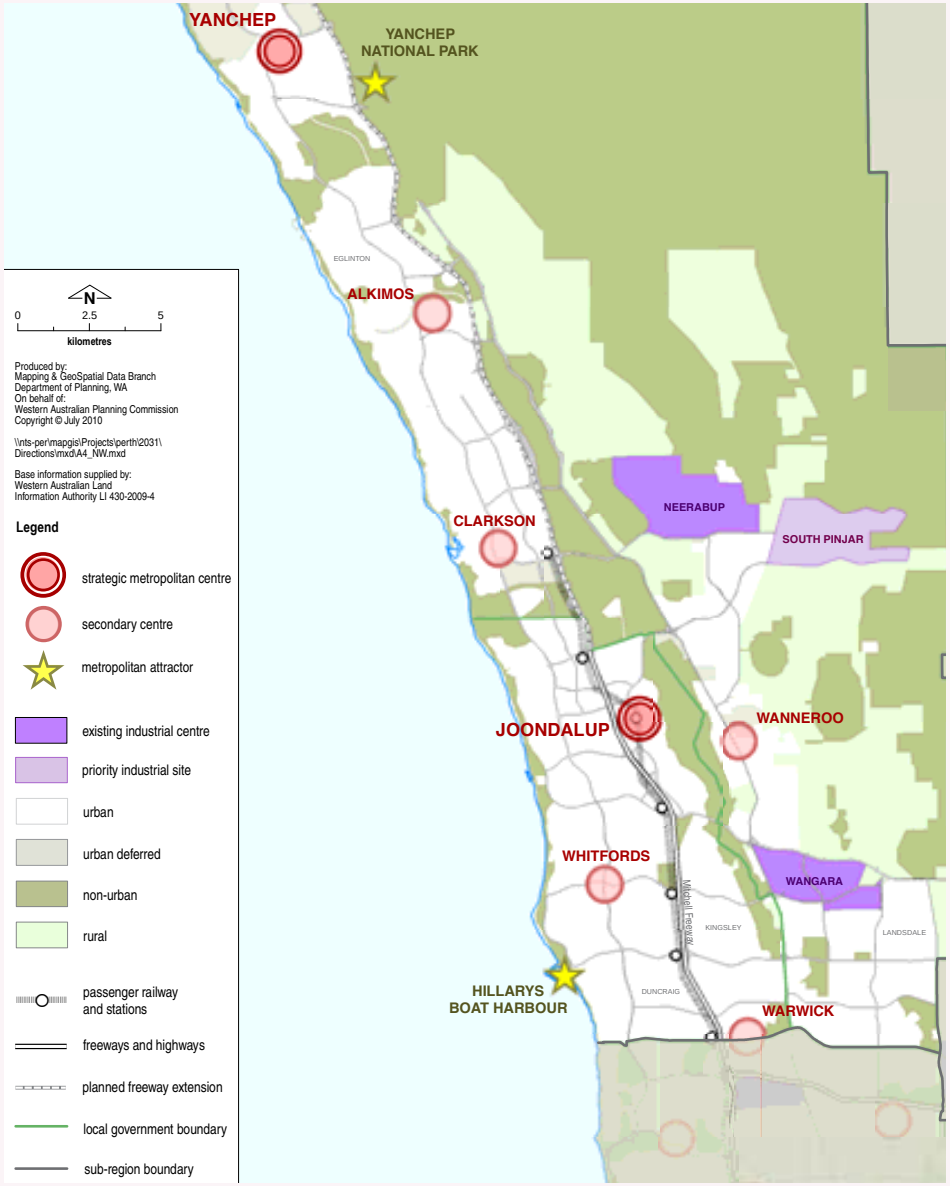
- Promote public transport use;
- Encourage the creation of destinations in parallel with the location of public transport facilities; and
- Promote walking and cycling.

Directions 2031 and Beyond (2010)

Directions 2031 is a high level spatial framework and strategic plan that establishes a vision for the future growth of the metropolitan Perth and Peel region; including a framework to guide the detailed planning and delivery of housing, infrastructure and services necessary to accommodate a range of growth scenarios. Directions 2031 builds on many of the aspirational themes of previous metropolitan plans which sought to guide the future structure and form of the city.

Directions 2031 identifies the Central Alkimos site in the north-west sub-region. Under the connected city scenario it is estimated that by 2031 the population of the north-west sub-region will have grown by 39 per cent to 395,000. To achieve Directions 2031 outcomes employment self-sufficiency must increase from the current level of 41 per cent to at least 60 per cent if the negative impact of a relatively weak local employment base is to be moderated. Attracting the additional 69,000 jobs required to achieve this level of employment self-sufficiency presents a significant challenge for the sub-region in the coming decades.

Figure 6: North-West Sub-Region



State Planning Policies

Development of land must generally be consistent with any relevant State Planning Policies (SPP) which are prepared and adopted by the WAPC under statutory procedures set out in Part 3 of the Planning and Development Act 2005. The WAPC and local governments must have due regard to the provisions of SPPs when preparing or amending regional and district planning schemes and when making decisions on planning matters. Details of the SPPs relevant to the site are provided below.

i. State Planning Policy No 1 - State Planning Framework Policy (2006)

The State Planning Framework Policy (SPP 1.1) provides a framework for the application of more detailed planning policies and strategies in Western Australia, including general principles derived from the State Planning Strategy. It states that the primary aim of planning is to provide for the 'fair, orderly, economic and sustainable use and development of land'.

ii. State Planning Policy 2 - Environmental and Natural Resources Policy (2003)

The policy sets out a planning response to environmental and natural resource management issues within the framework of the State Planning Strategy.

Specific policy areas of relevance to Alkimos-Eglinton include those relating to water resource management, air quality, soil and land quality, biodiversity, marine resources, landscapes, and greenhouse gas emissions and energy efficiency.

iii. State Planning Policy 2.9 - Water Resources (2006)

The purpose of this policy is to guide development of land that may impact on water resources in the state. Under the policy, water resources include 'water in the landscape with current or potential value to the community or environment'. This incorporates features such as wetlands and waterways, surface water, groundwater, drinking water catchments and sources, stormwater and wastewater. The policy aims to ensure that the quality and quantity of water resources in the state are not adversely affected by development and land use.

iv. State Planning Policy No. 3 - Urban Growth and Settlement (2006)

This policy sets out the principles and considerations to apply to planning for urban growth settlement in Western Australia. The policy aims to facilitate sustainable patterns of urban growth and settlement.

The objectives of the policy are:

- To promote a sustainable and well planned pattern of settlement 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 on the improvement of services and infrastructure and enhance the quality of life in those communities.
- To manage growth and development of urban areas in response to social and economic needs of the community and in recognition of the relevant climatic, environmental, heritage and community values and constraints.
- To promote the development of sustainable and liveable neighbourhood form which reduces energy, water and travel demand whilst ensuring safe and convenient access to employment services by all modes, provides choice and affordability of housing and creates an identifiable sense of place for each community.

v. State Planning Policy No. 3.6 - Developer Contributions for Infrastructure (2009)

SPP No. 3.6 sets out the principles and considerations that apply to development contributions for the provision of infrastructure in urban areas. The policy brings together Planning Bulletin 18 - Developer Contributions for Infrastructure and Planning Bulletin 41 - Draft Model Text Provisions for Development Contributions.

The policy sets out the form, content and process for the preparation of a development contribution plans. The City of Wanneroo has prepared a Northern Coastal Growth Corridor Developer Contribution Plan, which is currently being assessed by the WAPC.

vi. State Planning Policy 4.2 - Activity Centres for Perth and Peel (2010)

This Policy aims to provide a more flexible regulatory approach to enable appropriate commercial, residential, mixed business and retail redevelopment opportunities in activity centres, with a much reduced emphasis on retail floorspace guidelines.

vii. State Planning Policy No. 5.4 - Road and Rail Transport Noise and Freight Considerations in Land Use Planning (2009)

SPP No. 5.4 is aimed at increasing awareness of transport noise and its potential impact on the amenity and quality of life for residents. The policy therefore has objectives and implementation strategies to ensure that land use and transport planning are compatible. The policy also establishes a standardised set of criteria to be used in the assessment of proposals affected by transport noise.

As the subject site is located adjacent to the Mitchell Freeway extension, which is classified as Primary Regional Road in the metropolitan functional road hierarchy network, Marmion Avenue, Alkimos Drive and the northern railway reserve due regard to this policy is essential to ensure that transport noise does not adversely impact on future residents.

In accordance with the requirements of SPP No. 5.4 a noise assessment was undertaken by Herring Storer. Refer to Appendix A.

City Of Wanneroo Strategies And Policies

City of Wanneroo Strategic Plan 2006-2021

Following extensive public consultation, Council prepared a Strategic Plan (2006-2021) that outlines its vision for the City of Wanneroo, namely:

"The City of Wanneroo, the centre for creative and sustainable growth, delivering strong, vibrant and connected communities."

The Plan takes into account a fresh focus on partnerships and networks with other government agencies and private enterprises to achieve its goals, with the "Pillars" of the Plan being Environment, Social, Economic and Governance each of which has stated objectives.

Economic Development Strategy

The City of Wanneroo's primary economic goal is to decrease the amount of people having to travel out of the region to access suitable employment opportunities. This is intended to be achieved through the implementation of an Economic Development Strategy.

The Economic Development Strategy for the City of Wanneroo is designed to build upon the project initiatives already in place and being pursued by the City and introduce new initiatives in line with the Strategic Plan.

According to the Strategy, the promotion of the City of Wanneroo as an investment and employment destination can only occur if it is understood that all regional stakeholders can contribute to growing the economic base of the region through their actions.

The key actions of the City's Economic Development Strategy are:

- Redressing the balance so that the City of Wanneroo has desirable centres of employment;
- Investing for the future through increased collaboration with the State government and other key stakeholders to map the strategic activities for the north-west metropolitan economic region;
- Generating wealth through jobs to create a new economic base, which integrates the community into the wider regional economy; and
- Ensuring basic infrastructure is in place to allow businesses to prosper and grow.

Employment Policy

The City of Wanneroo's Employment Policy is designed to establish a framework to encourage and retain local employment within the City of Wanneroo and ultimately the North West Corridor. The necessity for this policy has been driven by the fact that the City of Wanneroo suffers low employment self-containment within its boundaries, which has led to the many so-called 'dormitory suburbs'.

The Policy contains a schedule of strategies at district, local and subdivision levels to indicate the type and scale of initiatives that are expected when planning developments of various sizes. The City's Smart Growth Assessment Tool sets a target of 40% employment self sufficiency at the DSP level.

Tourism Strategy

The development of tourism within the City of Wanneroo is addressed in the City of Wanneroo's Tourism Strategy through six objectives:

- Development of new and existing tourism products;
- Provide a broader visitor experience;
- Increase year round appeal;
- Develop higher yield markets;
- Establish tourism as a major industry of the region; and
- Encourage industry participation in development of tourism.

Centres Strategy

The City of Wanneroo's Centres Strategy seeks to promote the future regional centres of Alkimos and Yanchep in the longer term as significant regional nodes offering community focus by providing a mix of retail, office, leisure, entertainment, recreation and community facilities. The Centres Strategy recognises that Alkimos has been planned as an important regional commercial and employment centre since the North West Corridor Structure Plan (1992).

Local Planning Policy 3.1 Local Housing Strategy

The City of Wanneroo's Local Housing Strategy is aimed at guiding future housing development in new residential areas; protecting existing residential areas from inappropriate development and ensuring adequate housing choice is available to meet the changing social and economic needs of the community. The Local Housing Strategy is a key component of the City's Smart Growth Strategy - and together the two strategies indicate the commitment the City of Wanneroo has to planning for the future needs of the community as well as facilitating and supporting effective growth management.

Additional objectives of the Strategy are to ensure that an adequate supply of affordable housing is provided, particularly for first home buyers, and to promote appropriate forms of housing close to existing and proposed community facilities and services.

Local Planning Policy 3.3: Northern Coastal Growth Corridor Development Contributions

The purpose of this Policy is to provide an interim arrangement to facilitate development contributions towards common infrastructure for any application for subdivision of land within the area covered by this Policy, until such time as a Developer Contributions Plan comes into effect.

Local Planning Policy 3.8: Marmion Avenue Arterial Road Access

This policy prescribes acceptable standards for the type and location of vehicular access points, provisional standards for cycling infrastructure, and operational procedures for all new planning proposals fronting Marmion Avenue including:

- structure plans and structure plan amendments;
- detailed area plans;
- applications for planning approval; and
- subdivision applications.

Local Planning Policy 4.3: Public Open Space Policy

This Policy articulates Council's position on the planning, provision, location, design, development and interim maintenance of public open space (POS) and is to be considered when preparing structure plans.

The purpose of this Policy is to:

- Ensure that POS is delivered to optimise community benefit;
- Provide local interpretation of the WAPC Liveable Neighbourhoods policy; and
- Guide Council, its officers and applicants in considering the planning of POS in new urban areas.

The LSP has been prepared to accord with the above policies.

1.3.4 Other Approvals and Decisions

MRS Amendment 1029/33 and EPA Assessment

The LSP area (and the wider Alkimos Eglinton area) was subject to MRS Amendment 1029/33 which was assessed by Environmental Review under Section 48A of the Environmental Protection Act 1986 by the Environmental Protection Authority (EPA).

The EPA assessed a range of relevant environmental factors during the assessment of MRS Amendment 1029/33 including:

- Vegetation
- Fauna
- Odour
- Geoheritage.
- Aboriginal heritage.
- Risk.

The EPA's assessment of Amendment 1029/33 considered the environmental values across the entire Alkimos Eglinton area. Environmental surveys were conducted by ATA Environmental (2005) to support the EPA's assessment. The EPA used this information to outline areas of regionally significant environmental value. This assessment was largely independent of the proposed reservations and zonings considered as part of the MRS amendment and resulted in areas being identified by the EPA as being "regionally significant" which were not accounted for within the original MRS amendment. The differences between the EPA's assessment and the original MRS amendment is shown as in the Environmental Assessment and Justification Report (Appendix B).

In relation to the site, the EPA considered the parabolic dune a significant landscape/vegetation linkage. The environmental investigations undertaken as part of the Environmental Review determined the northern arm of the parabolic dune has high biodiversity and natural value as well as geoheritage significance. With this advice from the EPA, the northern arm of the dune was proposed to be retained as "Parks and Recreation" (immediately north of the site, located within the Central Alkimos LSP area) which is also referred to as Regional Open Space (ROS).

Overall, the EPA's assessment resulted in changes to areas zoned "Parks and Recreation" to that which was originally proposed by the WAPC. The MRS amendment was supported by the Minister for the Environment in 2006 through Ministerial Statement 722.

Although thoroughly assessed by the EPA through the formal assessment process, no areas within the site have been identified as being "regionally significant".

2.0 SITE CONDITIONS AND ENVIRONMENT

2.1 Biodiversity and Natural Area Assets

Climate

The climate is described as Mediterranean, with hot, dry summers and moderately wet, mild winters. Summer mean daily temperatures are between 18.6ºC and 30.3ºC; and in winter 9.1ºC to 17.6ºC. The majority of rainfall within the region occurs between May and October each year, and on average is between 600 to 1000 millimetres per year. However, in the last 40 years there has been a marked decrease in rainfall (approximately 11 per cent decrease), with a noticeable shift to a drier climate across the south-west of Western Australia (Water Corporation 2009). In winter, the LSP area experiences north-westerly storm winds interspersed with calmer periods. During the summer period, winds blow from the east to south-east in the morning and from the south-west in the afternoon.

Vegetation

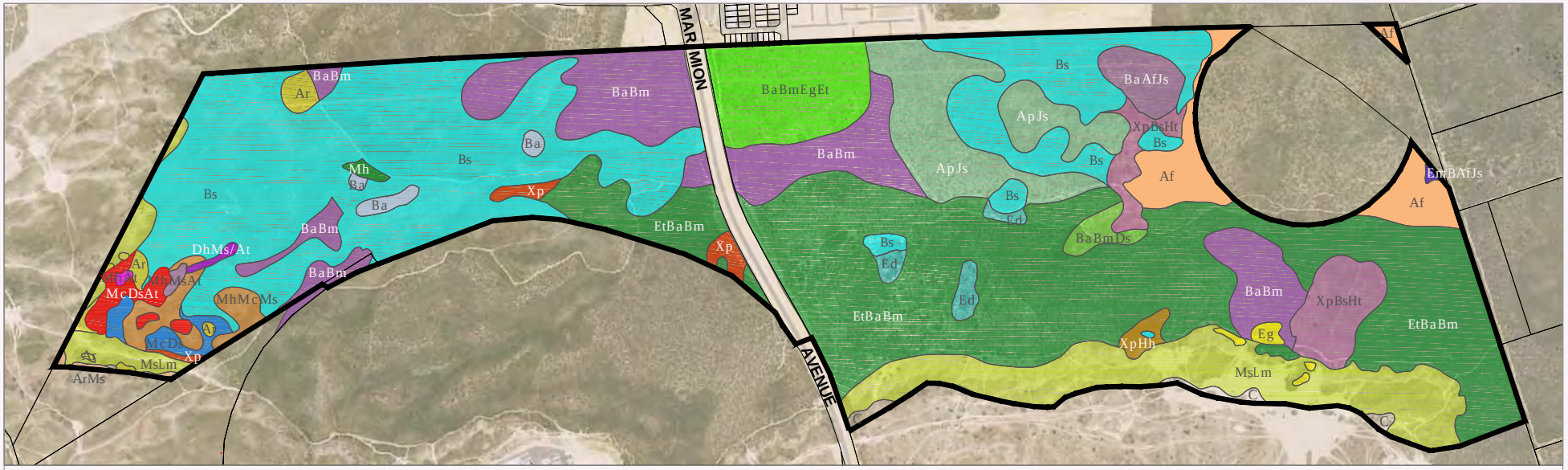
Vegetation complex mapping for the Swan Coastal Plain undertaken by Heddle et al. (1980) indicates that the Quindalup complex and the Cottesloe complex are the two vegetation complexes within the LSP area. Vegetation is extremely variable over the site, ranging from "Degradable- Completely Degraded" within the middle of the site through to "Excellent" within the northern portion. The site has not been subject to heavy grazing or vehicle pressures and therefore large parts are relatively intact.

The LSP area is dominated by the Quindalup dune complex consisting of two broad groups, "Melaleuca spp heath on dune systems" or "Acacia shrublands". Over 23 vegetation associations were identified by ATA Environmental (2005) over the site.

No Declared Rare Flora or Priority Flora were identified during vegetation surveys of the site. A vegetation association representing a threatened ecological community was recorded within three small areas within the western portion of the site. The Northern Acacia rostellifera – Melaleuca systena shrublands floristic community identified has never been confirmed by the WA Department of Environment and Conservation (DEC). Further vegetation and flora surveys conducted were also inconclusive as to the presence of the threatened ecological community at the site. Two vegetation associations representing Priority Ecological Communities were inferred in the site. These are "Acacia shrublands on taller dunes" (Priority 3) located along the parabolic dune and within Bush Forever Site 349, and "Northern Spearwood shrublands and woodlands" (Priority 3) which is located predominantly west of Marmion Avenue. In accordance with the DEC definition these Communities are those "that are known from several to many occurrences, a significant number or area of which are not under threat of habitat destruction or degradation".

The western portion of the site forms part of Bush Forever Site No. 397. This Bush Forever Site 'Coastal Strip from Wilbinga to Mindarie' is part of a large coastal foreshore reserve, extending from Mindarie to Eglinton. Bush Forever Site 397 was included in the original Bush Forever Assessment in 2000, and the area was proposed to be re-zoned to 'Parks and Recreation' in the MRS Amendment 1029/33. The EPA's formal assessment of the site determined that area 5b of Bush Forever Site 397 (the most eastern portion of Bush Forever Site 397) was no longer considered regionally significant as its desirable values were protected elsewhere over the MRS Amendment area (EPA Bulletin 1207). Therefore the EPA recommended that areas 5b and 5c not be reserved 'Parks and Recreation'. On this basis this area was removed from the final 'Parks and Recreation' boundary and was zoned 'Urban'. This represents the area of Bush Forever within the western portion of the site, which is currently zoned 'Urban'.

Figure 7: Vegetaion Communities



ALKIMOS CENTRAL BOUNDARY

Af_ Allocasuarina fraseriana. Banksia spp., E. Todiana Low Open Forest to Open Forest

ApJs_ Emergent Banksia spp. over closed shrubland of Acacia pulchella and Jacksonia stembergiiana

Ar_ Acacia rostellifera Low Closed Forest Acacia rostellifera Low Closed Forest

ArMs_ Acacia rostellifera Melaleuca systena. Low Open Heath

Ba_ Banksia attentuata Low Woodland

BaAfJs_ Banksia attentuata, Allocasuarina fraseriana Low Open Forest over Jacksonia sternbergiana High Shrubland

BaBm_ Banksia attentuata, B. menziesii Low Woodland

BaBmDs_ Banksia attentuata, B. menziesii Low Woodland over Banksia sessilis

BaBmEgEt_ Banksia attentuata, Banksia menziesii, Eucalyptus todtiana Low Open Woodland with Emergent Eucalyptus gomphocephala

BaXp_ Banksia attenuata Low Woodland over Xanthorrhoea

Bs_ Banksia sessilis Open to Closed Heath

DsMh/At_ Banksia sessilis with Melaleuca huegelii or Acacia truncata Closed Heath

Ed_ Mallee Woodland of Eucalyptus decipiens subsp. decipiens

Eg_ Eucalyptus gophocephala (Tuart) Open Woodland to Woodland over Banksia attenuata, Acaciasaligna and Xanthorrhoea preissii

EmBAfJs_ Eucalyptus marginata, Banksia attenuata, B. menziesii Allocasuarina fraseriana Low Woodland over Jacksonia sternbergiana High Shrubland*

EtBaBm_ Eucalyptus todtiana, Banksia attenuata, B. menziesii Low Open Woodland

McDs_ Melaleuca cardiophylla/ Banksia sessiliis Closed Heath

McDsAt_ Melaleuca cardiophylla/ Banksia sessiliis/ Acacia truncata Low Closed Heath

Mh_ Melaleuca huegelii

MhAt_ Melaleuca huegelii, Spyridium globulasum, Brachyloma pressii Low Open Heath*

MhMcMs_ Melaleuca huegelii, Melaleuca cardiophylla and Melaleuca systena

MhMsAt_ Melaleuca huegelii, Melaleuca systena, Acacia truncata Low Open Heath

MsLm_ Melaleuca systena, Lomandra maritima Low Open Heath

Xp_ Xanthorrhoea preissii Shrubland

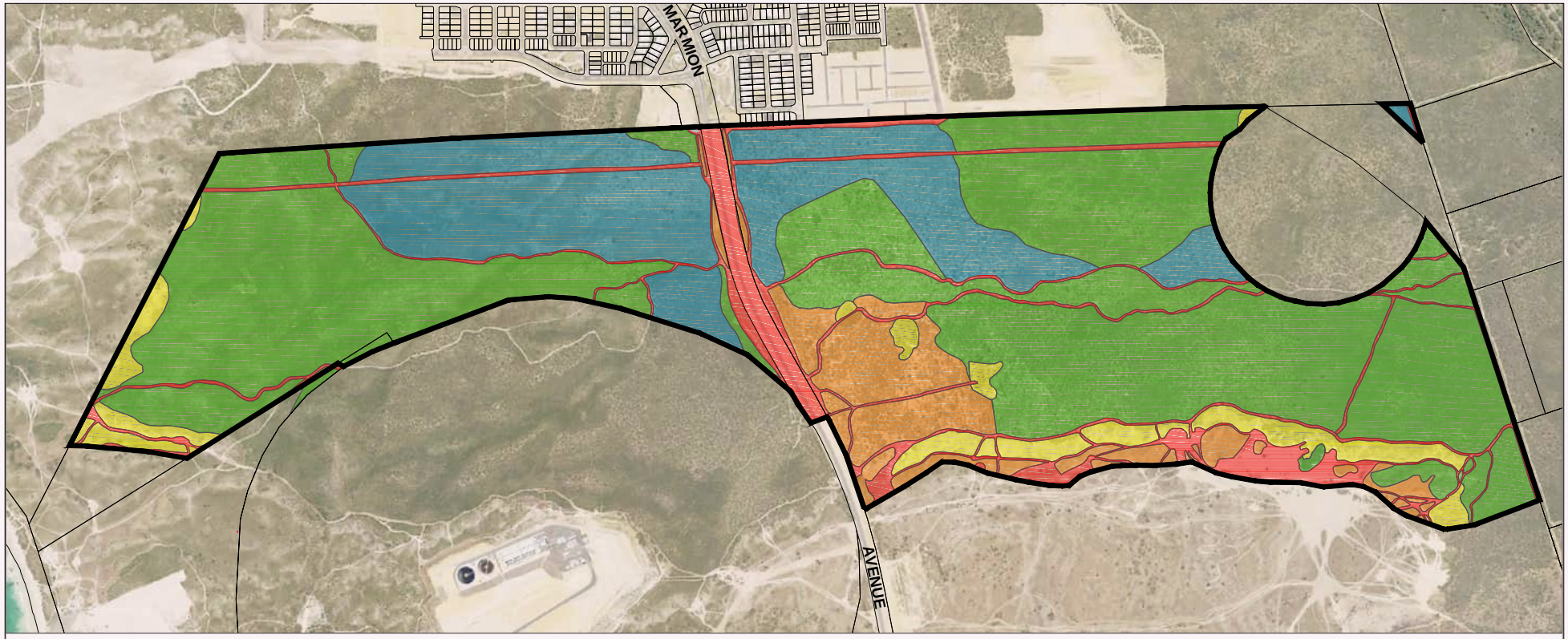
XpBsHt_ Xanthorrhoea preissii, Banksia sessilis, Hakea trifurcata Closed Heath

XpHh_ Xanthorrhoea preissii, Hibbertia hypericoides Open Heath*

C
Cleared

(SOURCE: EMERGE ASSOC. 2012)

Figure 8: Vegetation Condition



LEGEND

- ALKIMOS CENTRAL BOUNDARY
- EXCELLENT
- VERY GOOD
- GOOD
- DEGRADED
- COMPLETELY DEGRADED

(SOURCE: EMERGE ASSOC. 2012)

The Department of Planning (DoP) has recently confirmed that area 5b can support urban development uses and although still delegated under the MRS as Bush Forever, there is recognition of the anomaly by the DoP. The DoP have confirmed that Bush Forever boundaries will be updated at a later date to be consistent with the 'Parks and Recreation' reservation. Refer to Appendix B for further information.

Fauna

The fauna habitats in the LSP area consists of low open heath, low woodland and degraded shrubland located within the Bush Forever Site 349. There is difference in the diversity of fauna across major habitat types within the site.

A vertebrate fauna survey of the Alkimos – Eglinton area was undertaken in October 1996 by Alan Tingay and Associates and by ATA Environmental in 2005. Based on fauna surveys in 1996 and 2005, a number of species of conservation significance may occur within or potentially use the site.

The species considered to be most significant is the Carnaby's Black Cockatoo (Calyptorhynchus latirostris) which are species that are considered Endangered under the Environmental Protection and Biodiversity Conservation Act 1999 (EPBC 1999). Recent indicative habitat mapping for Carnaby's black cockatoo undertaken by WAPC (WAPC 2010) has been confirmed and updated by Emerge Associates.

The updated surveys confirmed:

- There is potential Carnaby's Black Cockatoo foraging habitat within the site corresponding with the remnant vegetation. There is no evidence of roosting or breeding by Carnaby's Black Cockatoo within the site, although there is evidence of foraging.

An EPBC Act referral to address potential impacts on these species is expected to be prepared for the site.

Refer to Appendix B for further information.

2.2 Landform and Soils

Environmental geology for the site has been mapped by the Geological Survey of Western Australia, Gozzard (1985). The LSP area consists of limestone; sand and calcareous sand geological units.

Topography in the LSP area varies from 55 m AHD to 29 m AHD. The LSP area has highly undulating topography due to the parabolic dunal system on which it lies. A parabolic dune runs from the south west to the south east of the LSP area and ranges in height between 30 and 55 m AHD. The Alkimos dune system was described by the Geological Society of Australia as an excellent example of a complex system of parabolic dunes of Holocene age belonging to the Quindalup system (Lemmon et al. 1979, EPA 2005). The parabolic dune located within the site is zoned as 'Parks and Recreation'. The EPA considers this dune a significant landscape/vegetation linkage, and therefore this geoheritage site will be retained within the ROS outlined in the LSP.

The LSP area is situated within the coastal belt of the Swan Coastal Plain, within the Quindalup and Spearwood Dunes geomorphological units. The soils found at the site include:

- Karrakatta Shallow Soils Phase
- Karrakatta Sand Yellow Phase
- Quindalup Second Dune Phase
- Quindalup Deep Sand Flat Phase
- Quindalup Oldest Dune Phase
- Quindalup Youngest Dune Phase

Douglas Partners provided a desktop Geotechnical study of the LSP area (refer Appendix A of Appendix B). The study reviewed the previous environmental geology mapping of Yanchep. The desktop geotechnical study indicates the ground conditions underlying the development site have a geological unit, which has "common solution cavities and fissures" but is not known to have large karst features such as caves.

Based on this information, Douglas Partners concluded that there was a very low susceptibility for development of large karst structures within the site and that the likelihood of karst formations impacting the proposed LSP development is rare.

Figure 9: Environmental Assets

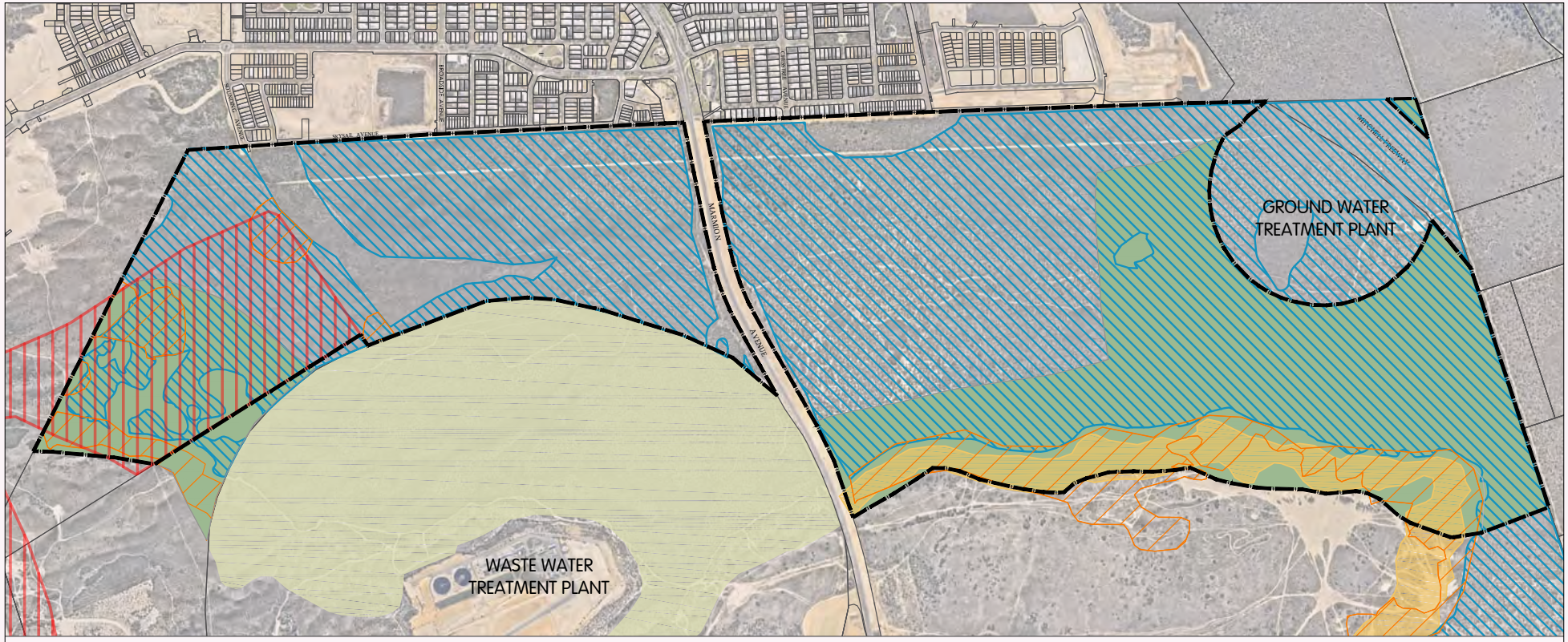
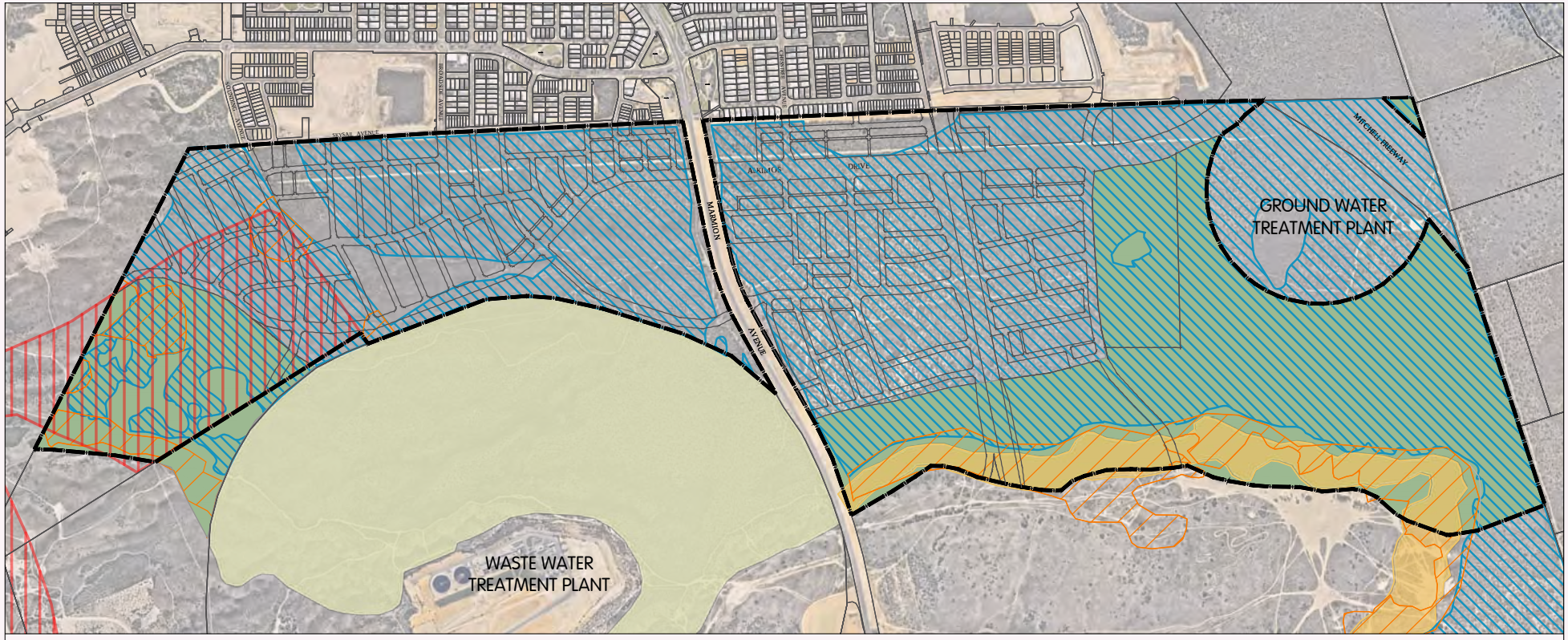


Figure 10: Environmental Assets - Structure Plan Overlay



2.3 Groundwater and surface water

There is no known surface water features associated with the site. The soils have a high infiltration capacity and there is little to no surface run off except during extreme events.

Groundwater data from the Perth Groundwater Atlas (Water and Commission 2004) shows that regionally groundwater levels for the DSP area range from between 5 m AHD in the east to <1 m AHD in the west before leading down to sea level at the coast. Groundwater monitoring carried out across the Alkimos DSP area indicates the depth to groundwater ranges between 13 to 40 m below the ground surface dependent on the topography of the site.

The entire LSP area is located within a Priority 3 Public Drinking Water Source Area as part of the Perth Coastal Underground Water Pollution Control area. Priority 3 classification areas are defined to manage the risk of pollution to the water source from catchment activities and are compatible with the proposed land use of the site.

WHPZ are used to protect underground sources of drinking water, are circular with a radius of 300 m in P3 areas and are subject to special protection measures (Department of Environment 2004). The site also contains Well Head Protection Zones (WHPZ) which are subject to restricted land uses, primarily requiring the connection to deep sewer.

2.4 Bushfire hazard

A Bushfire Management Plan (BMP) has been prepared in accordance with the WAPC's Planning for Bushfire Protection Guidelines (May 2010). The BMP has considered the bush fire hazard level when the ACSP is implemented and the area is developed. Refer to Appendix C.

The BMP demonstrates that the bushfire risk over the site can be managed, through dwelling setbacks and construction standards (if required). Furthermore, the ACSP provides a framework for additional work to be undertaken at the subdivision phase, including preparation of a Fire Management Plan, if required, which will be based upon the City of Wanneroo's Specification D10 "Bushfire Protection" and Part 3 of the City's "Bushfire Protection Requirements for Subdivision and Development". This Fire Management Plan will detail any required fire mitigation strategies, such as an appropriate landscaping and interface treatment of the zone between the retained bushland and residential development.

2.5 Heritage

Aboriginal Heritage

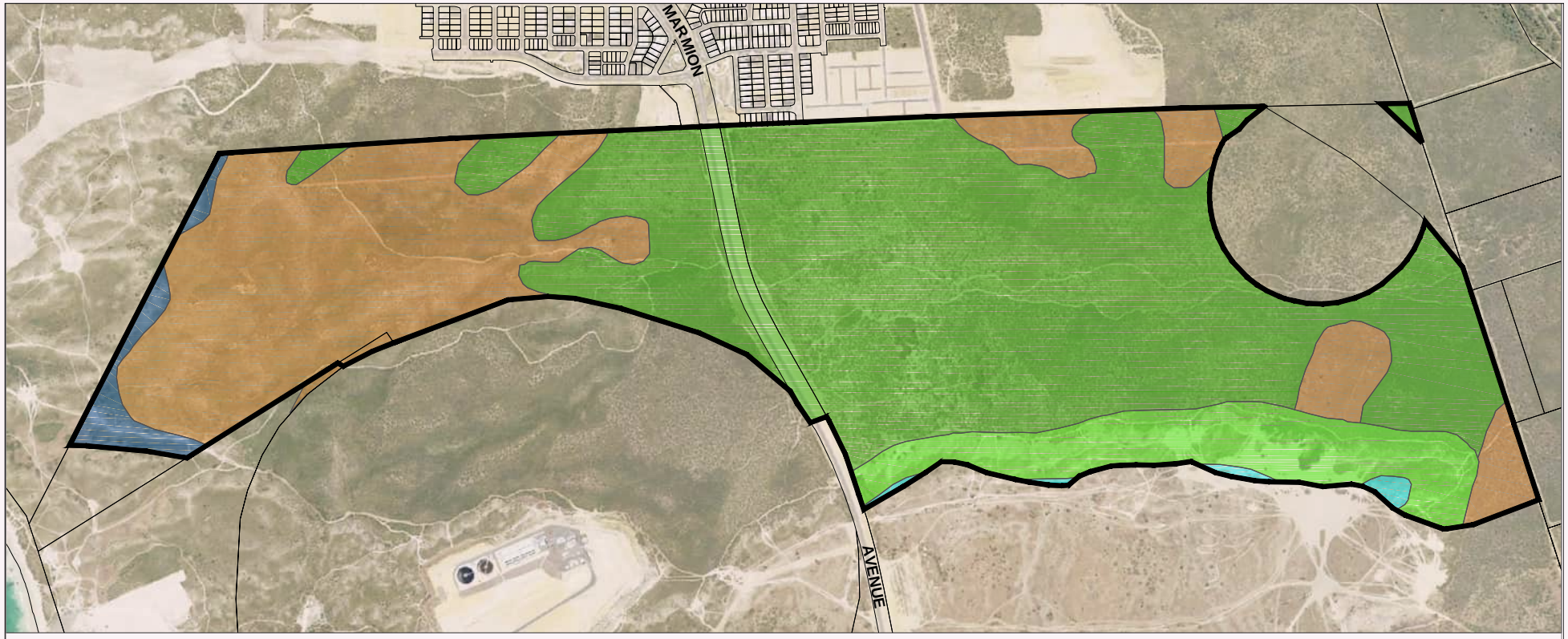
An Aboriginal Heritage Management Plan (AHMP) has been prepared over the ACSP site (Appendix D). Following a number of broad-scale heritage surveys over the site there were no Aboriginal archaeological sites or Aboriginal cultural material located or identified.

A search of the Department of Indigenous Affairs (DIA) Aboriginal heritage sites database did not identify any registered sites within the site.

European Heritage

The subject site contains no sites of European Heritage significance.

Figure 11: Site Geology



LEGEND

ALKIMOS CENTRAL BOUNDARY

LS1 LIMESTONE - LIGHT YELLOWISH BROWN, FINE TO COARSE-GRAINED, SUB-ANGULAR TO WELL ROUNDED, QUARTZ, TRACE OF FELDSPAR, SHELL DEBRIS, VARIABLE LITHIFIELD, SURFACE KANKAR, OF EOLIAN ORIGIN

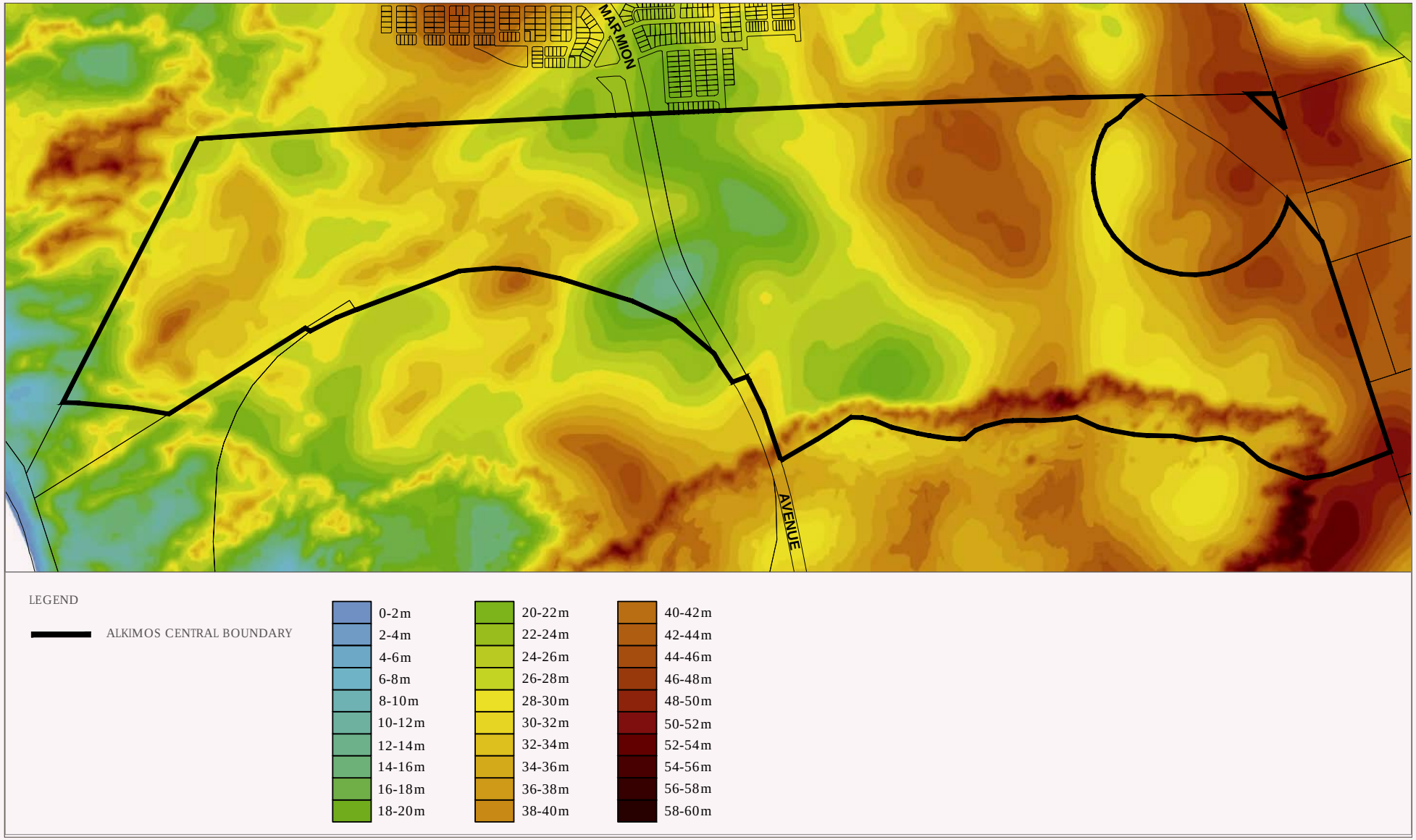
LS4 LIMESTONE - PALE YELLOWISH BROWN WEAKLY CEMENTED, FRIABLE, MEDIUM-GRAINED, SUB ROUNDED, QUARTZ AND SHELL DEBRIS, OF EOLIAN ORIGIN

S2 CALCAREOUS SAND - WHITE FINE TO MEDIUM GRAINED, SUB ROUNDED QUARTZ AND SHELL DEBRIS, OF EOLIAN ORIGIN

S3 CALCAREOUS SAND - AS S2, OCCURS AS RELATIVELY THICK COVERING OVER LS1

S7 SAND - PALE AND OLIVE YELLOW, MEDIUM TO COARSE- GRAINED, SUB-ANGULAR QUARTZ WITH A TRACE OF FELDSPAR, MODERATELY SORTED, OF RESIDUAL ORIGIN

Figure 12: Contour Tint



2.6 Context and Constraints Analysis

Existing and Future Transport Routes

Marmion Avenue and Alkimos Drive are identified as Integrator Arterial Type A Roads within the Alkimos-Eglinton District Structure Plan. These roads serve to distribute traffic throughout the district and in conjunction with the future Mitchell Freeway (Primary Distributor) provide the main access routes to the LSP area. Marmion Avenue is currently a two-lane single carriageway road.

Alkimos Drive when constructed will connect Marmion Avenue to Wanneroo Road and ultimately the Mitchell Freeway. There is no indication from State Government agencies when the Mitchell Freeway will be constructed to Alkimos Drive. The transport priority is to progress development of the northern suburbs passenger railway (extension to Butler Station by mid 2014). Rail service is expected to reach the Alkimos Town Centre Station by approximately 2021.

Activity Centres + Employment Nodes

Regional and District Context and Constraints

The Brighton Neighbourhood Centre (anchored by a Coles supermarket) is currently the nearest existing activity centre, located 3.5km south of the LSP site.

The North West growth corridor is planned to provide a significant number and range of activity centres. The Central Alkimos Local Structure Plan community is expected to have access to a range of activity centres including:

1. Strategic Metropolitan Centre at Yanchep (10.5km to the north)
2. Secondary Centre at Alkimos (directly to the south)
3. District Centre at Eglinton (2km to the north)
4. District Centre at Yanchep (8.5km to the north)

The Alkimos City Centre is designated as a Secondary Activity Centre under the Perth and Peel activity centre hierarchy. With Alkimos reaching capacity well before Yanchep and Two Rocks in the north it will service a large catchment at this time. As a result the Alkimos City Centre will evolve into a larger Secondary Centre in terms of scale than Two Rocks and Clarkson. This will be necessary to support the growing local and regional population as well as helping to meet the North West Corridor employment self sufficiency targets.

Neighbourhood Context and Constraints

The Alkimos-Eglinton DSP identifies one neighbourhood centre in the LSP area, located at the intersection of the rail line and Alkimos Drive.

Open Space

The land in the southern portion of the site to the east of Marmion Avenue is reserved for ‘Parks and Recreation’ under the MRS and is known as Regional Open Space (ROS). This ROS includes the northern arm of the parabolic dune. On a district scale, this ROS in conjunction with the WWTP buffer provides an ecological connection from the coast east through to Bush Forever site No.130, immediately east of the site.

Another area of ‘Parks and Recreation’ is located on the western boundary of the site and includes a portion of Bush Forever Site 397 and covers an area of over 20 hectares. This ROS forms part of the coastal ecological linkage, as well as part of the east west regional ecological linkage, which runs through the site and the adjacent WWTP.

Road and Rail Noise

The LSP area is affected by the following noise sources:

- Marmion Avenue, which traverses north south through the site;
- Alkimos Drive, which traverses the eastern portion of the site in an east west direction;
- the future Mitchell Freeway extension, abutting the eastern boundary; and
- the future northern suburbs railway extension, traversing north-south through the site.

An Acoustic Assessment has been undertaken by Herring Storer (Appendix A). The assessment addresses the likely impacts of the above noise sources, and identifies appropriate design responses and mitigation measures, which have informed the LSP design. A Noise Management Plan will be provided as a condition of subdivision approval, based on the final lot layout and levels.

Figure 13: Context + Constraints Plan

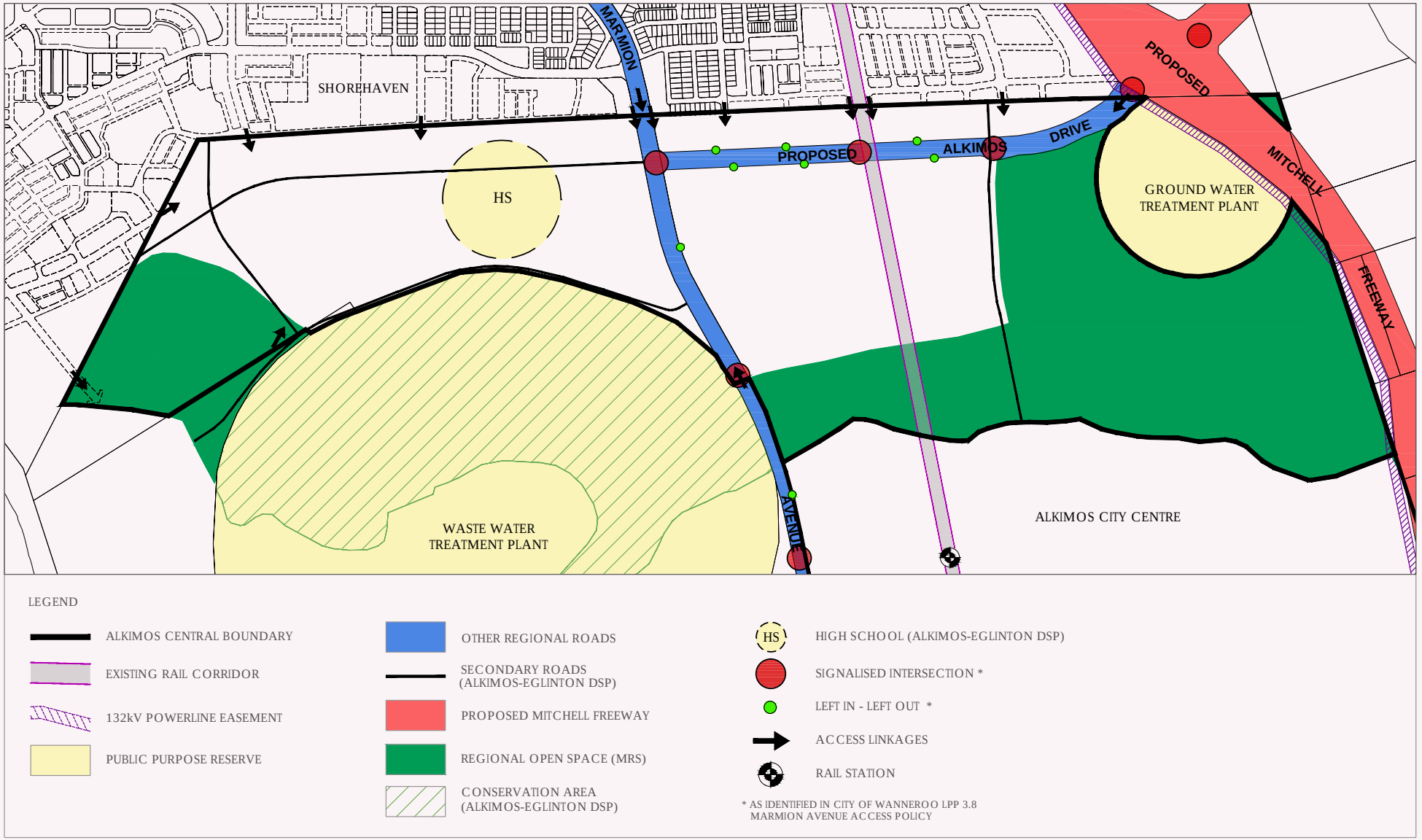
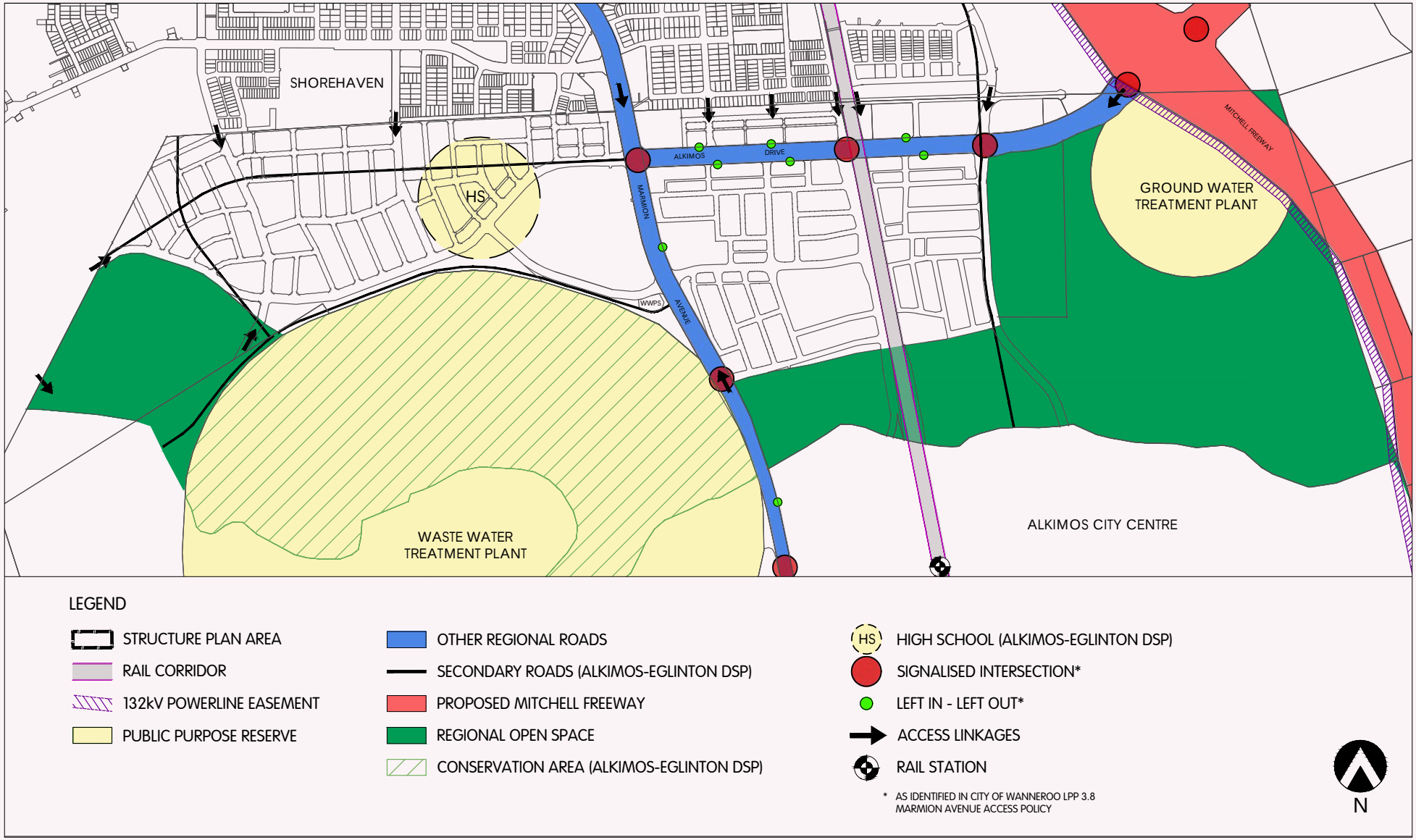


Figure 14: Context + Constraints Plan with Concept Plan



3.0 LOCAL STRUCTURE PLAN

3.1 Land Use

3.1.1 Masterplan

An indicative masterplan for the site has been prepared to demonstrate that the LSP design will create a legible, connected and functional development which will be home to a vibrant and well catered for community. The mixture of open spaces, including a district playing fields, conservation reserves and neighbourhood parks, will provide amenity and recreational opportunities for Central Alkimos residents, surrounding residents and visitors to the area.

A series of residential villages will provide a range of addresses with distinct character and a range of housing options will deliver a diverse community for all. Each village will be walkable, providing convenient access to community amenity and focal points. Diversity and choice will be a driving principle at Central Alkimos. From the early delivery of key recreational, business and learning facilities, Central Alkimos will ensure that each individual in the community is well serviced. These services include a neighbourhood centre on Alkimos Drive and the potential for mixed-use development adjacent to Alkimos Drive. The provision of service commercial land on the eastern periphery of the LSP area will provide for local businesses and employment.

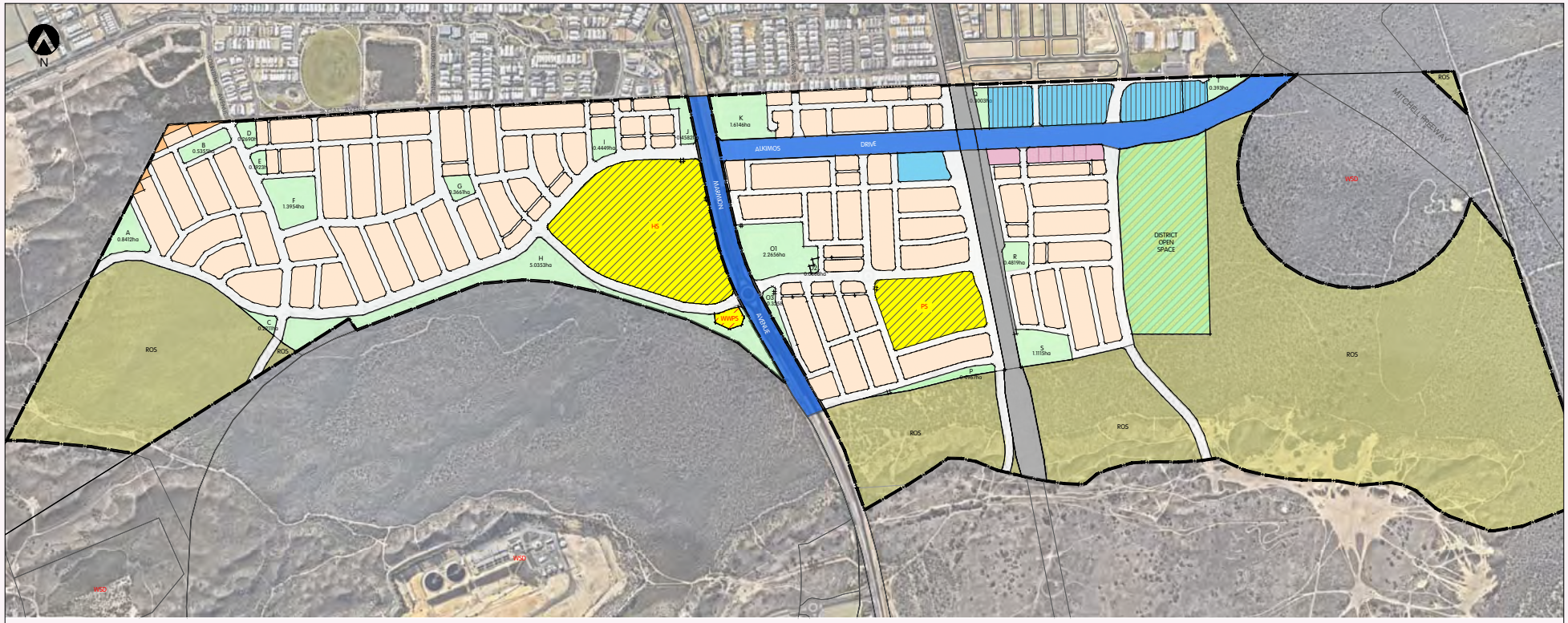
It is proposed that the urban form of Central Alkimos will attempt to respond to the existing topographical features of the site. The key activity nodes such as the high school and primary school will be positioned and aligned to be more responsive to the site's geoheritage, which will act as a key place making and character framework for the development. The resulting development form and character will be reflective of a contemporary coastal community that imparts a softer, responsive urban footprint on the site.

The development will have an integrated access network (walking and cycling paths, open space corridors and road networks) that will facilitate movement and connectivity through all parts of the development. The alignment of these networks has been driven by a philosophy of providing for pedestrians and cyclists over the car. While these vehicle and pedestrian corridors may coexist, detailed design and delivery will reinforce this approach. The 'safe streets' approach will require a review of Local Government service provisions, road corridor widths and street tree planting.

Residents will be well serviced by local convenience shopping and educational facilities within the LSP area and in the future will be well located to take advantage of the services that the Alkimos City Centre will offer, including a train station, entertainment, shopping and employment opportunities.

The design will allow for the provision of a mix of lot sizes and dwelling types to cater for a variety of demographics, ranging from first home buyers, to families to retirees. This mix of demographics will result in a diverse community.

Figure 15: Masterplan



LEGEND

STRUCTURE PLAN AREA	261.4222ha	MIXED USE	1.0984ha
POS/ DRAINAGE	16.7510ha	RESIDENTIAL	58.3031ha
DISTRICT OPEN SPACE	10.6943ha	RESIDENTIAL (Land Swap)	0.3471ha
REGIONAL PARKS & RECREATION	98.6594ha	BUSINESS	4.7417ha
RAILWAY RESERVE	5.4578ha	COMMERCIAL	0.8925ha
PRIMARY SCHOOL	4.0062ha	OTHER REGIONAL ROAD (Alkimos Drive)	8.2912ha
HIGH SCHOOL	11.7434ha	ROAD RESERVE (excludes Alkimos Drive)	40.3462ha
WASTEWATER PUMP STATION	0.2853ha		

3.1.2 Integration with Surrounding Land

In order to demonstrate integration with the surrounding land and compliance with the Alkimos-Eglinton DSP an overall masterplan has been prepared. This provides stakeholders with confidence that the project will deliver on the expectations contained in the LSP and DSP.

Moreover, the indicative masterplan has enabled the project team to engage with the proponents and owners of the adjoining development sites, primarily Shorehaven. This collaboration has been important and effective in ensuring cohesion between the respective design aspirations of the adjoining projects and the LSP. It will also enable a seamless functionality between the projects in regards to the design elements and movement networks.

The LSP shows a design interface to Lot 9001 that includes public open space and road connections. These treatments have been agreed with the landowner group for Lot 9001. Further detailed planning of this precinct will be undertaken between the Lend Lease, LandCorp and the Water Corporation landowner syndicate.

Consultation with the immediate landowners to the north (Shorehaven/Peet) has resulted in a cohesive design outcome, ensuring that road connections, land use and finished levels are well integrated.

The LSP also provides for two strong road connections to the Alkimos City Centre to the south. The DSP only provided for one connection but as a result of the rigorous design process undertaken for this LSP and the Alkimos City Centre Structure Plan it was considered necessary to provide an additional connection. Further justification for this additional connection can be found in section 3.4.

Table 2: Land Use Table

Item	Data	Section number referenced within the structure plan report
Total area covered by the structure plan	255ha	Section 1.2.2
Area of each land use proposed: • Residential • Commercial • Mixed Use • Business • Education	 57ha 0.75ha 4.0ha 4.5ha 15.8ha	Section 3.1
Estimated lot yield	1590	Section 3.3
Estimated number of dwellings	1816	Section 3.3
Estimated residential site density	28du/ha	Section 3.3
Estimated population	46501	Section 3.3
Number of high schools	1	Section 3.6
Number of primary schools	1	Section 3.6
Estimated retail floor space	2500m^2	Section 3.7
Employment self sufficiency targets	48%	Section 3.7
Estimated area and percentage of public open space given over to: • Regional Open Space • District Open Space • Neighbourhood/local parks	100.4ha (37%) 10.7ha (4%) 16.7ha (6%)	
Estimated percentage of natural area	38%	Section 3.2

[1] Based on 2.3 residents per dwelling

3.2 Open Space

3.2.1 Public Open Space

In accordance with the City's Public Open Space Local Planning Policy the public open space (POS) for the LSP has been designed to meet the objective of ensuring new POS areas provide a balance between:

- A diversity of recreational uses and options for the community;
- The predicted active recreational needs of the community ;
- Conservation of natural assets;
- High levels of amenity;
- Affordability; and
- Environmental sustainability.

The Alkimos-Eglinton DSP stated that in defining POS areas, land attributes and functional values should be considered, including the following:

- Recreation needs;
- Conservation value;
- Fauna habitat values (e.g. significant habitat trees);
- Linkage values;
- Accessibility for the community;
- Visual quality and place making opportunities;
- Management issues; and
- Safety

In light of the above, the POS areas proposed for the site can be categorised into three types:

1. Regional Open Space;
2. District Open Space; and
3. Neighbourhood and Local Parks.

Regional Open Space

The Regional Open Space (ROS) is reserved for 'Parks and Recreation' under the MRS and is a conservation area. There are two ROS reserves within the LSP area. The first is located on the western boundary of the site and includes a portion of Bush Forever Site 397 and covers an area of over 20 hectares. This ROS forms part of the coastal ecological linkage, as well as part of the east west regional ecological linkage which runs through the site and the adjacent WWTP.

The second area of ROS is located between Marmion Avenue and the proposed Mitchell freeway extension and covers an area of over 90 hectares. The northern arm of the parabolic dune is located within this ROS and the EPA considers this area a unique bushland linkage of regional and local importance. It provides a cross section of vegetation, habitats and landforms including the northern arm of parabolic dune, which is the largest of the Alkimos dunes. It is proposed to develop a portion of this ROS for district open space.

Discussions have been held with the Department of Planning, Department of Parks and Wildlife, City of Wanneroo and the proponents regarding the responsibility for preparation of an ROS Management Plan and who will be responsible for the management of the various portions of the ROS. Tim Hillyard (Department of Planning) advised that the preparation of the Management Plan is the responsibility of the WAPC and Department of Planning.

Ideally the Management Plan would be prepared for the entire ROS wedge, from the coastal foreshore through to Wanneroo Road (including the WWTP conservation area). This includes a number of landowners, including Peet, Water Corporation, LandCorp and DPAW.

In respect to the management of the various portions of the ROS it was agreed that this would be dependant on the ultimate use of each portion. Refer to Table 2 in Part 1 that details the ROS function and management responsibilities within the LSP area.

District Open Space

The LSP proposes a 10.7 hectare District Open Space (DOS) area directly to the west of the GWTP. This DOS is in accordance with the Alkimos-Eglinton DSP, which identifies an area for Playing Fields in the ROS. Ministerial Statement No. 722 associated with MRS Amendment 1029/33 identifies that a maximum of 25% of the 'Parks and Recreation' reserve (ROS) within the north eastern portion of the site can be developed for parks and recreation purposes in accordance with an Environmental Management Plan prepared to the requirements of the EPA.

The types of playing fields and other facilities within the DOS will be determined following discussions with the City and other stakeholders.

Neighbourhood and Local Parks

Neighbourhood Parks provide nearby residents with high amenity open spaces, primarily for passive activities, but some will include kick-around areas for active recreation. It is proposed to provide a variety POS types and encourage exploration and development of the 'sense of place' within each space.

The parks will have manipulated topographies, which reflect but do not necessarily conserve the existing site grades. The neighbourhood parks vary in size and will be well defined by tree planting and public streets or pathways. They will contain a number of facilities and areas that allow people in the community to gather and meet; including elements such as playgrounds, barbecues, picnic tables, off-leash dog areas etc.

Some of the parks are located at low points, to assist with stormwater detention and drainage, however these parks also include planting, pathways, lighting and seating to ensure they contribute to the community as well as the environment. Greenways provide mid-block pedestrian and cycle access, and are located primarily to provide greater access to parks and the activity areas within the site.

3.2.2 Conservation POS

The City of Wanneroo Local Planning Policy 4.3 Public Open Space (October 2010) requires a minimum of three percent (3%) of the gross subdivisible area to be provided as POS for the purposes of conservation. Conservation POS areas are subject to a viability assessment (as detailed within the Public Open Space Policy and the City of Wanneroo Local Biodiversity Strategy) to ensure that the size, shape and vegetation condition of the conservation POS area will support the long-term retention of conservation values.

In order to identify areas of possible conservation a survey of native trees (over 500 mm diameter at breast height) which may provide potential hollows for breeding black cockatoos either currently or into the future was under taken in late 2014. This survey identified two stands of trees that were in excellent to good health and rigour and suitable for retention in public open space and road reserves. We have amended the masterplan to protect these stands of trees in POS ('M' and 'N'). These two POS areas have been identified on Plan 1 and with Table 1 of Part 1.

3.2.3 Public Open Space Schedule

The following table, prepared in accordance with Liveable Neighbourhoods, provides an indicative summary of the POS provided with the ACSP area. The calculations demonstrate that approximately 13.2% of the gross subsdivisable area being provided as POS. This percentage is indicative only and will be subject to refinements at the detailed subdivision design stage.

Figure 16: Public Open Space Plan

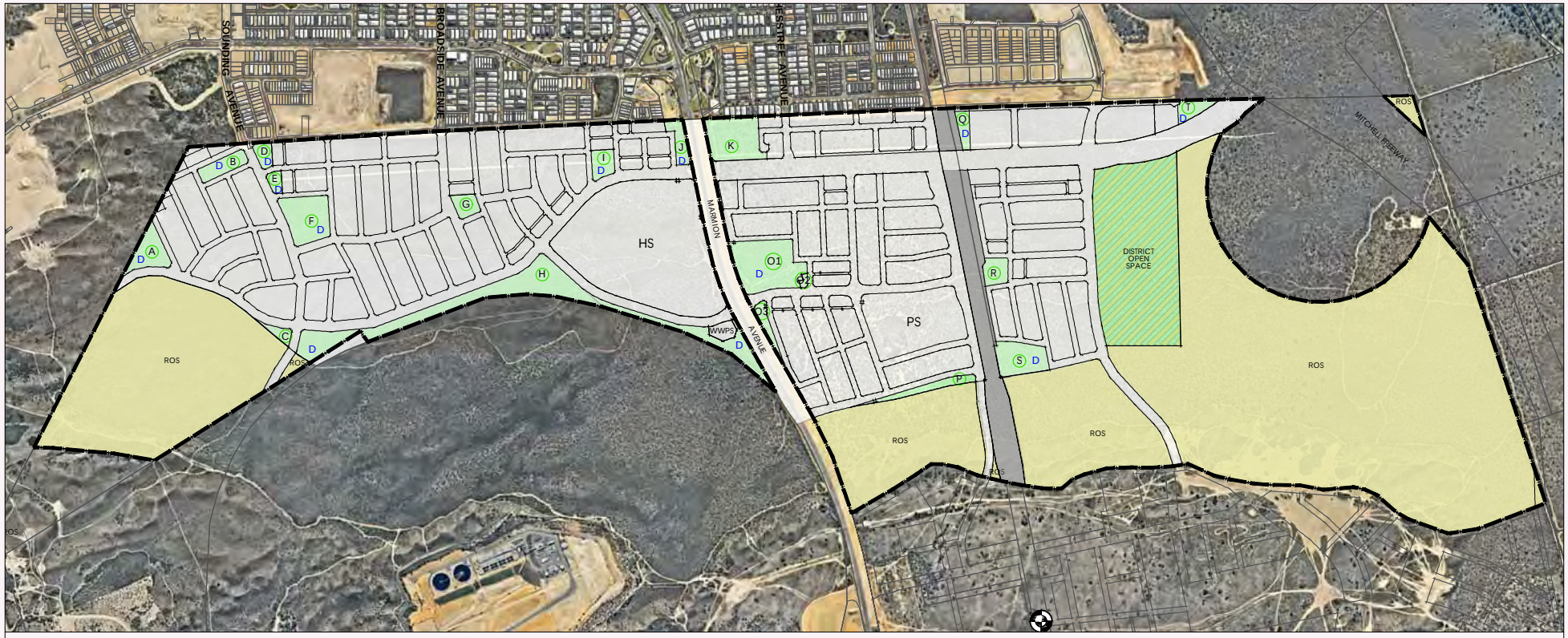


Table 3: Public Open Space Schedule

Site Area			267.24ha
Less Regional Open Space		109.45ha	
Total		109.45ha	
Total Net Site Area			151.7ha
Deductions			
Primary School Site High School Site Business Commercial Mixed Use (50% deduction) Rail Reservation Other Regional Road Wastewater Pump Station	4.0 11.7 4.75 0.66 2.5 4.55 8.3 0.29		
Total		36.76ha	
Gross Subdivisable Area (GSA)			114.94ha
Public Open Space requirement @10% of GSA			11.5ha
Public Open Space Contribution			
May comprise: Minimum 80% Unrestricted Public Open Space Maximum 20% Restricted Public Open Space		 9.2 2.3	 11.5ha
Unrestricted Public Open Space Sites (9.44ha required)			
A 0.8412 B 0.5354 C 0.2211 D 0.2689 E 0.1923 F 1.3954 G 0.3661 H 5.0336 I 0.4449 J 0.4814 K 1.4968 O 2.2656 O1 0.3258 O2 0.0608 P 0.5023 (not credited) Q 0.3000 R 0.4819 S 1.1115 T 0.4084		 16.2311ha	
Minus 1 in 1 year storm volume Minus Restricted POS		-1.0150ha -2.2566ha	 12.9595h
Restricted Public Open Space Sites (2.36ha maximum)			
Total restricted use public open space contribution (to be less than 20% of total POS) Drainage areas in POS (subject to inundation greater than 1 year ARI rainfall interval but more frequently than 5 year ARI rainfall event – i.e. between 1 and 5 year rainfall event) and POS areas identified exclusively for revegetation		2.2566ha	15.2161ha
Total Public Open Space Provision		13.2%	15.2161ha

3.3 Residential

3.3.1 Densities

Residential Design Code density ranges have been allocated within Part 1 of this LSP. The densities for each Precinct will be controlled via the Residential Design Code Plan at the time of subdivision. The inclusion of a Residential Design Code density range allows flexibility in the future to increase densities to meet market demands while giving security to the City and Department of Planning that adequate densities will be achieved.

The allocation of residential densities on the Residential Density Code Plan shall be in accordance with the following criteria:

a. RMD25 – R60
   i. A base density code of R25 is applicable for all residential lots except under the circumstances listed below;
   ii. R30 and R40 density should be provided;
      1. 1. adjacent to public open space;
      2. 2. fronting public transport routes; or
      3. 3. within 400m of the neighbourhood centre.
   iii. R60 density should be provided:
      1. adjacent to public open space;
      2. fronting public transport routes;
      3. within 200m of a local or neighbourhood centre; or
      4. within 800m of the Alkimos Railway Station.

b. RMD 30 - R80
   i. Higher densities of R60 and R80 should be provided adjacent to public open space and the neighbourhood centre.
   ii. Medium density of R30 and R40 elsewhere.

3.3.2 Residential Design Code Variations

The City of Wanneroo's 'Variation to deemed-to-comply provisions of the R-codes – Medium-density single house development standards' Local Planning Policy (R-MD Codes LPP) sets out acceptable variations to the deemed-to-comply provision of the R-Codes for lots coded R25 – R60. The variations set out in the R-MD Codes LPP apply to this Local Structure Plan and thereby constitute Acceptable Development within the structure plan area.

3.3.3 Residential Yields

The dwelling yield target for the LSP, as detailed in Part 1, is 1605 dwellings. The dwelling yield may not be achieved in the initial development of the LSP, however flexibility has been provided for to allow for further subdivision and development in the future via the provision of higher residential density coding's (e.g. duplex lots).

The estimated dwelling yield for the LSP results in an average density of over 25 dwellings per site hectare, calculated in accordance with Part 1 – Implementation Section of the Alkimos-Eglinton DSP.

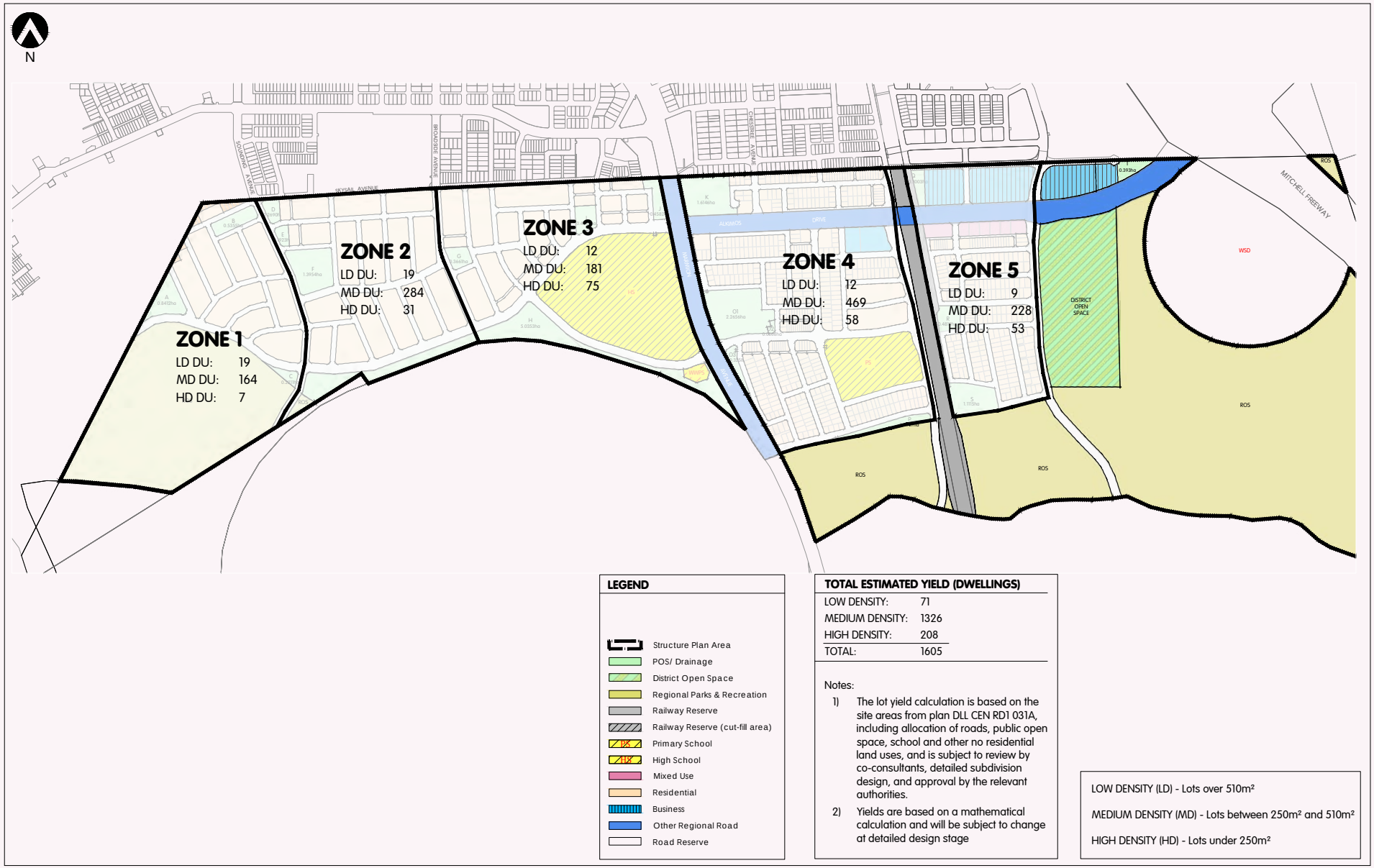
3.3.4 Lot Types

The Central Alkimos LSP design accommodates a mix of lots sizes and types. The objective is to cater for all demographics and income groups. The dwelling type yield for the LSP is presented below, based on the likely distribution of dwelling types in the LSP area. The proposed dwelling type percentages generally accords with the City's Housing Strategy.

Table 4 : Dwelling + Type Table

Dwelling Type	Indicative Dwelling Yield	Percentage of Dwelling Type	City of Wanneroo Housing Strategy Requirement
Separate House	1277	79%	76.2%
Semi Detached/Town Houses	250	15%	14.4%
Apartment Units	78	5%	9.4%
Total	1605	100%	100%

Figure 17: Housing Yield + Density



3.4 Movement Network

Road Network and Road Function

The LSP area is to be served by the following key roads, as indicated in the Alkimos-Eglinton District Structure Plan and the Metropolitan Regions Scheme:

- Mitchell Freeway (ultimate 6 lane freeway, Primary Regional Road in MRS with Primary Distributor function)
- Marmion Avenue (ultimate 4 lane divided arterial, Other Regional Road in MRS with District Distributor Type A function)
- Alkimos Drive (ultimate 4 lane divided arterial, Other Regional Road in MRS with District Distributor Type A function)
- NS2 (2 lane divided minor arterial with District Distributor Type B function)

Alkimos Drive Alignment

Alkimos Drive links from east to west through the LSP area. The alignment, on the east side of Marmion follows the DSP. To the west side it follows the DSP alignment but bows south between Marmion and the connection point to Shorehaven rather than north. This variation has no effect on Shorehaven as the connection point is the same as shown on the DSP. This alignment is considered superior as it:

- Enables Alkimos Drive to serve the Alkimos Coastal Node relieving pressure on Romeo Road through Alkimos City Centre;
- Enables Central Alkimos to form a more cohesive community with Shorehaven avoiding separation by through traffic on the neighbourhood connector;
- Improves the safety for primary school children accessing the school;
- Improves the safety for Central Alkimos residents accessing the play fields in Shorehaven and for Shorehaven residents accessing amenity in Central Alkimos;
- Avoids the removal of an escarpment that runs north south through Central Alkimos, which the old alignment would have necessitated;
- Provides a more gentle path of movement to assist cyclists and pedestrians using this road and associated path network;
- Provides a scenic connection with the ecological reserve in the WWTP Buffer;
- Provides better opportunities for coastal views along Alkimos Drive; and
- Reduced noise from vehicles ascending and descending hills.

Preliminary modelling of this option shows little change in traffic numbers reaching the proposed Shorehaven Coastal node.

Street Design

The Central Alkimos street design is in accordance with Liveable Neighbourhoods policy. The street types and road reserve characteristics are described below:

- Residential Access Streets: reserve width range is 14m-16m
- Circulation Streets reserve width range is 18m-22m
- Neighbourhood Connectors reserve width range is 20-24m
- District Distributor Type A reserve width is 52m (with 7m median and provision for frontage roads) (e.g. Alkimos Drive)

Arterial Road Access & Traffic Operations Assessment

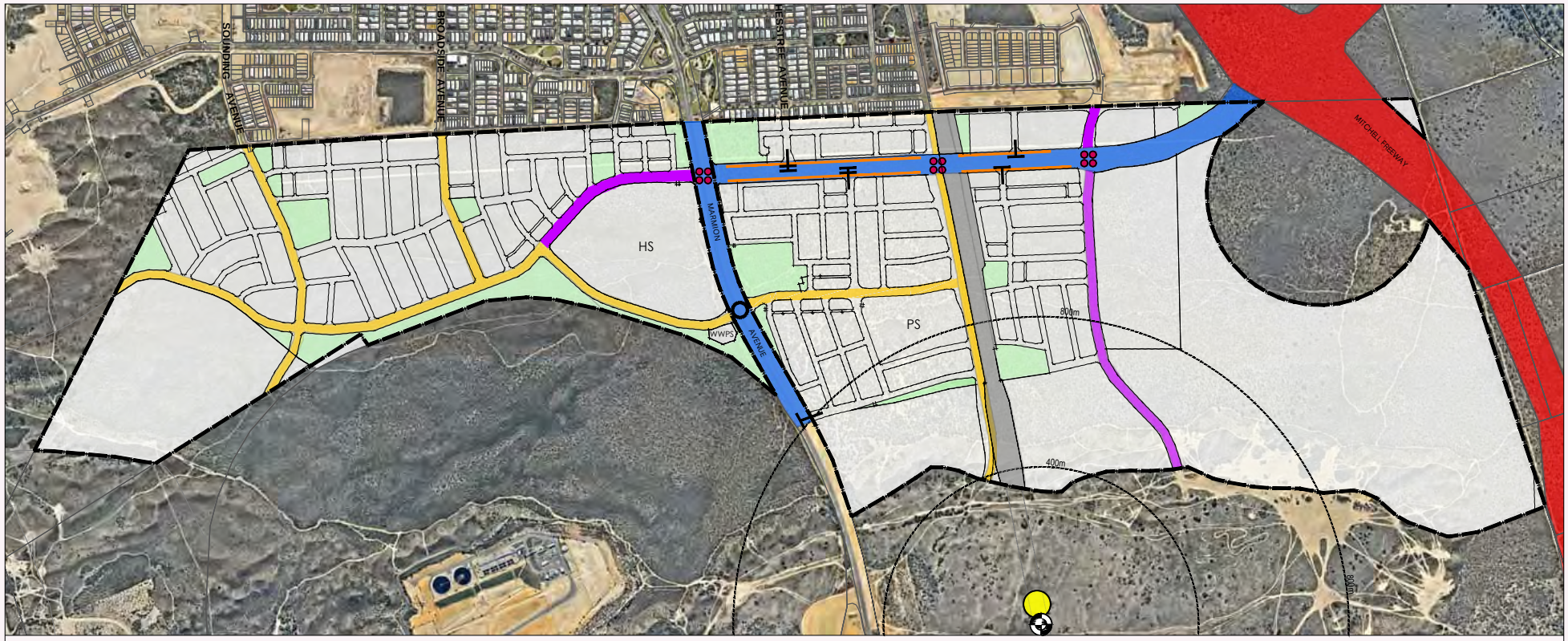
Intersections and property access provisions along Marmion Avenue and Romeo Road have been determined from City of Wanneroo Local Planning Policy 3.8 and related discussion and agreement with City of Wanneroo and Main Roads Western Australia.

Controlled intersection operations (i.e. traffic signal or roundabout control) have been assessed for PM Peak Hour traffic levels at the ultimate development stage. All intersections are forecast to operate at Level of Service D or better, using SIDRA 5.1 computer simulation software.

Access to the Mixed Use and Business zoned lots will be via service roads and full access T intersections in accordance with Part 1 Clause 4.5 (c) and Figure 18 – Road Hierarchy. The operation of the priority controlled full access T-intersections have been assessed using SIDRA Intersection2 (SIDRA) in 2031. SIDRA is a computer-based modelling package which calculates intersection performance. As detailed in the WAPC Guidelines, the critical measure of intersection performance is average delay per vehicle. Analysis of the SIDRA results demonstrate that the three intersections are expected to operate acceptably upon full development of the site in 2031. The SIDRA modelling is included in Appendix E.

In respect to the proposed service roads along Alkimos Drive, these are considered essential for the viability of the mixed-use and business developments along Alkimos Drive (on both sides) and provides a suitable

Figure 18: Road Hierarchy



access solution to these land uses between Marmion Avenue and the Mitchell Freeway. The service roads have been shown to fit well within the Alkimos Drive road reserve and within the ultimate dual carriageway cross-section. Passing traffic along this strategic east-west Alkimos Drive will have good exposure to the mixed use and commercial land uses planned along Alkimos Drive and the service roads enable a direct access solution that also does not detrimentally impact the through flow.

The service roads also remove undue pressure on just one all-movement intersection and the undesired re-routing of traffic to other supplementary local intersections. As an example, considering the section between the railway and Marmion Avenue, the provision of two left turn in only slip lanes and 2 left turn out only slip lanes distributes the traffic demands across 5 intersections in a non-imposing operational manner, as opposed to just one imposing all movement intersection. The same applies for the section between the railway line and NS2 road. Refer to Addendum – Traffic Impact Analysis to Appendix E.

Local Traffic Treatments

Intersection controls and local traffic management treatments include:

- 50km/hr default speed limit in built up areas;
- 60-70km/hr speed limit will apply to Alkimos drive (east of Marmion Avenue);
- 70-80km/hr will apply to Marmion Avenue;
- Traffic signals or roundabouts at higher order intersections;
- Sign controlled (stop or give-way) 4-way intersections;
- Speed control device (i.e. intersection plateau treatment);
- School or Urban Centre Speed Zone; and
- Road designs adjacent to the proposed high school are to include traffic calming measures.

Traffic signals and roundabouts are identified at the busier 4-way intersections and near schools to assist in slowing traffic and managing U-turn demand.

There are numerous 4-way intersections that will need to be reviewed at subdivision stage to confirm the appropriate traffic control and design features. These reviews will be done in consultation with the City of Wanneroo and Main Roads Western Australia.

Pedestrian/ Cyclist Facilities

Principal Shared Paths (PSP's) are planned along the rail line and along the freeway. These facilities are generally provided by State Government Agencies. The Central Alkimos path network is designed to integrate with the proposed PSP's. The local path and cycle lane planning uses the following guidelines (summarised from Liveable Neighbourhoods):

Integrator Arterial Type A Roads: Shared paths and cycle lanes are provided on both sides

- Integrator Arterial Type B Roads: Shared path one side, footpath opposite side, cycle lanes both sides.
- Neighbourhood Connectors (traffic > 3000 veh/day): Shared path one side, footpath opposite side, cycle lanes both sides.
- Neighbourhood Connectors (traffic < 3000 veh/day): Shared path one side and footpath opposite side.
- Residential Access Streets: footpath on at least one side.

Pedestrians will cross Marmion Avenue and Alkimos Drive at signalised intersections where pedestrian button signal activation will be available. Most local road crossings will however be unmarked and will have kerb ramps and pedestrian gaps in medians. If a signalised intersection is not provided at the intersection of Marmion Avenue and Alkimos Drive, alternative pedestrian crossing treatments (e.g. overpass/underpass) may be required. This will be determined at the detailed design stage.

The Alkimos-Eglinton DSP identifies a 'Social/pedestrian/cycle linkages' through the ROS between Marmion Avenue and the Mitchell Freeway reservation. This linkage has been annotated on Plan 1. The function and integration with the broader movement network will be set out in any Management Plan over these areas.

Public Transport

The LSP area will be served by three bus services operating between Eglinton Station and Alkimos Station. One route will operate on local roads west of Marmion Avenue then join with Marmion Avenue and Alkimos Drive. One route will run on Marmion Avenue and the final route will operate on local roads east of the rail line (west of future Mitchell freeway).

Refer to Appendix E for further information.

Figure 19: Pedestrian + Cycle Network

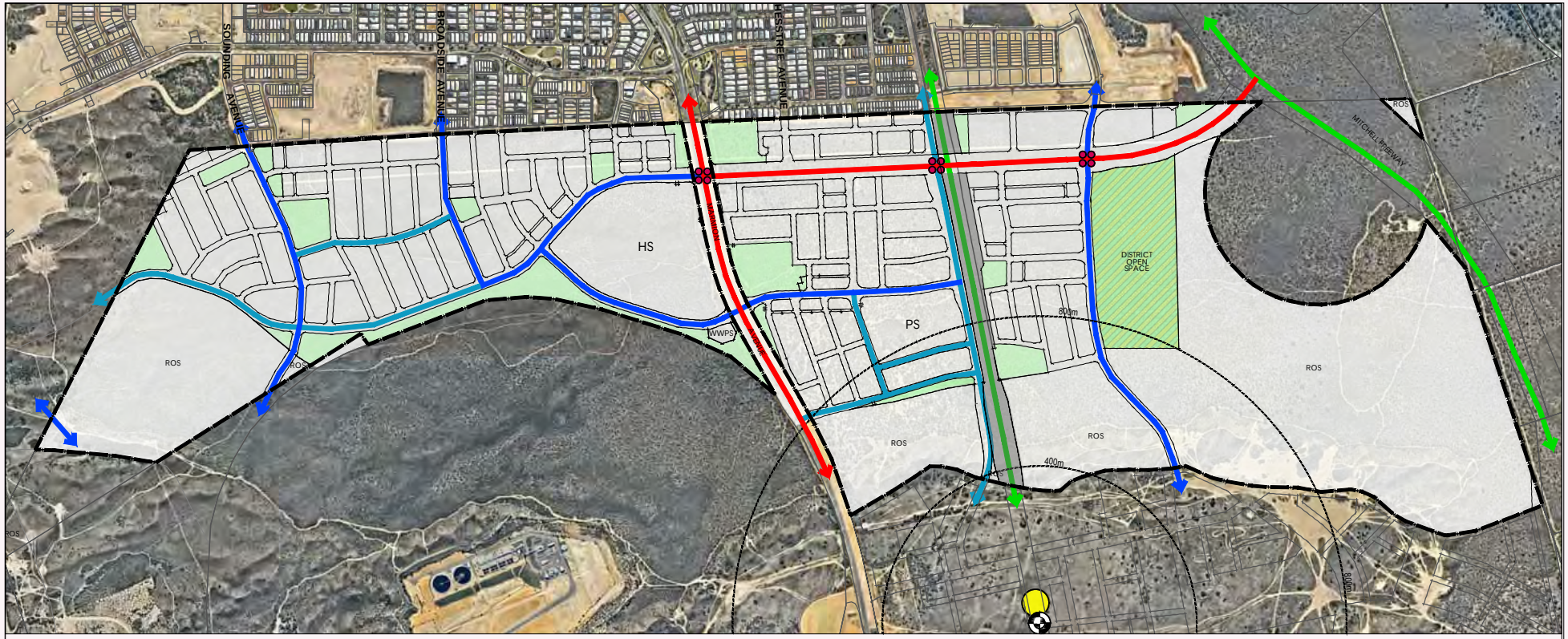
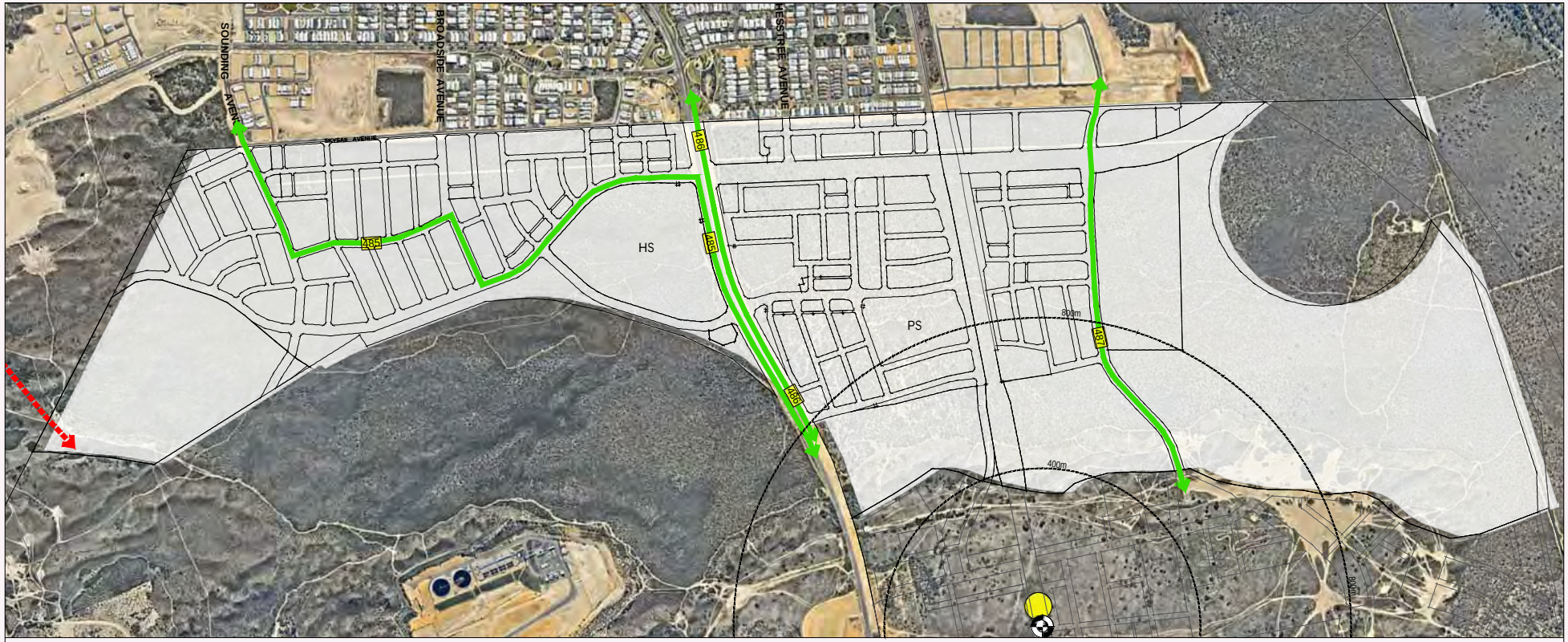


Figure 20: Proposed Public Transport Routes



3.5 Water Management

The Local Water Management Strategy (LWMS) (refer to Appendix F) for the Central Alkimos has been developed in accordance with Better Urban Water Management (DOW 2008), State Planning Policy 2.9 Water Resources (WAPC 2006) and Planning Bulletin 92 Urban Water Management (WAPC 2008). The LWMS has also considered the objectives and principles detailed in the Draft Alkimos-Eglinton District Water Management Strategy (DWMS) (GHD 2011), which is still to be approved by the City of Wanneroo and Department of Water. Water will be managed using an integrated water cycle management approach, which has been developed using the philosophies and design approaches described in the Stormwater Management Manual for Western Australia (DOW 2007). The key principles of integrated water cycle management that have guided the water management approach at the Central Alkimos development include:

- Considering all water sources, including wastewater, stormwater and groundwater
- Integrating water and land use planning
- Allocating and using water sustainably and equitably
- Integrating water use with natural water processes
- Adopting a whole of catchment integration of natural resource use and management.

The overall objectives for integrated water cycle management for residential development are to minimise pollution and maintain an appropriate water balance. The Central Alkimos LWMS design objectives seek to deliver best practice outcomes using a Water Sensitive Urban Design (WSUD) approach, including detailed management approaches for:

- Potable water consumption
- Flood mitigation
- Stormwater quality management
- Groundwater management.

The LWMS provides a comprehensive summary of the existing environmental values of the site, which are based on site-specific studies undertaken. The characteristics and environmental values of the site and guidance provided by National and State policies and guidelines relevant to urban water management have guided the design criteria and propose a contemporary best practice approach to achieving the design objectives for water management.

The WSUD approach and measures that are proposed for Central Alkimos include:

- Maintaining existing flow regimes by retaining all runoff within the site.
- Treatment of surface runoff prior to infiltration to groundwater.
- Bio-retention areas incorporated into POS areas.
- Major event flood storage requirements addressed within POS areas.
- Co-location of flood storage areas with natural landforms and native remnant vegetation wherever possible.
- Adopting appropriate non-structural best management practices.
- Adopting a fit-for-purpose water use approach.
- Minimising use of both scheme and non-potable water.

As at November 2012, a recycled effluent scheme capable of supplying a third pipe system to dwellings and commercial premises had not been agreed. The installation of a third pipe network is considered an opportunity for the Alkimos City Centre. In accordance with the Environmental Sustainability Strategy ongoing assessment of opportunities for a third pipe system will continue to be undertaken.

The LWMS demonstrates that the design approach for Central Alkimos is consistent with a best practice WSUD approach, that the water management objectives for the site can be achieved within the spatial allocation of the LSP, and that the requirements of the relevant State and local government policies and guidelines will be satisfied.

3.6 Education Facilities

The Alkimos-Eglinton DSP identifies one high school and one primary school within the LSP area. The LSP has been designed to accommodate these schools. The Department of Education have provided written support for the location of the schools.

3.7 Activity Centres and Employment

3.7.1 Local Economic Strategy

The Local Economic Strategy (Appendix G) states that the economic vision for the Central Alkimos area will be a dynamic, sustainable residential community with strong linkages to employment, infrastructure and amenities of Alkimos City Centre. It will leverage the presence of major road and rail infrastructure to capture and facilitate mixed use business investment targeting passing trade. Strong technology-based connectivity, coupled with the promotion of entrepreneurship, will underpin home-based business and employment activity, reinforcing local employment self-sufficiency.

The following list outlines the key drivers of the economic health of the Central Alkimos:

- Colocation with Alkimos City Centre – the position of Central Alkimos to the Alkimos City Centre will provide local residents with strong access to the highest concentrations employment, retail and economic activity between Joondalup and Yanchep;
- Centrality in a high growth district – the central location of the Central Alkimos area in the Alkimos-Eglinton District will provide local businesses with access to a strong labour force and consumer catchment;
- Frontage to Marmion Avenue and Alkimos Drive – Central Alkimos is traversed north-south by Marmion Avenue, providing the area with the opportunity to capture expenditure from passing traffic and local businesses with a high exposure business location;
- Freeway Exit – the Central Alkimos Area includes one of the three proposed exits to Alkimos-Eglinton District off the Mitchell Freeway. This will enhance accessibility of workers and freight transport to the area, including entrance into the District's primary service commercial land;
- Southern Entrance to Service Commercial Land – the southern entrance to the District's primary service commercial land is located within the Central Alkimos area. This gateway location will provide a high profile business investment location, with higher density employment contributing to local, district and regional employment self-sufficiency.
- High School – the inclusion of a high school in the Central Alkimos area will generate employment in the education sector. The proximity of the school to the Alkimos City Centre and proposed tertiary education facilities provides opportunities for secondary/tertiary education and school/business collaborations.
- Home-based business – the critical mass of residential homes and proximity to the Alkimos City Centre will promote and encourage the establishment of home-based businesses in the area.

These economic drivers, if successfully captured and delivered, will underpin the economic health of the Central Alkimos area and support the creation of a dynamic local economy.

Note, the employment generation and accommodation capacity of Central Alkimos will be significantly impacted by whether the potential Alkimos North rail station is delivered. At this stage, advice from the relevant State authorities is that the rail station not be incorporated in the Local Economic Strategy. An amendment to the Alkimos-Eglinton District Structure Plan to remove reference to the North Alkimos rail station has been lodged with the City.

The economic development of the Central Alkimos area will be guided by a range of strategic themes. These themes provide an organising framework for economic development actions proposed for the area in the appended Local Economic Strategy

These strategic themes are outlined in the table below.

Table 5:Central Alkimos Economic Development - Strategic Themes

Strategic Theme	Description
Growing Local Business	The sustainability of economic activity and growth requires medium and long-term growth of local businesses. Central Alkimos can play an important role in incubating and fostering small businesses, to enable their transition into medium and large employers and relocation to the City Centre.
Business Connectedness	The strength and resilience of the local economy will be contingent on the degree of connectedness among the local business community. This is a natural extension of the "Growing Local Business" theme. Promotion of connections between businesses through regular programs and events and guiding the establishment of a local business association are fundamental to reinforcing the beneficial interrelationships that exist between local businesses in successful and vibrant economic centres.
Retail and Amenity	Population serving employment represents those jobs that service the immediate needs of the local community. "Retail" falls into this category and is one of the foundation employment categories required to attract a critical mass of residential population in an area. Additionally, the establishment of a high quality urban environment, through effective landscaping, streetscaping and public space provision, can provide a significant incentive for early redevelopment and evolution of commercial centres through the emergence of higher and better uses.
Economic Flexibility	The Post GFC environment (summarised in 1.4) has emphasised the volatile and unpredictable nature of the future. As such, static and inflexible planning frameworks and design guidelines have the potential to not only endanger the sustainability of local economic activity, but also constrain the ability of the private sector to capture and leverage new and emerging business opportunities. Flexibility in both planning and design, to enhance the longevity of the land use and built form environment is therefore needed.
Enabling Infrastructure	Local economies can only develop, grow and prosper when core enabling infrastructure is provided. This includes basic services (e.g. water, waste water, electricity), transport infrastructure and communication technologies. These enabling infrastructures not only provide business and industry with the capacity to function but also play important macro-economic and behavioural roles. Such investments can de-risk locations for private sector investment, by enhancing the locations profile as an economic centre. Early delivery of public transport, for example, can have a critical role in the travel behaviours of both residents and workers in a community, underpinning a more sustainable and competitive economic environment.
Governance and Resourcing	Managing, resourcing and monitoring the evolution of local economies are essential. The volatility of the economic environment in the Post GFC environment, not only necessitates "Economic Flexibility" but sufficient monitoring to know when such flexibility needs to be utilised. Lend Lease has strong national reputation in the implementation of economic development actions. The approach and philosophy outlined in sections 3.1 and 3.2 illustrate the organisation's experience in practically implementing initiatives, actions and strategies. Such a practical approach invariably requires investment in targeted resources such as a dedicated Business and Economic Development Manager. The value of this resource will be maximised through their management of economic development initiatives for South Alkimos, Central Alkimos, Alkimos City Centre and Alkimos Coastal Village.

Source: RPS

3.7.2 Employment

Based on a review of previous economic modelling undertaken for the District and updated "bottom-up" analysis by RPS Economics in support of the Local Economic Strategy, it is estimated that by 2031, the Central Alkimos region will accommodate 807 EFT jobs. This employment will be distributed across service commercial (268 jobs), home-based business (267 jobs) and community uses (134 jobs). This is outlined in the following table.

Table 6: Floorspace and Employment, Central Alkimos

Central Alkimos	Stage 1 (2014)		Stage 2 (2017)		Stage 3 (2020)		Stage 4 (2023)		Capacity (2031)	
Catchment Population	250-750		2,000-3,000		3,500-4,500		4,000-5000		4,500-5,500	
Employment (Scale and Jobs)	Scale	Jobs	Scale	Jobs	Scale	Jobs	Scale	Jobs	Scale	Jobs
Retail (Neighbourhood Centre) Uses (Sq M)										
1 x Supermarket (Convenience)	0		0		600		800		800	
Retail/Dining					200		400		400	
Sub Total	0	0	0	0	800	32	1,200	48	1,200	48
Community and Commercial										
High School (sqm land)	0	0	35,000	42	70,000	84	100,000	120	100,000	120
Child Care (sqm land)	0		2,500	14	2,500	14	2,500	14	2,500	14
Sub Total		0		56		98		134		134
Other - Population Driven										
Mixed Use (ha)	0.7	7	1.7	17	3.4	34	5.0	50	9.0	90
Service Commercial (ha)	0.7	27	1.7	67	3.4	134	5.0	201	6.7	268
Home Based Business (dwellings)	250	33	750	100	1,500	200	2,000	267	2,600	347
Sub Total		67		184		368		518		705
Employment (Estimate)		67		240		498		700		887

Source: RPS

In respect to employment self sufficiency, employment and economic activity is more spatially concentrated than residential development. As such, the employment self-sufficiency rates of individual Local Structure Plan areas are irrelevant unless viewed within the context of the broader district or corridor. It is acknowledge therefore that the Central Alkimos area, with its predominantly residential nature, will play a supporting role in the provision of employment opportunities in the corridor.

The Alkimos-Eglinton District Structure Plan established a minimum employment self-sufficiency target of 60%. This means that there is to be minimum six jobs for every ten workers living in the Alkimos-Eglinton District. Self-sufficiency means that these jobs are not necessarily filled by local workers (that is employment self-containment), though it is expected that the provision of a diversified range of high order local employment will be a major driver in residential settlement and therefore enhance the levels of economic-based travel containment over time.

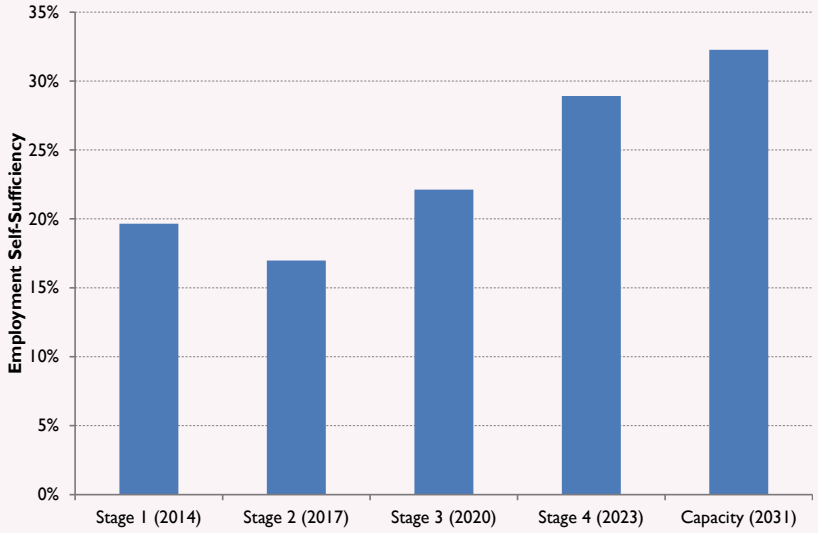


Figure 21: Employment Self-Sufficiency Rate, Central Alkimos (Source: RPS)

Over the course of its development, the Central Alkimos area is expected to experience a growth in its local employment self-sufficiency rate. From a low of 17% in Stage 2, ESS is projected to increase to 32% when the district is at capacity. In light of the predominantly residential nature of the area, such an employment self-sufficiency rate represents a strong performance. The exposure to service commercial land and mixed use development opportunities along Marmion Avenue do provide a boost to local employment.

Figure 21 is a built form masterplan that demonstrates adequate employment floorspace can be provided to meet the aforementioned employment numbers. The development of the mixed-use, business and commercial zoned land is dependant on the construction of Alkimos Drive. This road is unlikely to be constructed until the Mitchell Freeway is extended to this interchange. It is currently estimated that this won't occur until 2027.

3.8 Infrastructure Coordination, Servicing and Staging

3.8.1 Sewer

The Water Corporation of WA's (WCWA) has commissioned the first stage of the Alkimos Wastewater

Treatment Plant WWTP and the associated Quinns Main Collector Sewer for collection of flows from the south. To the north, there is a planned 1350mm diameter gravity main to collect flow from from as far north as Yanchep and deliver it by gravity to the WWTP.

The WCWA's strategy for the Alkimos Central area is to collect waste water from the individual allotments and convey the flow via local waste water gravity sewers (where possible) to the trunk gravity sewer main known as the Yanchep Main Sewer which traverses north through the land west of Marmion Avenue following the natural low points in the topography. Isolated catchments which cannot be served via a gravity sewer have been identified to be served by permanent waste water pump stations, pumping the flow back to the gravity mains.

Figure 21: Built Form Concept Plan



3.8.2 Water Reticulation

Supply to Alkimos Central will initially be via the 800mm diameter trunk water main in Marmion Avenue being installed by the Water Corporation to Shorehaven during 2013. The Water Corporation has a long term distribution network plan that includes a 900mm diameter water main required in Romeo Road (Alkimos City Centre), linking the 1200mm diameter main in east Romeo Road and the Carabooda reservoir with the other trunk distribution mains south into Butler, in Marmion Avenue and along the north south alignment between Marmion Avenue and the Mitchell Freeway (the old Connolly Drive alignment).

The Alkimos Central area is located within the Water Corporation's future Eglinton ground water source area for potable water supply. Provision has been made for some time for the development of this ground water resource. Water supply to the Alkimos Central LSP area will ultimately be via a series of groundwater bores, located throughout the Alkimos– Eglinton area, linked by collector water main's to a central treatment plant and reservoir. Areas of urban development will be serviced by a network of distribution water mains, from the reservoir, connected to reticulation systems within those areas. Alkimos Central is near the boundary of the existing Neerabup treatment and reservoir scheme and the Carabooda reservoir service areas and at ultimate development may receive water from either source at different times in the demand cycle although most water more likely will ultimately be from Carabooda reservoir.

3.8.3 Power

Alkimos Central has an existing 22kV high voltage underground cable in Marmion Avenue (eastern verge) for its full frontage. The cable was installed by Western Power to reinforce the electrical power supply into Yanchep in 2009/10. This same feed has been used to supply the initial developments at Shorehaven and Eglinton (Amberton); it will also be used for the initial supply for the Alkimos Central LSP area. There is a second independent 22kV high voltage feed in Marmion Avenue (western verge) installed as a dedicated supply for the Alkimos WWTP.

The 22kV HV cable in Marmion Avenue follows an alignment from Marmion Avenue to Romeo Road east via a temporary alignment in the WCWA's access track. The cable receives its feed from the "Yanchep Zone Substation" on Romeo Road near the intersection of Wanneroo Road. The Yanchep Zone Substation is a three transformer outdoor 132/22 kV zone substation. There are currently six 22 kV feeders out of this site. These feeders supply residential developments to the north along the coast and semi-rural loads north and to the east of the substation. The capacity expansion of the Romeo Road site is limited as the site already contains three 132/22 kV transformers. Western Power, Transmission Section is currently looking into the matter. We understand the substation is expected to be able to supply some 9,500 allotments in the Alkimos Eglinton area.

It is expected that the new Eglinton zone substation proposed in the Alkimos-Eglinton District Structure Plan south of Eglinton Drive and between the Railway reserve and the Mitchell Freeway reserve will need to be established within the next 10 years say by 2021 to accommodate the growth of existing loads in the region.

3.8.4 Gas

The existing high pressure gas network has been extended from Butler to Yanchep by the gas supply

operator, Atco. The same gas network extension has provided branch service connection to the Shorehaven development and Amberton (Eglinton) development north of the Alkimos Central. Atco the gas service provider has indicated the high pressure main installed in Marmion Avenue will have capacity for development in the Butler, Jindalee, Alkimos and Eglinton.

In general terms it is expected the gas reticulation network will be progressively extended from Marmion Avenue through the Alkimos Central and linked north and south into the adjoining developments as they proceed. There are not expected to be any gas supply capacity issues.

3.8.5 Telecommunications

Telstra has an existing exchange building adjacent to Marmion Avenue approximately four kilometres south of the Alkimos Central. Telstra has been providing fibre to the home services for Butler (Brighton) and other developments in the Alkimos Eglinton area. It is likely this same infrastructure will be used as part of the Federal Government's National Broadband Network (NBN) as this system is rolled out. It is not clear yet whether the NBN will develop a second exchange / headend in the Alkimos Central or surrounding suburbs, this will depend on the demand and final design of the system.

Telstra is currently the provider for the Shorehaven development north of the Alkimos Central. Amberton in the Eglinton area north of Shorehaven has signed a service agreement with the NBN for provision of telecommunications.

Refer to Appendix H for further information.

3.9 Developer Contributions

The Alkimos Eglinton Developer Contributions Plan is yet to be endorsed by the WAPC. Local Planning Policy 3.3: Northern Coastal Growth Corridor Developer Contributions is an interim measure to ensure the appropriate contributions are provided.

3.10 Sustainability

The core objectives that have set the direction for the Environmental Sustainability Strategy (ESS) at Central Alkimos (Appendix I) are:

1. Maintain the high value of natural environment in perpetuity.
2. Reduce energy consumption and source more renewable energy through targets and initiatives based on energy efficiency, energy demand management an alternative energy strategies.
3. Reduce drinking water scheme demand through water efficiency, water demand management and alternative water supply strategies.
4. Recycle high proportions of waste from subdivision and built form construction and community operation.
5. Identify and facilitate use of low impact, non virgin and low embodied energy materials in construction.
6. Create a substantial mode shift from car use to walking, bike riding and public transport for short local trips and longer distance trips for work and education.
7. Deliver a carbon management strategy that drastically cuts the ongoing carbon footprint of the community compared to the typical Perth outer urban average.

The basic structure of the ESS breaks Environmental Leadership into the key areas of:

- Natural environment;
- Carbon;
- Water; and,
- Governance.

The ESS also proposes an Integrated Carbon Strategy and Integrated Water Cycle Management. Refer to Appendix I for further information.

3.11 Community Development

The purpose of the Community Development Strategy (Appendix J) is to outline key strategies to achieve community outcomes in the LSP areas. While the residential and business communities will require different specific initiatives the framework for delivery and core program areas of participation, partnerships and governance are applicable to both.

The vision for Central Alkimos is a community of people that are:

- Connected and Engaged.
- Creative and Innovative.
- Diverse and Inclusive.
- Healthy and Safe.

The approach to implementing the Community Development Strategy will be facilitative, responsive, contextual, adaptive, integrated and aligned with local priorities. Consultation with key stakeholders has informed the development of the strategy, including identification of early services and infrastructure for delivery, and opportunities to develop partnerships and build on existing programs and initiatives.

Two main strategies underpin the delivery of community development outcomes for the LSP:

1. Design and built form: decisions regarding design and the built form play an important role in fostering community development. Design and built form have the potential to encourage interaction; promote health and wellbeing; provide amenity and services; and, increase safety. Transport, landscape design, affordable housing, environment and economic development furthermore contribution to community development outcomes.
1. Programs and initiatives: targeted programs and initiatives will be delivered that: encourage participation and interaction; support stakeholders to participate in decision making about the community; and promote partnerships.

4.0 IMPLEMENTATION

4.1 Staging

The urban development of the Central Alkimos LSP area will be implemented in stages over a period of time the duration of which will be dependent on the demand, for residential housing and the services and facilities that are associated with it.

The provision of engineering infrastructure will also need to be staged to suit the development demand and a detailed program for this will need to be prepared as a part of ongoing detailed planning and design of the infrastructure.

The current estimate for development growth of the Central Alkimos LSP area includes commencement in 2017 and the development rate of 240 allotments per year.

The construction of Alkimos Drive, and the associated mixed-use, business and commercial zoned land, is unlikely to be constructed until the Mitchell Freeway is extended to this interchange. It is currently estimated that this won't occur until 2027.

4.2 Planning Process

The implementation of the LSP will follow the typical development process followed with Western Australian, being:

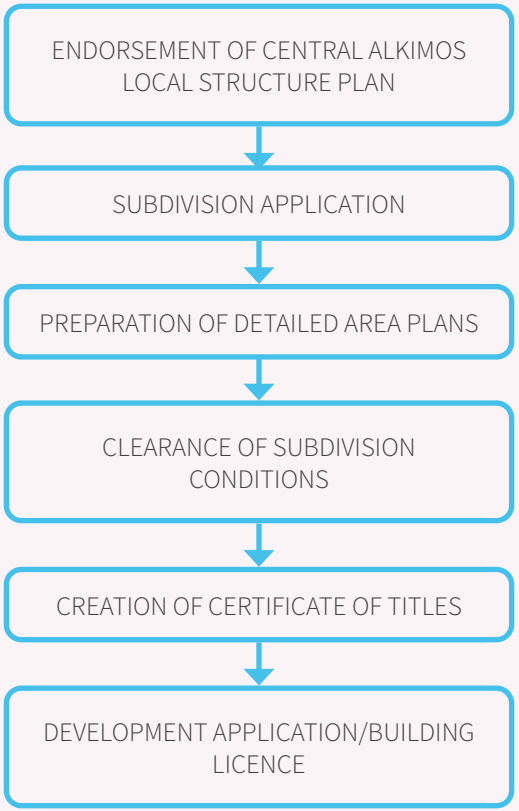
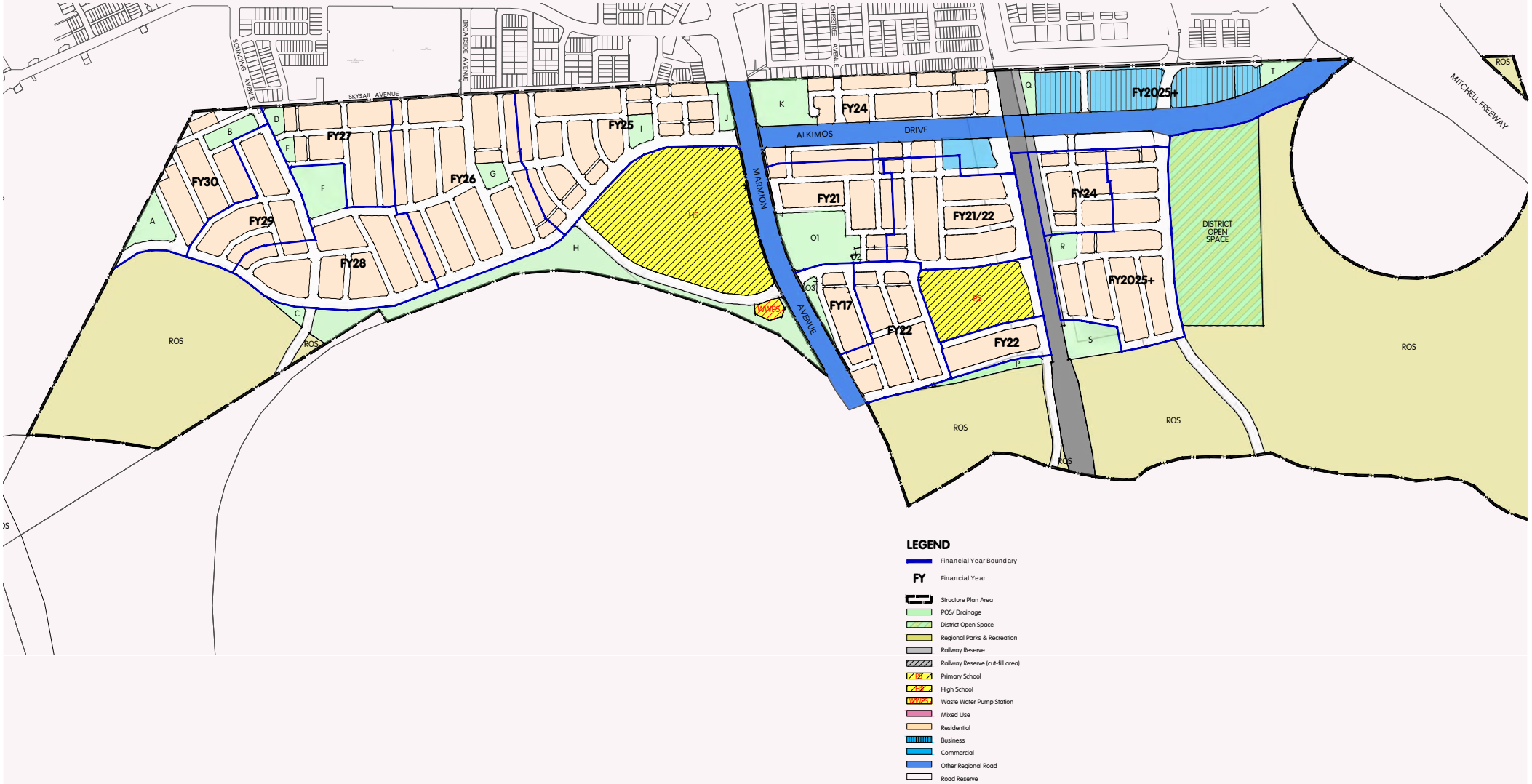


Figure 22: Staging Plan



5.0 ALKIMOS-EGLINTON DISTRICT STRUCTURE PLAN – COMPLIANCE TABLE

Sustainability Compliance Table

DSP Strategies	Compliance	LSP Strategy
S 1 LSPs to prepare a Sustainability Strategy outlining the implementation path and measures that will be taken to achieve the sustainability objectives, in line with this DSP.	Complies	Environmental Sustainability Strategy has been prepared by Lend Lease– refer Appendix I and Section 3.10 of the Local Structure Plan (LSP).
S 2 LSPs to include a Local Water Management Strategy that incorporates best practice water sensitive urban design principles and which is in line with the district water management design objectives and standards in this DSP.	Complies	To ensure best practise, a Local Water Management Strategy has been prepared by Emerge – refer Appendix F and Section 3.5 of the LSP
S 3 LSPs to conserve and enhance local biodiversity through design facilitating the retention of significant natural features in POS areas, road reserves, Social/Pedestrian/Cycle linkages or provide suitable justification otherwise.	Complies	Refer to LSP Section 3.2
S 4 LSPs to provide for Secondary, District, Neighbourhood and Local Activity Centres and employment corridors, generally as depicted on the DSP Map 1.	Complies	The LSP facilitates the subdivision and development of a Neighbourhood Centre Refer: • LSP Part 1 - Structure Plan • LSP LSP Part 2 – Sections 3.7 * Local Economic Strategy – Appendix G
S 5 LSPs to provide for development of the coastal nodes into Activity Centres, incorporating beachside facilities, retail, employment and economic activity generators and non-retail activities such as hospitality.	N/A	The LSP does not contain coastal nodes.
S 6 LSPs to investigate opportunities for effective waste management (reduction, reuse and recycling) in construction and domestic/ commercial consumption through alternative technologies, products and services.	Ongoing	LSP waste management strategies are outlined in the Environmental Sustainability Strategy – refer Appendix I

Community Development Compliance Table

DSP Strategies	Compliance	LSP Strategy
S 1 LSPs to prepare a Community Development Plan outlining the implementation path and measures that will be taken to achieve the DSP Community Development Objectives as outlined in Clause 7.5.	Complies	Community Development Plan has been prepared by the Arid Group – refer Appendix J
S 2 LSPs to investigate and facilitate collaboration between the developers, City of Wanneroo, community-based organisations, local business, local residents and State Government agencies to explore community fostering and early delivery of services programs.	Complies	Refer to Community Development Plan – Appendix J
S 3 LSPs to undertake facilities planning and make provision for community facilities that accommodate a range of uses to maximise civic participation and accommodate changing community needs and showcase leading practice sustainable building and landscape design.	Complies	Refer to Community Development Plan – Appendix J
S 4 LSPs to provide sites for high schools, in locations, generally in accordance with that described on the DSP Map 1, based on the Department of Education and Training (DET) criteria and embracing good urban design outcomes, including: • Provision for sites of a sufficient size, configuration and topography to accommodate the intended use. • Promotion of safe access by a range of transport modes. • Promotion of multiple use of school infrastructure by the broader community through co-location of facilities and partnerships with relevant authorities. • Sites for primary schools, whilst not shown on the DSP Map 1, need to be provided for at the LSP stage.	Complies	The LSP provides a high school generally in accordance with the DSP Map 1
S 5 LSPs to make provision for private schools.	N/A	There is no provision for a private school within the LSP area. The two proposed Government schools are considered adequate.
S 6 LSPs to investigate opportunities for co-location of educational facilities with other community, retail and recreational infrastructure.	Complies	Local Primary School may be co-located with active playing fields.
S 7 LSPs to investigate opportunities to create synergies between civic and educational institutions, such as: • Extended hours activity/ creativity precincts around tertiary institutions; • Collaborative research between Government and Industry of initiatives in association with tertiary institutions; • Co-locating open space, performing arts venues and libraries with secondary or tertiary institutions; • Where appropriate, encouraging partnerships that enable joint provision and shared-use of infrastructure.	Ongoing	Refer to Community Development Plan – Appendix J
S 8 The school site location will need to be determined through LSP upon the advice of the Department of Education and Training and to the satisfaction of the City of Wanneroo and the WAPC.	Complies	The locations of the primary school and high school have been discussed with the DET and the City, who provided their support.

Economy, Employment and Activity Centres Compliance Table

DSP Strategies	Compliance	LSP Strategy
S 1 LSPs to develop Economic and Employment Strategies, in partnership with State and Local Government, which, amongst other things, clearly define roles and responsibilities in the delivery of employment, and provide a clear process and set of milestones, which can be used as performance monitoring for employment development.	Complies	Refer to Part 1 clause 9.4, Part 2 Section 3.7 and Local Economic Strategy – Appendix G
S 2 LSPs to incorporate appropriate sites for employment nodes and corridors, in locations generally as depicted on the DSP Map 1.	Complies	The LSP facilitates the subdivision and development of a neighbourhood centre, mixed use area and service commercial area. Refer: • LSP Part 1 - Structure Plan • LSP LSP Part 2 – Sections 3.7 * Local Economic Strategy – Appendix G
S 3 LSPs to provide appropriate sites for Regional, District and Coastal Activity Centres, in locations generally in accordance with those depicted on the DSP Map1.	N/A	The Alkimos Eglinton DSP does not identify a regional, district or coastal activity centre on the LSP site.
S 4 LSPs to make provision for a diversity of land uses within the Activity Centres, including higher density residential developments and employment generators.	Complies	The LSP provides for: • A range of land uses within the site. • Increased density within and around the proposed rail station. Refer: • LSP Part 1 - Structure Plan. • LSP LSP Part 2 – Sections 3.3 and 3.7 * Local Economic Strategy – Appendix G
S 5 LSPs to facilitate access to the Activity Centres by a variety of transport modes, especially public transport.	Complies	Refer: • LSP Part 1 - Structure Plan. • LSP Part 2 – Section 3.4; and • Traffic and Movement Network Report - Appendix E
S 6 LSPs to accommodate generally the scale and allocation of retail, commercial, community service and associated floorspace as indicated in this DSP.	Complies	Refer: • LSP Part 1 - Structure Plan. • LSP Part 2 – Sections 3.7 • Local Economic Strategy – Appendix G
S 7 The size and function of centres to be consistent with the State's Policy on Activity Centres.	Complies	The size and function of centres are consistent with the State's Policy on Activity Centres.

Transport and Movement Compliance Table

DSP Strategies	Compliance	LSP Strategy
S 1 LSPs to provide for the Regional Road network to reflect the road alignments shown in the Metropolitan Region Scheme.	Complies	Refer: • LSP Part 1 - Structure Plan. • LSP Part 2 – Section 3.4; and • Traffic and Movement Network Report - Appendix E
S 2 LSPs to identify neighbourhood connectors and major intersection points in locations generally in accordance with those depicted on the DSP Map 1.	Complies	Refer: • LSP Part 1 - Structure Plan. • LSP Part 2 – Section 3.4; and • Traffic and Movement Network Report - Appendix E
S 3 LSPs to provide for integrated road, rail, bus, pedestrian and cycle access at key nodes within the development (Alkimos Town Centre, Eglinton District Centre, Activity (employment) Corridors), the three proposed Coastal Activity Centres and railway stations.	Complies	Refer: • LSP Part 1 - Structure Plan. • LSP Part 2 – Section 3.4; and • Traffic and Movement Network Report - Appendix E
S 4 LSPs to provide for the location of the three railway stations to integrate and activate the Alkimos Town Centre, Eglinton District Centre and park and ride/activity node located between the Regional and District Centres.	N/A	An amendment to the DSP has been lodged to remove reference to the proposed park and ride station. Refer to Section 1.3.2 of the LSP.
S 5 LSPs design to optimise integration between the transport system and the land uses which it supports.	Complies	Refer: • LSP Part 1 - Structure Plan. • LSP Part 2 – Section 3.4; and • Traffic and Movement Network Report - Appendix E
S 6 LSPs to identify a secondary public transportation route capable of accommodating a variety of transportation modes and thereby maximising resident access to the rail infrastructure and local employment opportunities.	N/A	The STS does traverse the LSP area.
S 7 LSPs to establish a road hierarchy which clearly emphasises, in the longer term, the Mitchell Freeway for regional trips, Marmion Avenue and east - west roads for district trips, all supported by a local road network, to improve efficiency in the use of transport infrastructure and services.	Complies	Refer: • LSP Part 1 - Structure Plan. • LSP Part 2 – Section 3.4; and • Traffic and Movement Network Report - Appendix E
S 8 LSPs to integrate higher densities and diversity of development near public transport stops, to maximise the convenience, efficiency and usage levels of public transport.	Complies	Refer: • LSP Part 1 - Structure Plan. • LSP Part 2 – Sections 3.3 and 3.4; and • Traffic and Movement Network Report - Appendix E

DSP Strategies	Compliance	LSP Strategy
S 9 LSPs to incorporate design measures for both high volume roads within Activity Centres and local roads to ensure the street environment is safe and amenable to pedestrians, cyclists, home and business.	Complies	Refer: • LSP Part 1 - Structure Plan. • LSP Part 2 – Section 3.4; and • Traffic and Movement Network Report - Appendix E
S 10 LSPs to define a robust walk/cycle network that will aim to: • Encourage reduction in the private car dependency for residents. • Increase accessibility to employment and other urban activities. • Reduce adverse environmental impacts of transport. • Increase resource efficiency in a multi modal transport system. • Provide a healthy, safe and interesting lifestyle.	Complies	Refer: • LSP Part 1 - Structure Plan. • LSP Part 2 – Section 3.4; and • Traffic and Movement Network Report - Appendix E
S 11 LSPs to design a road network which responds to the topography and environment of the project area, whilst recognising the need to facilitate an urban road framework that enables energy efficient housing orientation.	Complies	Refer: • LSP Part 1 - Structure Plan. • LSP Part 2 – Section 3.1 and 3.4; and • Traffic and Movement Network Report - Appendix E • Engineering and Servicing Report Report - Appendix H
S 12 LSPs to provide on-street cycle lanes and off-street shared paths on all district distributors and access streets to have shared paths/ footpaths in order to create cycling and walking networks that are continuous, connected, convenient, attractive and safe and are linked to key destinations.	Complies	Refer: • LSP Part 2 – Section 3.4; and • Traffic and Movement Network Report - Appendix E
S 13 LSPs to investigate strategic agreements with the Public Transport Authorities for the provision of public transport between all activity centres and for feeder bus systems to be developed in residential neighbourhoods.	Ongoing	Refer to Traffic and Movement Network Report - Appendix E
S14 LSP to ensure a road, open space or appropriate land use interface occurs with the above ground railway reserve and sensitive land uses such as residential development to address noise amenity issues, or provide suitable justification otherwise.	Complies	The LSP design incorporates appropriate interface measures between the railway reserve and adjoining land uses. A Noise Attenuation study has been prepared by Herring Storer and identifies the appropriate measures to ensure the amenity of future residents is not adversely affected by noise (Appendix A).
S 15 Roads to be in accordance with Liveable Neighbourhoods.	Complies	The road cross-sections are generally in accordance with Liveable Neighbourhoods. Refer to Traffic and Movement Network Report - Appendix E

Ecology, Public Realm and Open Space Compliance Table

DSP Strategies	Compliance	LSP Strategy
S 1 LSPs to reflect the Regional Open Space reserved under the MRS, with a further area of 114ha to be preserved for conservation purposes within the Waste Water Treatment Plant buffer, generally as depicted on the DSP.	NA	The LSP reflects the existing Regional Open Space.
S 2 LSPs to include an overall strategy for the provision and form of public realm including green linkages, active POS and passive POS including conservation areas, beaches and recreational facilities.	Complies	Refer: • LSP Part 2 – Section 3.2
S 3 Public Open Space within LSPs must provide a mix of active and passive open space in accordance with WAPC Policy DC 2.4 'Public Open Space in Residential Areas' and/or Liveable Neighbourhoods.	Complies	Refer: • LSP Part 2 – Section 3.2
S 4 LSPs to identify significant landscape features, such as ridge lines and dunal formations, and significant natural features, such as locally significant vegetation and fauna habitat (as is defined by the WALGA/ Perth Biodiversity Project's Local Government Biodiversity Planning Guidelines of the Perth Metropolitan Region 2004), and integrate these either within POS or with a suitably controlled and managed, highly landscaped responsive form of development or provide suitable justification otherwise.	Complies	Refer: • LSP Part 2 – Section 3.2
S 5 LSPs to investigate and facilitate interlinking recreational areas, environmental reserves, landscaped streetscapes and local POS to provide 'stepping stones' from hinterland to the coast generally in accordance with the Social/Pedestrian/Cycle linkages shown on the DSP (Map 1) and the Guidelines in this DSP.	Complies	Refer: • LSP Part 2 – Sections 3.1 and 3.2
S 6 Foreshore Management Plans (FMPs) are to be generally prepared in consultation with the Department of Planning's Coastal Planning section, with setbacks to be in accordance with SPP No. 2.6 Coastal Planning Policy and will address the following: • Support for the development of the coastal nodes into Activity Centres • Community access and beachside facilities and focal points • Conservation values • Linkages • Dune stabilisation • Perpetual management • Recreation opportunities • Pedestrian access • Fauna habitat retention	N/A	The LSP site does not include any foreshore reserve.
S 7 LSPs and / or FMPs to provide for a continuous foreshore shared path and identify appropriate locations for public beach access and facilities.	N/A	The LSP site does not include any foreshore reserve.

DSP Strategies	Compliance	LSP Strategy
S 8 LSPs to identify conservation areas, such as conservation public open space, or passive open space with a conservation function, and design these in such a way so that they remain viable (as defined by the WALGA/ Perth Biodiversity Project's Local Government Biodiversity Planning Guidelines of the Perth Metropolitan Region, 2004).	Complies	Refer to LSP Part 2 Section 3.2.2
S 9 Landscape plans for public spaces to utilise local indigenous plant species, or provide suitable justification otherwise, and their use to be encouraged in private landscapes.	Complies	Refer to LSP Part 2 - Section 3.2
S 10 LSPs to include a Vegetation Management Strategy, which will include, where appropriate, a vegetation survey, fauna survey, fauna habitat survey, highlight the areas of vegetation and habitat to be retained and highlight opportunities for existing vegetation to be retained in the landscape through measures such as local seed provenance and retention in public space.	Complies	Refer to Environmental Assessment and Justification Report – Appendix B
S 11 LSPs to provide for co-location, such as schools with public open space, and multiple uses, such as conservation and passive recreation, where practicable.	Complies	Refer to LSP Part 2 - Section 3.2

Built Environment Compliance Table

DSP Strategies	Compliance	LSP Strategy
S 1 LSP and subdivision design to be robust and be able of being intensified over time.	Complies	Refer to LSP Part 2 - Section 3.1
S 2 LSPs to prepare a Housing Diversity, Residential Yield and Density Analysis Plan allocating densities consistent with the City's Housing Strategy.	Complies	Refer to LSP Part 2 - Section 3.3
S 3 LSPs to allocate higher residential density codings generally consistent with the DSP and in accordance with the criteria below: • A minimum average density of 50 dwellings per site hectare within 400 metres from the centre of regional activity centres; • A minimum average density of 30 dwellings per site hectare within 400 metres from the centre of district activity centres; • A minimum average density of 25 dwellings per site hectare within 400 meters from the centre of neighbourhood centres and along neighbourhood connectors; supporting future public transport routes; • A range of densities in other locations in order to deliver housing diversity.	Complies N/A N/A Complies Complies	Refer to LSP Part 2 - Section 3.3
S 4 LSPs to develop residential design standards that are responsive to site and lot attributes and facilitate energy-efficient, affordable and flexible dwelling design.	Complies	Part 1 establishes requirements for future DAPs and key site planning and building design considerations. The Environmental Sustainability Strategy (Appendix I) identifies energy efficiency requirements for housing to meet.

DSP Strategies	Compliance	LSP Strategy
S 5 LSPs to provide for energy-efficient development through appropriate subdivision design and R-Code variations.	Complies	Part 1 establishes requirements for future DAPs and key site planning and building design considerations.
S 6 LSPs to provide for built form that incorporates the opportunity for passive solar design, energy and water efficiency principles.	Complies	Refer to Local Water Management Strategy (Appendix F) and Environmental Sustainability Strategy (Appendix J)
S 7 LSPs to allow for 'ageing in place' through the provision of a range of dwelling types, including those suitable for the elderly.	Complies	Refer to LSP Part 2 - Section 3.3
S 8 LSPs to develop and implement strategies for affordable housing product and to facilitate increased opportunities for home ownership.	Complies	Refer to LSP Part 2 - Section 3.3
S 9 LSPs to provide for housing types in accordance with the City's Housing Strategy.	Complies	Refer to LSP Part 2 - Section 3.3
S 10 Local and Centre structure plans and/or detailed area plan shall demonstrate how the scale and allocation of retail, commercial, community service and associated floor space will be delivered by: • Delivering a robust street network that can accommodated an increase in intensity of built form and use over time; • Providing adaptable building design capable of multifunctional ground floor use and the provision of additional levels without the need for demolition; and • Enabling generational change to occur as a right in certain circumstances without the need for further planning approval.	Complies	Part 1 establishes requirements for future DAPs and key site planning and building design considerations.

Resources, Infrastructure and Services

DSP Strategies	Compliance	LSP Strategy
S 1 LSPs to demonstrate how funding arrangements, including the endorsed Alkimos Eglinton Developer Contributions Plan, are to be implemented, in order to provide for the efficient and equitable delivery of infrastructure and services.	NA	The Alkimos Eglinton Developer Contributions Plan is yet to be endorsed by the WAPC. Local Planning Policy 3.3: Northern Coastal Growth Corridor Developer Contributions is an interim measure to ensure the appropriate contributions are provided.
S 2 LSPs to make provision for infrastructure and essential services to development areas.	Complies	All essential services are able to service the site. Refer to Engineering and Servicing Report – Appendix H
S 3 LSPs to investigate opportunities for communications infrastructure.	Complies	Refer to Engineering and Servicing Report – Appendix H
S 4 LSPs to explore opportunities and initiatives for energy efficiency.	Complies	Refer to Environmental Sustainability Strategy – Appendix I

Staging

DSP Strategies	Compliance	LSP Strategy
S 1 LSPs shall demonstrate that the establishment of residential areas, activity centres, employment-generating uses, transport systems, infrastructure, public spaces and community facilities within that LSP will be staged in a way that efficiently and effectively caters for the needs of the community. This includes the prioritisation of new retail and commercial development within centres over that of the adjoining areas or along corridors, within the LSP area.	Complies	A staging plan has been prepared to demonstrate that the LSP meets this strategy.

APPENDIX A
ACOUSTIC ASSESSMENT
(HERRING STORER, MAY 2020)

APPENDIX B
ENVIRONMENTAL ASSESSMENT AND JUSTIFICATION REPORT

(EMERGE, AUGUST 2013)

APPENDIX C

BUSHFIRE MANAGEMENT PLAN

(DON SPRIGGINS, NOVEMBER 2012)

APPENDIX D
ABORIGINAL HERITAGE MANAGEMENT PLAN

(ETHNOSCIENCES, JULY 2012)

APPENDIX E
TRAFFIC AND MOVEMENT NETWORK REPORT
(BRUCE AULABAUGH, NOVEMBER 2012)
+ ADDENDUM - TRAFFIC IMPACT ANALYSIS: TECHNICAL NOTES
(GTA, MAY 2020)

APPENDIX F
LOCAL WATER MANAGEMENT STRATEGY
(EMERGE, NOVEMBER 2012)

APPENDIX G
LOCAL ECONOMIC STRATEGY

(RPS, AUGUST 2013)

APPENDIX H
ENGINEERING AND SERVICING REPORT

(COSSILL AND WEBLEY, AUGUST 2013)

APPENDIX I
ENVIRONMENTAL SUSTAINABILITY STRATEGY

(LEND LEASE, MAY 2012)

APPENDIX I
COMMUNITY DEVELOPMENT STRATEGY

(ARID GROUP, MAY 2012)