AMENDMENT NO. 2

TO THE

CENTRAL ALKIMOS

AGREED STRUCTURE PLAN NO. 95

This Amendment to the Agreed Structure Plan has been prepared under the provisions of the City of Wanneroo District Planning Scheme No. 2

RECORD OF AMENDMENTS MADE TO THE CENTRAL ALKIMOS

AGREED STRUCTURE PLAN NO. 1

Amendment No.	Summary of the Amendment	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; and 3. Adding sub-clauses in Clause 4.3.	
02	Amend Part 1 by: 1. Replacing Plan 1 Local Structure Plan to show amendments Neighbourhood Connectors and Primary School site; 2. Replacing Part 2 Figure 18 Movement Network; 3. Adding Addendum to Appendix E Traffic and Movement Network Report; and 4. Adding sub-clause in Clause 5.0.	

AMENDMENT NO. 2 TO THE
CENTRAL ALKIMOS AGREED STRUCTURE PLAN NO. 95

The City of Wanneroo, pursuant to its District Planning Scheme No. 2, hereby recommends to the Western Australian Planning Commission to approve the abovementioned amendment by:

1. Replacing Part 1 Plan 1 – Central Alkimos Structure Plan with the plan appended to this report (Appendix A);
2. Replacing Part 2 Figure 18 Road Hierarchy with the plan appended to this report (Appendix B);
3. Adding Addendum to Appendix C Traffic and Movement Network Report of the endorsed Central Alkimos Agreed Structure Plan; and
4. Insert the following under Part 1 Clause 5:
   h. R40 and R60 coded terrace lots, to facilitate the delivery of as-of-right two-storey dwellings with walls on both side boundaries;

This Structure Plan Amendment is prepared under the provisions of the City of Wanneroo District Planning Scheme No. 2

IT IS CERTIFIED THAT THIS STRUCTURE PLAN AMENDMENT NO. 2 TO THE CENTRAL ALKIMOS AGREED STRUCTURE PLAN NO. 95

WAS APPROVED BY

RESOLUTION OF THE WESTERN AUSTRALIAN PLANNING COMMISSION ON

……

Signed for and on behalf of the Western Australian Planning Commission

……..

an officer of the Commission duly authorised by the Commission pursuant to section 24 of the *Planning and Development Act 2005* for that purpose, in the presence of:

…… Witness

…….. Date

…….. Date of Expiry

PART 2 - EXPLANATORY REPORT

AMENDMENT NO. 2 TO THE

CENTRAL ALKIMOS AGREED STRUCTURE PLAN NO. 95

1.0 BACKGROUND

The Central Alkimos Agreed Structure Plan No. 95 (ASP95) comprises approximately 255 hectares of land and at ultimate development will cater for approximately 1,600 residential dwellings. The design of the Structure Plan also provides 110 hectares of a combination of conservation public open space and district playing fields, 9.1 hectares of Business, Mixed Use and Commercial zoned land and allocation for a primary school and high school.

The (ASP95) was approved by the Western Australian Planning Commission on 6 February 2017. Amendment 1 to ASP95 was approved subject to modifications by the WAPC on 11 July 2018.

The proposed amendment is required to address the following:

- As part of the design process associated with the METRONET Yanchep Rail Extension (YRE) it was concluded that the proposed vehicle bridge over the rail corridor is not required. The removal of this bridge resulted in a redesign over the land between Marmion Avenue and the proposed District Open Space, including the primary school site;
- Intersection treatments for gaining access/egress from Alkimos Drive; and
- The emergence of two-storey terrace houses has resulted in several lot types (e.g. 6.0m and 7.5m frontages) requiring planning approval. The amendment proposes a clause allowing the preparation of LDP's over these lots to permit two-storey walls to both side boundaries.

The purpose of Amendment No. 2 is to amend the ASP95 to address the aforementioned issues.

Refer to Appendix A for the amended Agreed Structure Plan.

2.0 PROPOSED AMENDMENT

2.1 Reorientation of Primary School Site and Removal of Neighbourhood Connector Road resulting from removal of bridge over rail reserve

During the original LSP preparation and development, a *"Traffic and Movement Network"* report was prepared by Bruce Aulabaugh Traffic Engineering and Transport Planning. The movement network within this report included the provision of a vehicular bridge over the rail corridor to link to the residential areas on either side. This proposed bridge was in addition to the bridge proposed for Alkimos Drive, which will be constructed in the next two years as part of the YRE project. The subject bridge is not specifically identified or referred to in the ASP95 Structure Plan or Parts 1 and 2 of the supporting report.

The proposed removal of the bridge will result in a change to the transport network either side of the rail corridor. An addendum report to the Aulabaugh Report has been prepared to address the redesign, and in particular, define any impacts to the proposed local road hierarchy and movement network (refer to Appendix C). It is proposed to include this addendum to the ASP.

The addendum concluded that the estimated future traffic volumes on individual road links within the LSP are expected to be accommodated within the proposed road reserves and cross-sections. The proposed internal road network layout has been designed in accordance with *Liveable Neighbourhoods* design principles, and revised volumes are shown to still be within what was considered within the 2013 Aulabaugh Report.

Reorientation of Primary School

In respect to the reorientation of the primary school site, one of the reasons for this is that the proposed roundabout adjacent to the subject bridge is partially located within the rail reserve. As the bridge is being removed, the proposed roundabout needs to be relocated to wholly within the structure plan area. The relocated roundabout impacts on the currently proposed terrace lots to the south-west, resulting in non-conventional lot boundary shapes. A large primary school site is considered more appropriate to address these lot boundary shapes than residential lots.

The Acoustic Assessment has also been updated with the revised primary school design. The modelling concludes that it will not be impacted by rail noise. Refer to Appendix H.

Figure 1 – Current Primary School Location

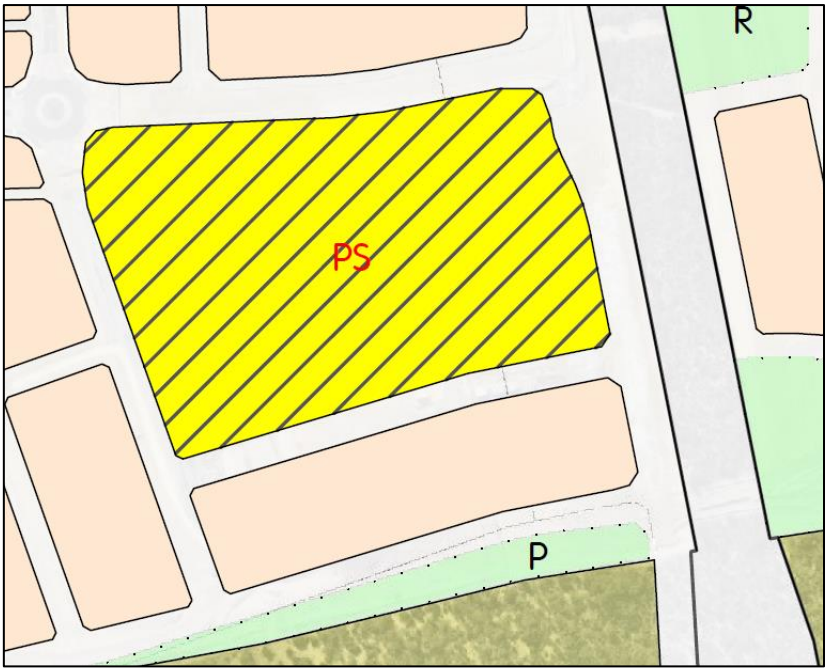

Figure 2 – Proposed Primary School Location

Other reasons for the reorientation of the primary school site are:

1. Reduce the potential bush fire risk on the primary school site resulting from its proximity to the southern area of Regional Open Space. Refer to BAL ratings from the approved Bushfire Management Plan (note that the bush to the east of the site has been cleared and the bushfire hazard removed);

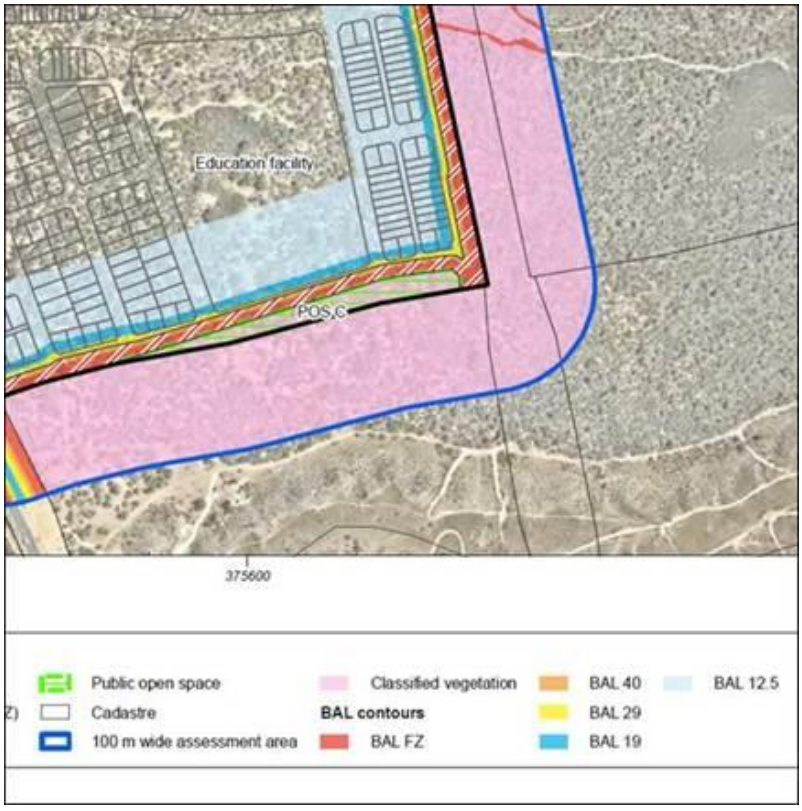

Figure 3 – Bushfire Attack Level Plan (Strategen, 2017)

2. The revised location is more central to the school catchment;

3. The levels of the revised location meet the Department of Education's 3% maximum grade. The indicative slope is 2.2%. Refer to indicative levels below (blue – road levels/red – school site levels).

Figure 4 – Indicative Levels

We have liaised with the Department of Education (DoE) in respect to the redesign and they have provided their support. Refer to the letter from Lendlease to the Department of Education and their response in Appendix D. The DoE have also engaged an architect to prepare a concept design for the new design. Refer to Appendix E.

East of Rail Reserve Development Cell

Two matters have impacted the design of the development cell between the rail reserve and the Regional Open Space, being; the downgrading of the east-west neighbourhood connector to a local access road as a result of removing the vehicular bridge and the batters outside the rail reserve associated with the construction of the Yanchep Rail Extension being finalised.

This has impacted on the design layout within this development cell, including road network, drainage and public open space (POS). The drainage and associated POS have been thoroughly investigated due to the land sloping to the south-west, resulting in a trapped low point between the road reserve to the west, Regional Open Space to the south and developable land to the north and east. As drainage is to be located within POS, the location of the POS to service this development cell is restricted to this isolated location, rather than in a preferable, central location.

The provision of a sump to address this captured low point and associated poor location of POS was investigated but both the City and DPLH were not supportive. The masterplan (refer Appendix F) has therefore been amended to provide for two areas of POS in the subject area. The northern portion of POS is centrally located to ensure accessibility for all residents within this development cell, whilst the southern POS will accommodate the drainage and provide a secondary open space function. The relocation of the POS and associated drainage requirements have been reviewed by Emerge who provided the following advice:

The water management approach for the site is consistent with that presented in the approved Alkimos Central Structure Plan Local Water Management Strategy (LWMS) (Emerge 2017) and the Alkimos Vista Precinct 1: Subdivision Stage 1 UWMP (Emerge 2017).

The stormwater management plan for Stage 2 has been reviewed consistent with the stormwater strategy and the Stage 2 subdivision concept plan, with associated retention assets identified and sized based on preliminary designs (detailed in drawing EP17-011(07)--WD32A). Treatment will be provided in a bio-retention area (BRA), verge swales, and collocated with a flood storage area (FSA), as shown in the figure. This provides treatment across the catchment, with major event (1% annual exceedance probability (AEP)) runoff retained in the FSA. The sizing of the assets has utilised the current Australian Rainfall and Runoff (ARR19) ensemble methodology and updated rainfall patterns.

Infiltration losses have been assumed to be 6 m/day, with a 50% clogging factor utilised in all small event treatment structures (i.e. swales and BRas). This rate is based on site specific infiltration testing (with results averaging 39 m/day), and consideration of risk based on the asset locations within trapped low points and adjacent to major infrastructure. A risk assessment of the flood storage area adjacent to the rail line indicates there is sufficient capacity in the POS to allow for the 1% AEP with a zero infiltration rate.

The ultimate configuration of the stormwater retention assets will be confirmed at detailed design and provided in the supporting urban water management plan (UWMP). Refer to Appendix G for the Stormwater Management Plan.

The Acoustic Assessment has also been updated with the revised design. No lots adjacent to the rail corridor are impacted by noise. Refer to Appendix H.

2.2 Intersection treatments for gaining access/egress from Alkimos Drive and provision of CAP roads

The endorsed LSP currently shows two left-in/left-out intersections on Alkimos Drive between Marmion Avenue and the rail corridor. In order to provide improved access to the mixed use lots fronting Alkimos Drive, which were required by the Alkimos-Eglinton District Structure Plan, and the proposed neighbourhood centre, it is proposed to amend these intersections to priority controlled full access T intersections and also provide for CAP roads in the Alkimos Drive road reserve.

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 C.

In respect to the proposed CAP roads along Alkimos Drive, these are considered essential for the viability of the mixed-use developments along Alkimos Drive (on both sides) and provides a suitable access solution to these land uses between Marmion Avenue and the Mitchell Freeway. The CAP 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 CAP roads enable a direct access solution that also does not detrimentally impact the through flow. The CAP 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.

The viability of the neighbourhood centre and mixed-use developments along Alkimos Drive fronting Alkimos Vista and abutting Shorehaven are greatly dependent on the CAP roads being in place. Without these, the amenity of the residential roads within Shorehaven and Alkimos Vista are expected to suffer and carry in excess of what they are intended to (above 3,000vpd). Refer to Appendix C for further information.

Note that Figure 18 – Movement Network of the ASP has been amended in accordance with the proposed access changes. Refer to Appendix B.

2.3 Insert a clause to allow Local Development Plans to include a provision that will allow as-of-right two storey dwellings with walls on both side boundaries

In accordance with Part Clause 4.6 of the LSP, 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) applies to the LSP area.

The R-MD Codes do not provide guidance in respect to the maximum heights for walls on the side boundary. As no height is stated in the R-MD Codes, it reverts to the standard for R40/R60 being a 3.5m maximum boundary wall height. This has resulted in issues for any two-storey terrace product with walls built to both side boundaries, as the City is requiring the submission of development applications for this product. This results in unnecessary costs/delays for the purchasers and additional workload for the City.

The development of two-storey terrace dwellings on 6.0m and 7.5m wide lots is becoming more prevalent. In order to stop the need for a development application for these types of dwellings it is proposed to insert the following under Part 1 Clause 5:

> *h. R40 and R60 coded terrace lots, to facilitate the delivery of as-of-right two-storey dwellings with walls on both side boundaries;*

Provisions to address this matter have already been included on LDP's approved by the City, including LDP's 31 and 37 in Alkimos Beach. The provision for LDP37 reads:

> *Boundary walls are permitted to both side boundaries (excluding secondary street boundaries) provided that:*
>
> - *The wall is behind the primary street setback line;*
> - *There is no maximum length of the boundary wall to one side boundary. To the second boundary wall, maximum length is to be 2/3 the length of the boundary behind the primary street setback; and*
> - *Boundary walls may be constructed to a maximum height of 6m, in accordance with Table 3 (Category B) of the Residential Design Codes.*

It is proposed that the same provision would be included on LDP's for selected lots within the LSP area.