AMENDMENT No.23

TO THE

EAST WANNEROO CELL 1

(TAPPING AND ASHBY)

AGREED STRUCTURE PLAN No.3

This Amendment to the Agreed Structure Plan is prepared under the provisions of Part 9 of the City of Wanneroo District Planning Scheme No. 2

EAST WANNEROO CELL 1 AGREED STRUCTURE PLAN

Original plan finally adopted by Council & WAPC is dated 6 May 2004
(this includes Amendment No. 1)

Amendment No.	Description of Amendment	WAPC Adopted	Council Adopted	Date of consolidated plan
1	To recode certain lots located at the southern part of the Agreed Structure Plan area from R20 to R40	1 April 2005	27 April 2004	6 May 2004
2	Modifies the road layout and the distribution of the Public Open Space areas over Lot 2706 Pinjar Road, Tapping.	1 April 2005	11 Aug 2004	28 Sept 2005
3	Modifies the road layout, density codes and the distribution of Public Open Space over Crown Reserve 27294, Lots 1, 20, 21 and 22 Wanneroo Road and Lots 14, 15, 17, 18 and Pt Lot 101 Clarkson Avenue, Tapping.	1 April 2005	9 Sept 2004	28 Sept 2005
4	Recodes minor portions of Lot 13 Wanneroo Road, Ashby from R20 to R40	1 April 2005	5 Oct 2004	28 Sept 2005
5	Recodes Lots 235-259 Taplow Parade, portion of Lot 25 Pinjar Road and portion of Lot 9006 Pinjar Road, Ashby from R20 to R40.	1 April 2005	15 March 2005	28 Sept 2005
6	Recodes minor portions of Lots 25 and 26 Pinjar Road, Ashby from R20 to R40	15 June 2005	6 May 2005	28 Sept 2005
7	Recodes the residential portion of Lots 23 & 24 Ashley Road, Tapping from R20 to R30 & R40	27 June 2005	9 Sept 2005	28 Sept 2005
8	Recodes Lot 135 Paxton Way, Ashby from R20 to R40	22 June 2006	28 Feb 2006	22 June 2006

Amendment No.	Description of Amendment	WAPC Adopted	Council Adopted	Date of consolidated plan
9	Modifies the road layout and recodes a portion of Lot 501 Conti Road & Lot 501 & lot 9601 Pinjar Road, Ashby from R20 to R40.	29 Aug 2006	6 June 2006	29 Aug 2006
10	Recodes Lots 118 and 120 Gosford Meander and Lots 121 and 134 Paxton Way, Ashby from R20 to R40	5 Dec 2006	15 July 2006	5 Dec 2006
13	Recodes the following lots in Ashby from R20 to R40: Lots 101, 104, 106-116, 123-126, 273-274, 277-278, 283, 285-287, 289, 291-293 Gosford Meander Lots 129-132, 136-137, 246-250, 280-282 Sistina Road Lots 138-144 Hennessy Drive Lots 251-263 Shipton Loop Lots 264-267 Cranley Link Lot 9013 Pinjar Road, Sinagra	30.6.08	12.2.08	30.6.08
11	Rezones Lot 9602 Pinjar Road, Ashby from Residential to Centre Zone, with a maximum net lettable area of 4600m², & Community Purpose Site; and Rezones Lot 25 Ashley Road, Tapping from Centre Zone to Residential Zone with a density coding of R20	SAT Matter No. DR 171/2008 10.9.08	SAT Matter No. DR 171/2008 10.9.08	10.9.08
14	Recodes Lot 208 Grallina Way, Tapping from R20 to R30	10.3.09	16.12.08	10.3.09

Amendment No.	Description of Amendment	WAPC Adopted	Council Adopted	Date of consolidated plan
16	Deletes the Community Purpose site from Lot 9603 Pinjar Road, Ashby and relocates it on a portion of Lot 9031 Waldburg Drive, Tapping; and Recodes a portion of Lot 9031Ashley Road, Tapping from Residential R20 to R40.	9.2.10	23.3.10	23.3.10
12	Rezones Lot 19 Clarkson Avenue, Tapping from Residential Precinct to Commercial Zone and Residential Precinct (R40) and modifies Schedule 1 to include the NLA as 1100m²	9.5.11	18.11.08	9.5.11
18	Recodes Lot 9603 Pinjar Road, Ashby from R20 to R30, R40 and R60 excepting for the future R20 lots abutting Conti Road; and Recodes a portion of Lot 501 Conti Road, Ashby to the east of Fomiatti Street from R40 to R60 and from R20 to R30, R40 and R60 excepting for the future R20 lots abutting Conti Road.	23.1.12	18.11.11	23.1.12
17	Modifies the road layout on Lots 21 and 24 Carosa Road, Ashby and recodes portion of Lots 21 and 24 Carosa Road, Ashby in the Residential zone from R20 to R25, R40 and R60.	20.11.12	24.2.12	
19	Recodes Lot 9017 Lautrec Loop, Ashby from R20 to R30	22.7.13	28.6.13	
23	To recode the eastern portion of Lot 19 (No. 20) Clarkson Avenue, Tapping from Residential R40 to Residential R60.			

CERTIFIED THAT AMENDMENT No. 23 TO AGREED STRUCTURE PLAN EAST WANNEROO CELL 1 – TAPPING AND ASHBY

STRUCTURE PLAN NO. 3

WAS ADOPTED 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

AND BY

RESOLUTION OF THE COUNCIL OF THE CITY OF WANNEROO
(or as otherwise delegated under section 9.1 of its Delegated Authority Register)

WANNEROO ON ……

AND THE SEAL OF THE MUNICIPALITY WAS PURSUANT

TO THE COUNCIL'S RESOLUTION HEREUNTO AFFIXED IN THE

PRESENCE OF:

……
Mayor, City of Wanneroo

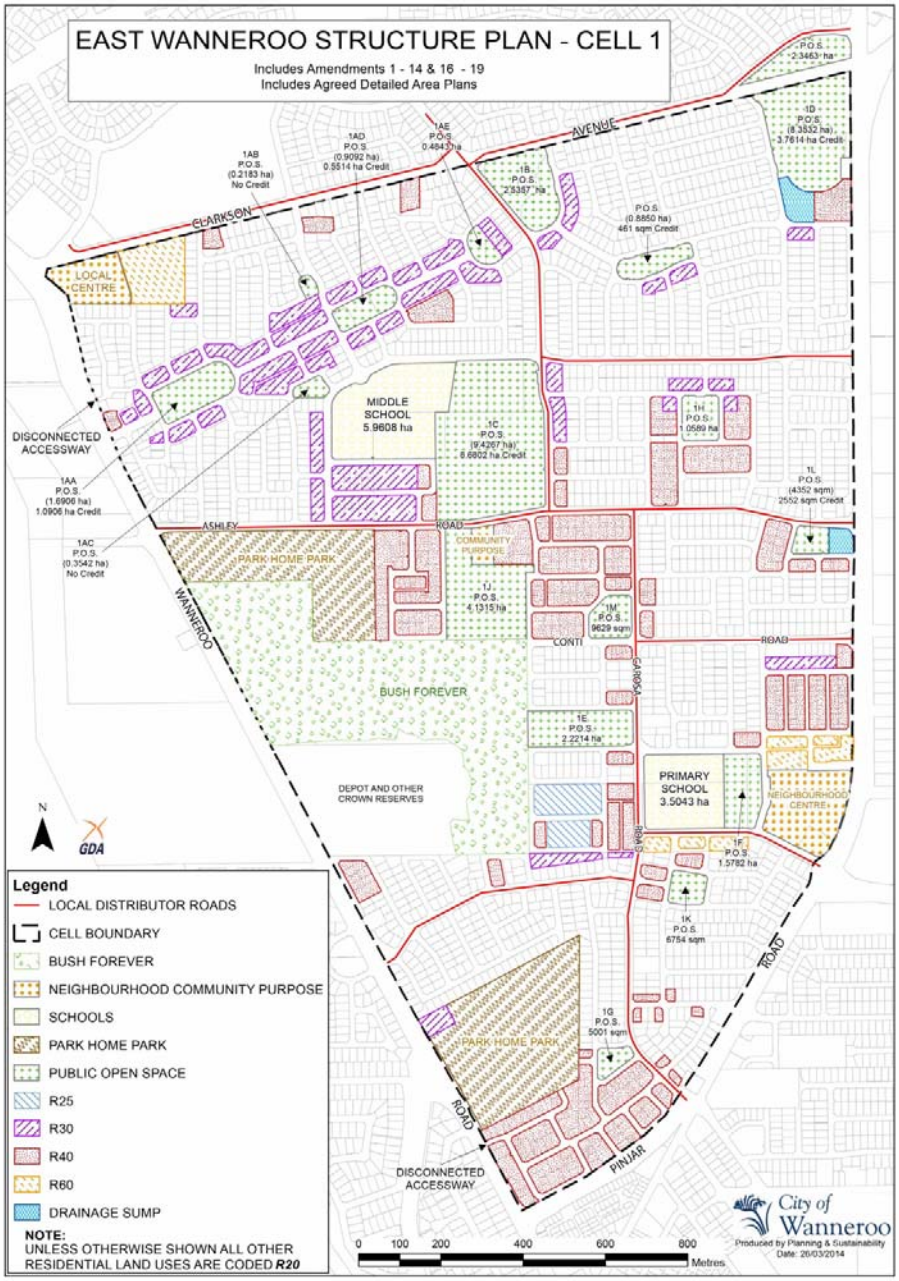
……
Chief Executive Officer, City of Wanneroo
…….. Date

STATUTORY PLANNING SECTION

(AMENDMENT ONLY)

1. Plan Modification

To recode the eastern portion of Lot 19 (No. 20) Clarkson Avenue, Tapping from Residential R40 to Residential R60.



2. Text Modification

To introduce the building height limits for the eastern portion of Lot 19 (No. 20) Clarkson Avenue, Tapping.

4.1.1
The land on the south east corner of the intersection of Corvus Road and Clarkson Avenue is subject to a Local Development Plan (LDP).

The maximum development height permitted within the LDP area is 12.0m above Natural Ground Level (NGL) as defined under the Residential Design Codes). The maximum height limit only applies to the portion of land at the intersection of Clarkson Avenue and Corvus Road. The following building heights apply to the remainder of the LDP area:

- Buildings shall be a maximum height of 6.0m above NGL (2 storeys) between 4.0m and 20.0m from the southern and eastern LDP boundaries; and
- Buildings shall be a maximum height of 9.0m above NGL (3 storeys) between 20.0m and 45.0m from the southern and eastern LDP boundaries.

EXPLANATORY REPORT

AGREED STUCTURE PLAN
EAST WANNEROO CELL 1 – TAPPING AND ASHBY
STRUCTURE PLAN NO. 3

AMENDMENT No.23

The amendment proposes a minor density change to the Cell 1 Structure Plan increasing the residential density within a portion of the Structure Plan area from R40 to R60.

The eastern portion of the land on the corner of Wanneroo Road and Clarkson Avenue (Lot 19) is currently identified as Residential R40. This proposal seeks to recode this portion of the land to Residential R60.

The western portion of the land is identified as a 'Local Centre' under the provisions of the Cell 1 Agreed Structure Plan and is identified as 'Commercial' under the associated Zoning Plan. Although the western portion of the site does not form part of the Amendment, it is relevant to note that approval has recently been granted for the development of a Local Centre incorporating a range of local commercial activities.

Background

The site is effectively divided into two separate parcels by virtue of the split zonings under the Agreed Structure Plan No. 3 (ASP 3). A subdivision application has recently been submitted to the Western Australian Planning Commission which, once approved, will facilitate the extension of Corvus Road and the subdivision of the land into two separate titles.

Development of the adjacent Local Centre at the intersection of Clarkson Avenue and Wanneroo Road will be progressing in the near future. The approved future Local Centre (refer City of Wanneroo Ref: DA2012/548) at the western portion of Lot 19 is proposed to include a service station, car wash, take away food and restaurant outlets, office, various retail tenancies, a showroom tenancy, and a medical centre.

The subject site is located approximately 200m north of an existing public open space area and is immediately south of the St Stephens College. Accordingly, it is recognised that a high degree of amenity is available at the site.

Refer to Figure 1 – Site Plan.

Figure 1 - Site Plan

N:\TOWN PLANNING\8000-8999\8082\DRAFTING\A-CAD\8082_FIG04A_20140604_LOT 19 - SITE PLAN.DWG
Matt Winfield 4 June 2014

Planning Design Delivery

LEGEND

- Subject Site
- Contours
- 7 Existing Lot Number
- Existing Boundaries
- Proposed Boundaries

0 25 50 75m

REVISIONS

Rev	Date	Drawn
A	2014.06.04	M. Winfield

ROWEGROUP
PLANNING DESIGN DELIVERY

w: www.rowegroup.com.au
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Date Drawn:	2014-06-04
Job Ref:	7534
Scale:	1:1500 @ A3
Client:	BMC Properties Pty Ltd
Designer:	G. Hajigabriel
Drawn:	M. Winfield
Projection:	MGA50
Plan ID:	8082-FIG-04-A

Cadastral Data Supplied by the Water Corporation of WA

Lot 19 Clarkson Avenue
Tapping

Detail

The amendment proposal seeks to alter the existing East Wanneroo Structure Plan Cell 1 map so as to depict the eastern portion of Lot 19 (No.20) corner Clarkson Avenue and Wanneroo Road as Residential R60.

Comment

The proposed amendment area is 1.94ha in size. Under the current Agreed Structure Plan (ASP 3), the subject site is zoned "Residential" and designated a density coding of R40. The subject site currently allows for the development of a range of different housing forms and as such the development intensity on the subject site would vary depending upon the form of development proposed. The form of development will be considered at the development application stage however in order to consider the potential impact on services and to consider potential traffic generation, an assumed development yield has been used. In this regard a theoretical 'high' yield has been used in order to allow for a contingency factor in the assessment process.

The highest residential yield on the site would be achieved through multiple dwelling development. This form of development is possible in both the existing R40 and the proposed R60 residential density code. The dwelling yield for multiple dwelling development is determined through the applicable plot ratio divided by the proposed size of the dwellings. Under the provisions of the Residential Design Codes, the plot ratio area applicable to the R40 code is the equivalent of 60% of the total site area. Therefore if multiple dwelling development was proposed for the entire site the existing R40 code could generate 1.164ha of plot ratio floorspace. The plot ratio floorspace applicable to the R60 code is the equivalent of 70% of the total site area, hence the plot ratio could increase to 1.358ha at the proposed R60 density (i.e. an increase of 1,940m2). In order to translate these figures into dwelling yields, it is necessary to assume a dwelling size. Assuming a two bedroom, two bathroom unit has a plot ratio floor area of 80m2, this would translate to 145 units at the existing R40 density and 169 units at the proposed R60 density.

It is anticipated that the ultimate development of the site would include various housing configurations (potentially also including grouped dwellings and aged persons accommodation) to provide a diversity of housing product and to allow for a suitable transition of built form intensity in those locations where the site adjoins existing single residential housing. As such it is unlikely that the entire site would be developed with multiple dwellings and hence the actual dwelling yield is likely to be less than that assumed in the Traffic Impact Assessment and the Assessment of Essential Services.

The recoding proposed under this application is considered to represent an appropriate increase in the residential dwelling yield of the East Wanneroo Cell 1 area which will allow for the maximum utilisation of the land in a manner that is consistent with the identification of the immediate locality as an activity node.

Justification for Proposed Scheme Amendment

Directions 2031 and Beyond/Liveable Neighbourhoods

Directions 2031 and Beyond (Directions 2031) is the primary strategic plan guiding the development of the Perth and Peel metropolitan areas over the next 25 years. Directions 2031 aims to accommodate 47 per cent of new dwellings within the existing metropolitan footprint and in particular, within areas close to commercial centres and public transport routes. The amendment site meets the requirements for an increase in density given its proximity to the proposed 'Local Centre' and existing public transport services along Wanneroo Road.

Liveable Neighbourhoods, an operational policy in Western Australia, reinforces the objectives of Directions 2031to provide for increased residential densities within and surrounding commercial centres and public transport nodes. Liveable Neighbourhoods advocates for the provision of a diverse range of housing types, lot sizes and density, with smaller residential lots and higher densities in areas close to town and neighbourhood centres and public transport nodes. Furthermore, Liveable Neighbourhoods stipulates that smaller lots need to predominate near town and neighbourhood centres and public transport stops to support these facilities. Given the amendment site's proximity to the future 'Local Centre' and existing public transport, the proposed Amendment to recode the subject site from R40 to R60 is considered to be consistent with the intentions of Liveable Neighbourhoods.

Directions 2031 and Liveable Neighbourhoods emphasise the need to increase residential densities within the existing metropolitan area to create a more compact and sustainable urban form. Density is identified as a critical element of the metropolitan urban form and has a significant impact on the overall sustainability of the city. Higher densities increase the cost effectiveness of essential service infrastructure provisions and improve the efficiency of the public transport system. In addition, the location of higher density housing in proximity to commercial centres seeks to not only capitalise on access to, and maximise the use of, high-frequent public transport, but also to contribute to the viability of commercial centres.

Activity Centres Policy

The eastern portion of Lot 19 is approved for commercial development (refer City of Wanneroo Ref: DA2012/548.) The approval includes a service station, car wash, take away food and restaurant outlets, office, various retail tenancies, a showroom tenancy, and a medical centre.

State Planning Policy 4.2 deals with Activity Centres for Perth and Peel. A number of the policy objectives are relevant to the subject site. These include:

- *5. Increase the density and diversity of housing in and around activity centres to improve land efficiency, housing variety and support centre facilities.*
- *6. Ensure activity centres provide sufficient development intensity and land use mix to support high-frequency public transport.*
- *7. Maximise access to activity centres by walking, cycling and public transport while reducing private car trips.*

The City of Wanneroo Local Planning Policy 3.2 Activity Centres also considers development in and around commercial nodes. One of the specific policy objectives states:

- *Provide higher density housing and integrate residential development within the walkable catchment of activity centres.*

The intent with respect to development adjoining activity centres is to facilitate a greater intensity of development, establishing community focal points whilst ensuring that local residents have safe and convenient access to areas of high amenity. The amendment proposal is consistent with achieving the above mentioned objectives.

<u>City of Wanneroo Smart Growth Policy</u>

The City of Wanneroo Smart Growth Policy seeks to manage growth through *"effective use of resources to improve the quality of life for current and future residents, support the local economy and minimise environmental impact".* The policy incorporates six principles which Council is to consider when assessing proposals. The consideration of the principles against the amendment proposal is summarised as follows:

- Principle 1: Lifestyle and Housing Choices

The locality immediately surrounding the subject site currently incorporates predominantly single detached housing. The identification of the land with an R60 coding will facilitate the ability for the development with a broad range of housing types and specifically will enable the development of compact housing in a high amenity locality.

- Principle 2: Effective Use of Land and Infrastructure

The increased dwelling density and associated increase in the resident population will facilitate greater support for commercial facilities, community facilities and the public transport system hence ensuring that a high level of service is available for the broader community whilst also ensuring that existing infrastructure services are used efficiently.

- Principle 3: Long Term Health of the Environment

This principle is predominantly related to the ultimate built form which will be considered at the development application stage. It is however noted that the efficient use of water, energy and other resources is enhanced in medium to higher density developments. Furthermore increasing the population adjacent to and within activity centres further enhances the establishment and effectiveness of walkable neighbourhoods.

- Principle 4: Identity, Equity and Inclusiveness

The locality surrounding the subject site is currently characterised predominantly by single detached housing. The development of the subject site will provide the opportunity for the provision of a greater variety in the type of housing available in the locality hence providing greater diversity in housing form and attracting a broader cross section of the community to the locality. This will enhance activity within the locality throughout the day which in turn will improve surveillance, safety, and social cohesiveness.

- Principle 5: Long Term Economic Health

The continued effectiveness of local commercial activity is heavily reliant upon the establishment of effective walkable catchments with a sufficient critical mass to meaningfully contribute towards the economic input of local businesses. The adjoining local commercial activities provide a significant facility for future residents as well as providing the opportunity for local employment. The amendment proposal will have the effect of increasing the population within proximity of the Local Centre hence enhancing the long term economic viability of the centre.

- Principle 6: People and Government

The local community will be consulted in relation to the amendment proposal and submissions will be considered by the applicant and the City. Additionally the City has the ability to consult with the local community at the time of consideration of future development on the site.

<u>City of Wanneroo Local Housing Strategy</u>

The City of Wanneroo Local Housing Strategy provides a guide for the consideration of increased residential density. Given that the subject land is located within an existing Structure Planning area, the provisions of Section 9(b) of the Strategy are applicable.

In consideration of the subject site relative to the broader planning framework provided by the Structure Plan, it is noted that the site is situated within a portion of the Structure Plan that is an Activity Node as is evidenced by the close proximity to retail/commercial, educational, and recreational land uses. Additionally the site is within close proximity to public transport routes and the major arterial road network. The site is positioned at the north western edge of the Structure Plan area which lends itself to the establishment of a gateway entry statement for the cell.

The objectives of the Strategy support increasing residential density in areas *"that have easy access and close proximity to retail and employment centres, public transport services, areas of high amenity, major arterial routes, educational institutions and community facilities."*.

The Strategy includes four Criterion which are addressed as follows:

- Access/proximity to retail and employment centres

As previously outlined the subject site is located directly opposite (i.e. within 20m) of the approved Local Activity Centre. The Centre has recently been approved for the development of a service station, car wash, take away food and restaurant outlets, office, various retail tenancies, a showroom tenancy, and a medical centre. The site is also within 200m of the Drover's Place Precinct which was has recently been recognised as an "Out of Centre" development hence offering a range of commercial activities.

- Access/proximity to public transport :

As noted in the traffic impact assessment, the subject site is located within 200m of the No.468 and the No.390 bus routes. The site is also within 200m of the major arterial road network.

- Access/proximity to public open space and recreational facilities :

The subject site is located approximately 200m north of an existing public open space area which incorporates active recreational areas in additional to substantial community facilities /recreational infrastructure. The site is also immediately south of the St Stephens College active playing fields. Additionally it is relevant to note that the form of development is likely to incorporate extensive open space areas particularly if multiple dwellings are developed.

- Access/proximity to major arterial routes, educational institutions, community facilities :

The subject site is within 200m of Wanneroo Road which forms part of the major arterial road network. The site is directly opposite the St Stephens College and is within 500m of the local primary/middle school location. Significant community facilities will also be available within the adjoining Local Activity Centre, including a future medical centre.

Whilst the proposal accommodates the intent of the criterion listed above, it is noted that the site also acts as a gateway to the local activity node, providing the opportunity for landmark development at the north western edge of the Structure Plan.

<u>Traffic Impact Assessment</u>

The proposed increase in density will result in additional dwellings on the subject site and hence it is necessary to consider any potential impact of additional traffic generated by the additional development. A Traffic Impact Assessment has been undertaken by Transcore the findings of which are included in the

Traffic Impact Statement contained in Attachment 1. The Statement concludes that the additional traffic generated by the proposed increase in density is marginal and would have an insignificant impact on the surrounding road network.

Assessment of Essential Services

The proposed increase in density may result in additional demands on existing services. It is therefore necessary to consider any potential impact on the existing service infrastructure. An assessment in this regard has been undertaken by Porter Consulting Engineers. A copy of the assessment is contained in Attachment 2. The assessment concludes that there is sufficient infrastructure capacity to cater for the additional dwelling yield likely to be generated by development of the site at an R60 density.

Local Development Plan

A Local Development Plan (LDP) has been prepared and is included as Attachment 3 of this documentation. The intent of the LDP is to provide a planning mechanism that will guide the future development of the site and to establish a framework that enhances the potential amenity of adjoining residential properties. Key features of the proposed LDP include:

- minimum 4m setback adjoining existing residential development,
- staggered building heights with maximum heights set well away from existing residential development,
- promotion of 'landmark' built form at the northern entry to the Cell 1 precinct, and
- built form to address the existing road network.

The existing Residential R40 density code allows the potential for 'nil' setbacks adjoining the existing residential properties whilst the proposed LDP imposes a minimum 4m setback adjoining the existing residential properties. This represents a significant enhancement to the future amenity of the adjoining residential properties by reducing the potential impact of building bulk. The staggered building heights further enhance the reduction in building bulk, particularly when combined with the land form which drops approximately 3m from east to west.

The staggered building heights also result in increased building intensity being set well away from existing residential properties whilst providing the opportunity for the establishment of a landmark built form at the intersection of Clarkson Avenue and Corvus Road. The LDP promotes a "tall but thin" multiple dwelling built form set well away from the existing single residential properties. This will promote greater open space at the human scale whilst also minimising building bulk and establishing a planning framework that provides increased building setbacks to those that are currently applicable under the Residential Design Codes.

Conclusion

The co-location of higher density housing and commercial centres is beneficial to the local community as it provides for the incidental shopping needs of people within a walkable catchment and therefore contributes to a decrease in car use. This is an objective that has previously been supported by the City in the context of Amendment 18 to ASP3 where the City endorsed the recoding of a portion of Lot 501 Conti Road, Ashby from R40 to R60. Similarly Amendment 18 related to land adjoining a Commercial site within proximity to public open space and public transport routes.

The proposed Amendment to recode the eastern portion of Lot 19 (No.20) corner Clarkson Avenue and Wanneroo Road from R40 to R60 is considered appropriate as it:

- will contribute to improving the efficiency of the public transport system,
- will enhance the viability of the adjoining 'Local Centre',
- will provide greater housing diversity, and
- is proposed on a site that is within close proximity to public open space and educational facilities.

In addition to the above, the proposed LDP will provide a framework within which high quality landmark development is promoted whilst the amenity of existing local residents would be protected, and indeed enhanced relative to the current development possible on the subject site under the Residential Design Codes.

ATTACHMENT 1 –
Traffic Impact Statement, Transcore 2014

East Wanneroo Cell 1, Amendment 23

Proposed Amendment to Structure Plan

Transport Statement

PREPARED FOR:
Freshlink Export Pty Ltd

August 2014

Document history and status

Author	Revision	Approved by	Date approved	Revision type
M Rasouli	r01	B Bordbar	01/08/2014	Draft
M Rasouli	r01a	B Bordbar	15/08/2014	Final
M Rasouli	r01b	B Bordbar	18/08/2014	Revised Final

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Author: M Rasouli

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Client: Freshlink Export Pty Ltd

Project: East Wanneroo Cell 1, Amendment 23 Proposed Amendment to Structure Plan

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1.0 Introduction and Background

This Transport Statement (TS) report has been prepared by Transcore on behalf of Freshlink Export Pty Ltd with regard to a proposed change in density (recoding) for Cell 1 in East Wanneroo, Tapping. The recoding is proposed for the eastern portion of Lot 19 Clarkson Avenue from Residential R40 to Residential R60.

The following documents have been reviewed as part of the preparation of this TS report:

- *Proposed Commercial Development, Portion of Lot 19, Corner of Wanneroo Road and Clarkson Avenue, Tapping, Transport Assessment Report, Prepared by Transcore in July 2011; and*
- *Drovers Place Wanneroo, Proposed Commercial Development, Revised Transport Assessment Report, Prepared by Transcore in February 2014.*

The Transport Assessment Guidelines for Developments (WAPC, Vol 4 – Individual Developments, August 2006) states: *"A Transport Statement is required for those developments that would be likely to generate moderate volumes of traffic*[1] *and therefore would have a moderate overall impact on the surrounding land uses and transport networks"*. Section 6.0 of this report provides details of the estimated trip generation for the proposed modifications to the R code. Accordingly, as the total peak hour vehicular trips are estimated to be less than 100 trips per hour, a Transport Statement is deemed appropriate for this development.

The subject site is located at the eastern portion of Lot 19 at the corner of Wanneroo Road and Clarkson Avenue as shown in **Figure 1** This figure also shows the location of the subject site in relation to the proposed surrounding developments including the proposed local centre to the west of the subject site and the proposed commercial development to the west of Wanneroo Road. Both of these projects are the subject of separate Transport Assessment Reports prepared by Transcore as mentioned above.

[1] *Between 10 and 100 vehicular trips per hour*

Figure 1: Location of the subject site

2.0 Proposed Modification

The subject site is approximately 1.94ha and is currently zoned R40. Under current zoning, it is estimated that about 66 lots or 145 multiple dwelling units can be developed. The proposal is to recode the subject site to R60. Under R60 zoning it is estimated that approximately 90 lots or 169 multiple dwelling units could be developed. Based on the available information the proposed recoding results in an increase of about 24 lots.

Figure 2 Shows the East Wanneroo Structure Plan- Cell 1 and the proposed R60 zoning for the subject site.

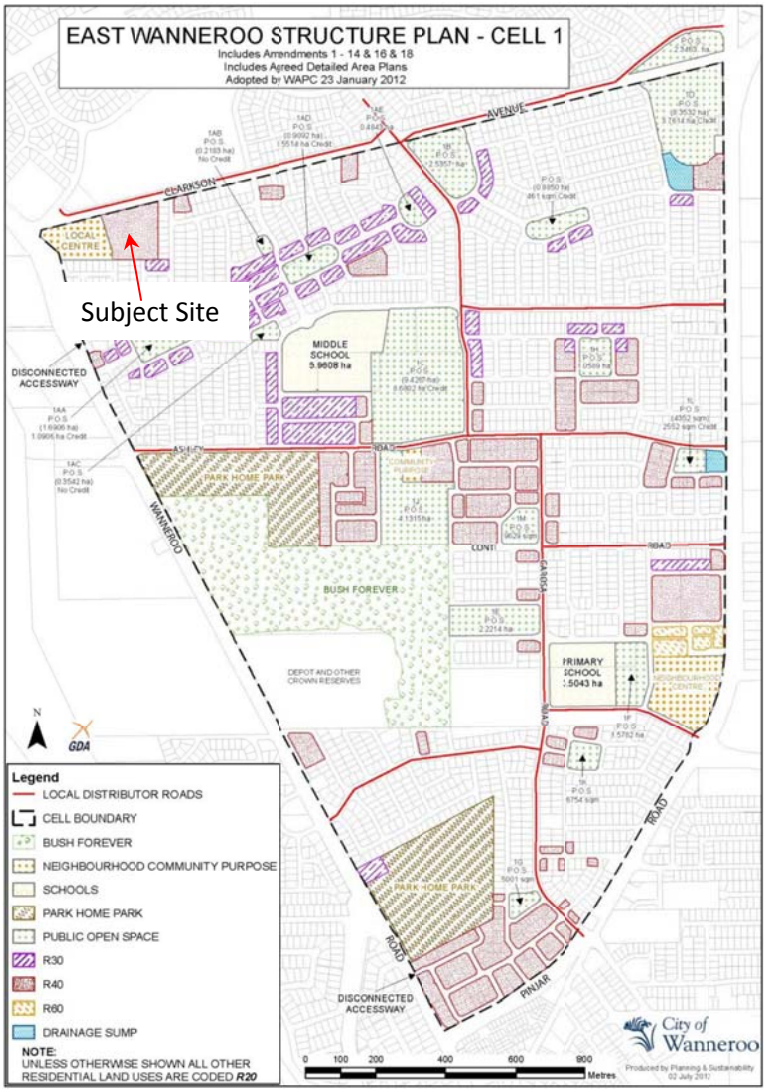

Figure 2: Cell 1East Wanneroo Structure Plan

3.0 Parking

The parking supply for the proposed residential development should be in line with Town Planning Scheme (TPS) requirements and Residential R Codes. The parking supply for the development will be addressed at the subsequent stages of the development when detailed development plans will be prepared.

4.0 Provision for Service Vehicles

The proposed residential development and associated road network will be designed in such a way to accommodate relevant service and waste collection vehicles.

5.0 Hours of Operation

The proposed development is residential and it is expected to generate highest traffic volumes during the typical road network peak hours. For the purpose of traffic generation analysis, the AM and PM peak hours are assumed to be around 7:00am to 8:00am and 4:00pm to 5:00pm respectively in line with the established surrounding road network peak hours.

6.0 Daily Traffic Volumes and Vehicle Types

The "Guide to Traffic Generating Developments, Roads and Traffic Authority (RTA) of New South Wales" (2002) document was used to establish the applicable traffic generation rates for the proposed residential development and the increase in density from R40 to R60. Accordingly a trip rate of 8vpd per lot/dwelling was adopted for this assessment.

According to the information obtained from Rowe Group the proposed development would result in a total of about 1,350vpd or 135vph and the potential increase in lots due to the proposed recoding is about 24 dwellings which results in about 192vpd (24 x 8 = 192vpd) or about 19vph.

Distribution of the development daily traffic under R40 and R60 zoning scenarios on the surrounding road network is shown in **Figure 3** . For distribution of the development traffic it is assumed that:

- 32% of the development traffic would travel south on Wanneroo Road;
- 16% of the development traffic would travel North on Wanneroo Road;
- 20% of the development traffic would travel east on Clarkson Avenue; and
- 32% of the development traffic would travel south on Corvus Road and Hirundo Bend.

The assumed traffic distribution is largely based on existing traffic patterns and attraction nodes in the area.

Figure 3: Daily Distribution of the Development Traffic for R40/ R60/ Net Daily Traffic Increase

Distribution of the development traffic as shown in Figure 3 demonstrates that the traffic increase on the surrounding residential roads is minimal and the majority of the traffic is expected to be distributed to Wanneroo Road and Clarkson Avenue.

The WAPC *Transport Assessment Guidelines for Developments* (2006) provides guidance on the assessment of traffic impacts:

"As a general guide, an increase in traffic of less than 10 percent of capacity would not normally be likely to have a material impact on any particular section of road, but increases over 10 percent may. All sections of road with an increase greater than 10 percent of capacity should therefore be included in the analysis. For ease of assessment, an increase of 100 vehicles ***per hour*** *for any lane can be considered as equating to around 10 percent of capacity. Therefore any section of road where the structure plan traffic would increase flows by more than 100 vehicles per hour for any lane should be included in the analysis."*

The proposed recoding will not increase traffic flows on any roads adjacent to the site anywhere near the quoted WAPC threshold to warrant further analysis. Therefore the impact of the proposed recoding on the surrounding road network is considered to be insignificant.

7.0 Traffic Management on the Frontage Streets

Clarkson Avenue is a single undivided carriageway with a pedestrian footpath along its northern side. According to the Main Roads WA document "Metropolitan Functional Road Hierarchy (August 1999)", Clarkson Avenue is classified as an Access Road. According to the traffic count information sourced from the City of Wanneroo, Clarkson Avenue (west of Berigora Avenue) carried approximately 3,000 vehicles per regular weekday (November, 2010). Based on the exiting traffic volumes and function of Clarkson Avenue, it is operating as a Neighbourhood Connector.

Wanneroo Road is a dual divided carriageway in the vicinity of the subject site. According to the Main Roads WA document "Metropolitan Functional Road Hierarchy (August 1999)", Wanneroo Road is classified as a Primary Distributor Road. The traffic count information sourced from Main Roads WA SCATS data indicated that Wanneroo Road (South of Joondalup Drive) carried approximately 25,600 vehicles per day (December, 2012).

The intersection of Clarkson Avenue and Wanneroo Road is an un-signalised T-intersection with left and right turn pockets on Wanneroo Road. This intersection is proposed to be a four-way signalised intersection in the future.

8.0 Public Transport Access

The closest existing bus route to the subject site is Bus Route No. 468 from Whitfords Avenue to Joondalup Station (refer **Figure 4**). The closest bus stops are on Wanneroo Road in close proximity of the subject site.

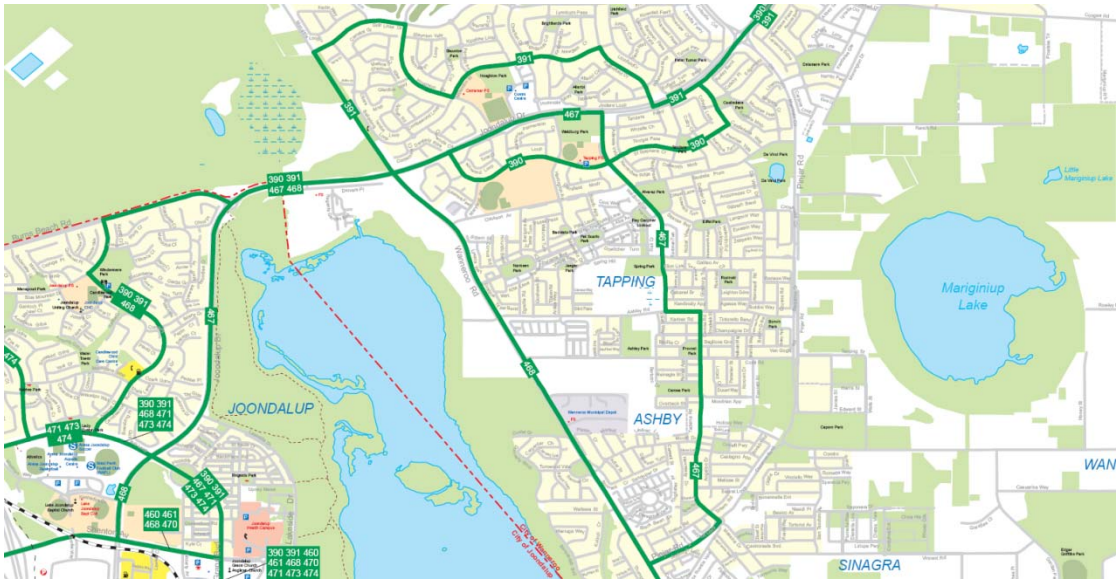

Figure 4: Public transport services (Transperth Maps)

9.0 Pedestrian Access

Pedestrian access to the proposed development is via the existing footpaths along Clarkson Avenue and Wanneroo Road.

The external footpath network abutting the site will connect the site to the surrounding major attractors including the existing public open space and St Stephens College to the north of the subject site.

The development site adjoins an approved Local Centre whilst the Drover's Place commercial development is located to the west of Wanneroo Road. The future development of Drover's Place includes a requirement that the intersection of Clarkson Avenue/ Wanneroo Road is to be signalised which will provide safe pedestrian crossing across Wanneroo Road.

10.0 Cycle Access

The Perth Bicycle Network Map (see **Figure 5**) indicates that eastern side Wanneroo Road entails a shared path which connects to the existing shared path on Clarkson Avenue.

Figure 5: Extract from Perth Bicycle Network (Department of Transport)

11.0 Site Specific Issues

The key surrounding intersection that would be affected due to the proposed developments in this area including the proposed local centre to the west of the subject site and the proposed commercial development to the west of Wanneroo Road is the intersection of Clarkson Avenue/ Wanneroo Road.

The operation of this intersection has been assessed for short, medium and long term as following:

- Short term: at the outset of the proposed residential development and the proposed local centre to the west of the subject site;
- Medium Term: at the outset of the proposed commercial development to the west of Wanneroo Road; and
- Long term: 10 years later or year 2025 with the entire Cell 1 development (including the subject site) and the full development of the commercial site to the west of Wanneroo Road.

In the short term it was assumed that the intersection of Wanneroo Road/ Clarkson Avenue is still operating as priority controlled T-intersection. The results of the analysis are provided in Appendix A. Figure A1 and Table A1 in Appendix A outline the intersection layout and the movement summary for this intersection during the short term period. The analysis undertaken indicates that this intersection would still operate satisfactorily in the short term. The existing layout of the intersection provides the opportunity for two staged crossing for right turn traffic out of Clarkson Avenue into Wanneroo Road.

In medium term it is assumed that the Drover's Place development will be implemented and hence the intersection of Wanneroo Road/ Clarkson Avenue is converted to a 4-way signalised intersection. Figure A2 and Table A2 provide the intersection layout and the performance of the signalised intersection for this timeframe. The analysis undertaken indicates that this intersection would work satisfactorily with spare capacity to accommodate future traffic growth.

In longe term, an additional through lane is proposed for Wanneroo Road in order to accommodate the future traffic growth on Wanneroo Road. Analysis undertaken indicates that with the additional lane on Wanneroo Road this intersection would be able to accommodate the projected traffic volume for Wanneroo Road. Figure A3 and Table A3 show the intersection layout and the performance of this intersection for the long term.

The proposed recoding of the subject site results in only 19 additional vehicles during the peak hour periods. This level of traffic increase will have an insignificant impact on the operation of this intersection during all assessment scenarios for short, medium and long terms.

12.0 Safety Issues

No safety issues were identified within the scope of this assessment. As the net traffic increase as result of changing the zoning of the subject site is relatively insignificant there would be insignificant impact on the surrounding roads and intersections.

13.0 Conclusions

This Transport Statement has been prepared with regard to the proposed recoding of the eastern portion of Lot 19 from R40 to R60.

The traffic analysis undertaken in this report shows that the traffic increase due to the proposed modification is relatively minimal and as such would have an insignificant impact on the surrounding road network.

It is also anticipated that the impact of the traffic generated by the proposed residential development and the proposed increase in density for the subject site on the surrounding road network including the nearby intersection of Wanneroo Road/ Clarkson Avenue would be minimal during the short, medium and long term analysis scenarios. This development does not trigger the need for the signalisation of the intersection of Wanneroo Road/Clarkson Avenue; however the proposed future signalisation of this intersection will improve safety and traffic operations.

Appendix A

INTERSECTION ANALYSIS

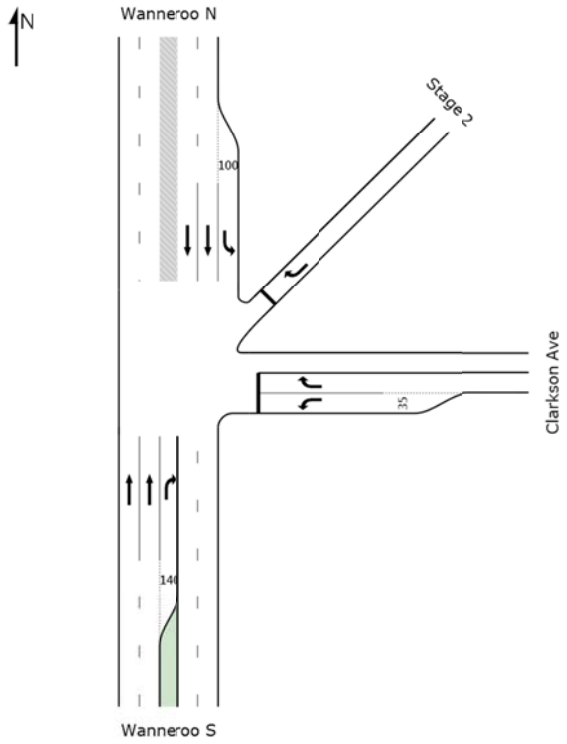

Figure A1: Proposed Intersection Layout for Short Term

Table A1: Sidra Results for Wanneroo Road/ Clarkson Avenue, Short Term

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Wanneroo S											
2	T	1034	2.0	0.268	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
3	R	101	0.0	0.212	15.4	LOS C	0.8	5.6	0.72	0.92	42.1
Approach		1135	1.8	0.268	1.4	NA	0.8	5.6	0.06	0.08	57.8
East: Clarkson Ave											
4	L	126	0.0	0.300	19.3	LOS C	1.2	8.4	0.73	1.04	40.3
6	R	132	0.0	0.359	21.7	LOS C	1.5	10.4	0.78	1.06	38.6
Approach		258	0.0	0.359	20.5	LOS C	1.5	10.4	0.75	1.05	39.4
North East: Stage 2											
26	R	132	0.0	0.222	17.5	LOS C	0.9	6.4	0.72	1.01	41.6
Approach		132	0.0	0.222	17.5	LOS C	0.9	6.4	0.72	1.01	41.6
North: Wanneroo N											
7	L	120	0.0	0.065	8.2	LOS A	0.0	0.0	0.00	0.67	49.0
8	T	903	2.0	0.235	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		1023	1.8	0.235	1.0	NA	0.0	0.0	0.00	0.08	58.5
All Vehicles		2547	1.5	0.359	4.0	NA	1.5	10.4	0.14	0.23	54.4

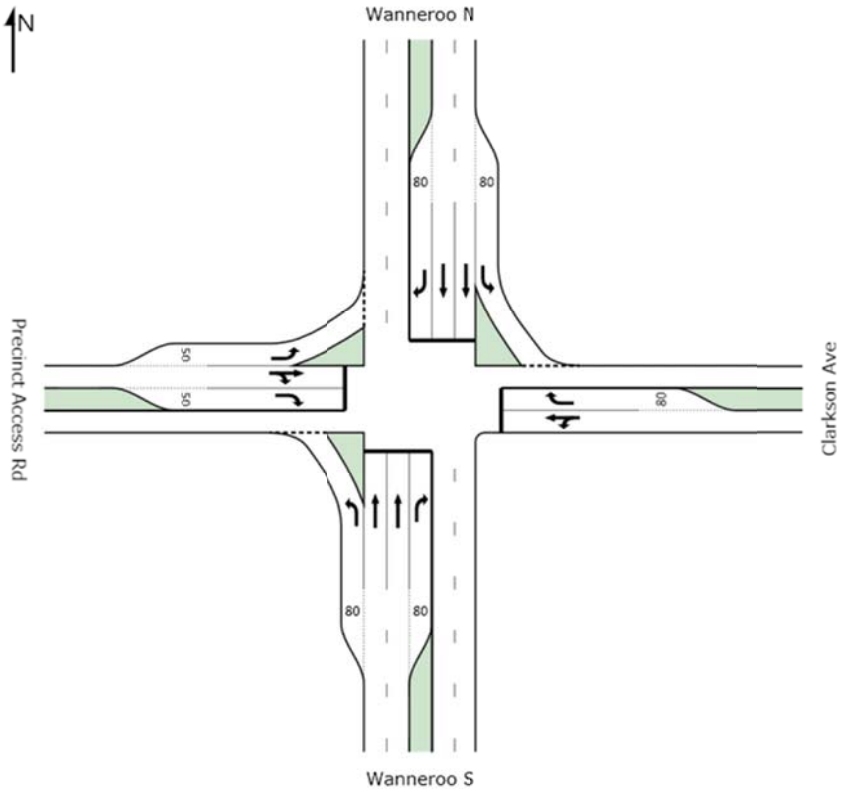

Figure A2: Proposed Intersection Layout for Medium Term

Table A2: Sidra Results for Wanneroo Road/ Clarkson Avenue, Medium Term

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Wanneroo S											
1	L	161	0.0	0.206	11.5	LOS B	2.2	15.3	0.36	0.68	45.6
2	T	1118	2.0	0.907	49.9	LOS D	32.2	229.3	1.00	1.10	24.3
3	R	96	0.0	0.222	34.4	LOS C	3.3	23.4	0.75	0.76	30.8
Approach		1375	1.6	0.907	44.3	LOS D	32.2	229.3	0.91	1.02	26.1
East: Clarkson Ave											
4	L	120	0.0	0.880	65.6	LOS E	11.2	78.4	1.00	1.02	21.7
5	T	80	0.0	0.880	57.4	LOS E	11.2	78.4	1.00	1.02	21.8
6	R	125	0.0	0.561	54.6	LOS D	6.0	42.0	0.99	0.79	24.0
Approach		325	0.0	0.880	59.3	LOS E	11.2	78.4	1.00	0.93	22.6
North: Wanneroo N											
7	L	114	0.0	0.082	7.9	LOS A	0.2	1.4	0.06	0.62	49.4
8	T	875	2.0	0.874	45.9	LOS D	22.7	161.3	1.00	1.00	25.4
9	R	342	0.0	0.826	49.4	LOS D	15.9	111.4	0.92	0.90	25.4
Approach		1331	1.3	0.874	43.5	LOS D	22.7	161.3	0.90	0.94	26.6
West: Precinct Access Rd											
10	L	196	0.0	0.438	17.4	LOS B	4.3	29.9	0.55	0.72	40.7
11	T	66	0.0	0.865	59.8	LOS E	5.6	38.9	1.00	0.95	21.6
12	R	130	0.0	0.865	68.0	LOS E	5.6	38.9	1.00	0.95	21.1
Approach		392	0.0	0.865	41.3	LOS D	5.6	38.9	0.77	0.84	28.0
All Vehicles		3423	1.2	0.907	45.1	LOS D	32.2	229.3	0.90	0.96	26.1

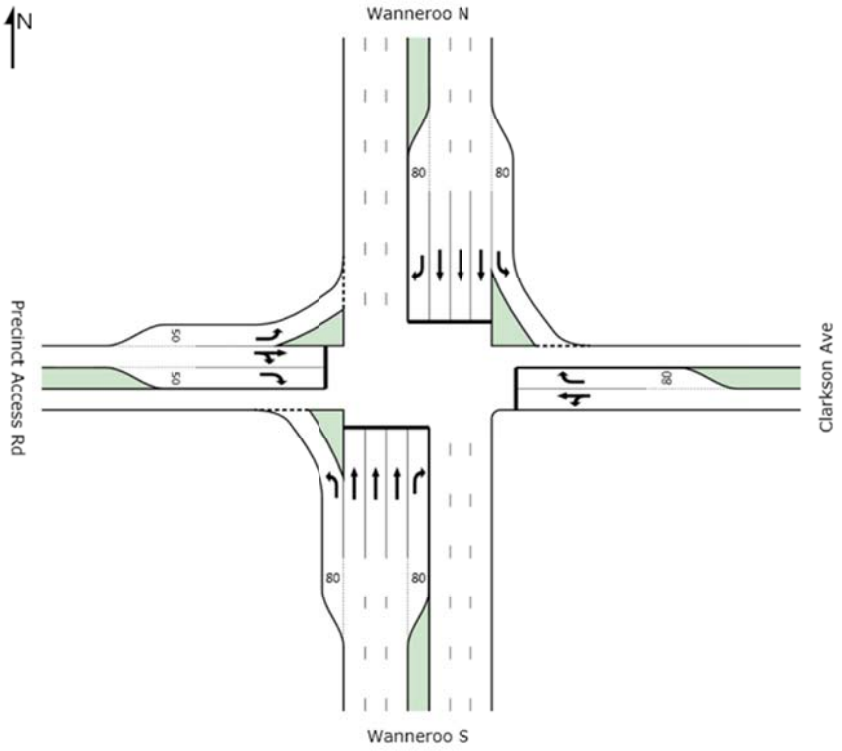

Figure A3: Proposed Intersection Layout for 2025 (Long Term)

Table A3: Sidra Results for Wanneroo Road/ Clarkson Avenue, Year 2025 (Long Term)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Wanneroo S											
1	L	161	0.0	0.196	11.6	LOS B	2.1	14.6	0.39	0.69	45.5
2	T	1569	2.0	0.906	47.1	LOS D	27.6	196.4	1.00	1.10	25.1
3	R	96	0.0	0.210	33.2	LOS C	3.1	21.9	0.78	0.76	31.4
Approach		1826	1.7	0.906	43.2	LOS D	27.6	196.4	0.93	1.05	26.4
East: Clarkson Ave											
4	L	120	0.0	0.864	59.1	LOS E	10.0	70.1	1.00	1.00	23.2
5	T	80	0.0	0.864	50.9	LOS D	10.0	70.1	1.00	1.00	23.3
6	R	125	0.0	0.551	49.8	LOS D	5.4	37.9	0.99	0.79	25.4
Approach		325	0.0	0.864	53.5	LOS D	10.0	70.1	0.99	0.92	24.0
North: Wanneroo N											
7	L	114	0.0	0.083	7.9	LOS A	0.2	1.3	0.06	0.61	49.4
8	T	1251	2.0	0.928	51.3	LOS D	22.0	157.0	1.00	1.09	23.9
9	R	342	0.0	0.789	46.3	LOS D	14.8	103.3	0.97	0.89	26.4
Approach		1707	1.5	0.928	47.4	LOS D	22.0	157.0	0.93	1.02	25.3
West: Precinct Access Rd											
10	L	241	0.0	0.491	16.3	LOS B	4.8	33.3	0.56	0.73	41.5
11	T	80	0.0	0.821	51.1	LOS D	6.0	42.0	1.00	0.93	23.6
12	R	161	0.0	0.821	59.1	LOS E	6.0	42.0	1.00	0.93	23.1
Approach		482	0.0	0.821	36.4	LOS D	6.0	42.0	0.78	0.83	29.9
All Vehicles		4340	1.3	0.928	44.9	LOS D	27.6	196.4	0.92	1.00	26.1

ATTACHMENT 2 –
Infrastructure Servicing Assessment, Porter Engineers 2014

Our Ref: BIH\L561A.14
Job No: 14-7-102

29 August 2014

Porter
Consulting Engineers

Level 2 Kishorn Court
58 Kishorn Road
Mount Pleasant WA 6153

PO Box 1036
Canning Bridge WA 6153

Tel: (08) 9315 9955
Fax: (08) 9315 9959
Email: office@portereng.com.au
www.portereng.com.au

Freshlink Export Pty Ltd
C/o Greg Rowe & Associates
Level 3, 369 Newcastle Street
NORTHBRIDGE WA 6003

Attention: George Hajigabriel

Dear George

LOT 19 CLARKSON AVENUE, TAPPING - SERVICING REQUIREMENTS FOR INCREASED ZONING

Please find below the review of servicing requirements in relation to increasing potential zoning of part Lot 19 Clarkson Avenue, Tapping. The purpose of this report is to consider the infrastructure capacity required for the potential rezoning of the land from R40 to R60. The proposed rezoning could potentially yield up to 169 dwellings.

The subject land is bounded by Clarkson Avenue to the north and Wanneroo Road to the west. The parcel has a proposed developable area of 3.84ha comprising of two lots, see attached layout at Attachment 1. Proposed Lot 2 is the subject of this review has an area of 1.94ha and is zoned residential.

Drainage - The City of Wanneroo requires the drainage infrastructure at a lot level to be able to contain the stormwater runoff generated by the 1 in 100 year ARI, 24 hour storm event. Storage facilities can be in the form of soakwells, underground tanks or pipes or within carparks and landscaped areas with the ability to allow soakage of stormwater into the underlying soil

Drainage detention for new road (Corvus Rd) will also be required. For new roads development sumps are required but in the cases of infill areas, underground storage may be considered by the City. Therefore, as the onus for drainage infrastrucutre is the responsibilty of the the Developer there is not expected to be any adverse affect to the surrounding infrastrucure and no upgrades required to the City's infrastructure as a result of any increase in rezoning.

Roads - To access any subdivision of the lot it is expected that Corvus Road will require extension to Clarkson Avenue. The geometry of Corvus Road is consistent with an *Access Street C as* defined in Liveable Neighbourhhoods and has an indicative capacity of 3,000 veh/day. The rezoning is not expected to require any further upgrade of Corvus Road beyond what would be required with the current zoning.

The geometry of Clarkson Avenue is consistent with a *Neighbourhood Connector B (Minor)* as defined in Liveable Neighbourhhoods and also has an indicative volume range of 3,000 veh/day. The rezoning is not expected to trigger any requirement to upgrade Clarkson Avenue.

Water - Initial Water Corporation planning required a 100mm water main extension along the Corvus Road extension to Clarkson Avenue. This would be an insufficient water supply for the increased density for the site. The Water Corporation permit one connection per freehold title. Therefore, servicing of the development would need to be be via a connection to a DN150 water main to the lot feeding a series of internal private water mains.

Following liaison with the Water Corporation they have confirmed that the water sevicing is feasible for the R60 zoned site if the water main is constructed as a 150mm and connected through to the 500mm water main in Clarkson Avenue. This requires a small section (approximately 25m) of existing 100mm water main to be upgrade from the intersection of Bittern Street and Corvus Road.

The Water Corporation have also requested where possible if the existing 100mm water main in Hirundo Bend be connected through the Development site to the new main in Corvus Road to complete the water network. Whilst this is not an essential requirement it may be possible to incorporate as part of the sewer main extension to Corvus Road through a reserve or right of way.

A copy of the Water Corporation's correspondence is included as Attachment 2.

Sewer - The Water Corporation have also confirmed that sewer sevicing is feasible for a R60 zoned site. No changes are required to the proposed sewer network.

However, Water Corporation have plans to extend a DN450 sewer main through the site which is independent to the zoning application. Previously liaison with the Developer has been undertaken and an agreed alignment has been selected along the property boundary in an easement of 7.4m to cater for the sewer extension. The Water Corporation will be constructing this sewer main independent of any development of this site. The proposed easement will straddle the southern boundary of the site between Hirundo Bend and Corvus Road and be approximately 60m in length. The main would then be further extended to the north within the propsoed Corvus Road extension.

A copy of the proposed Water Corporation Sewer Planning for the site is included at Attachment 3.

Power - Western Power's *Network Capacity Mapping Tool* is forecasting an available capacity of 20 - 25 MVA in the area. Westerns Power's *Residential Design After Diversity Maximum Demand (DADMD)* calculator determines the maximum power requirements for a proposed subdivision based on the suburb, number of units and value. In this instance the demand has been calculated as 3.1kVA per dwelling or a total of 0.524MVA for 169 units.

The above calculations are subject to detailed design and calculations by an Electrical Engineer, but based on the high available capacity in the area, the increased zoning should not have any impact on power supply in the surrounding network.

Telstra - There is existing Telstra infrastructure surrounding the development that can be connected to. Any possible external network upgrades required to service the development would be undertaken by Telstra and are not a barrier to development.

Gas - There is a gas reticulation available to the site and any possible network upgrades required to service a development are undertaken by ATCO and are therefore not a barrier to development.

Based on the above consultations with the affected service authorities and review of their available resources, Porter Consulting Engineers do not foresee any infrastructure capacity issues resulting from the rezoning which cannot be reasonably overcome at detailed design stage.

If you have any queries regarding the above, please contact the undersigned.

Yours faithfully

BRAD HARRIS
DIRECTOR PROJECTS

Enc.

ATTACHMENT 1 - PROPOSED DEVELOPMENT SITE

Subdivision & Development Requirements:

1. A residential density code of R60 applies to the land.
2. Maximum building height limits as depicted on the adjoining plan.
3. Lots and/or dwellings to be oriented north-south or east-west as far as practical.
4. Dwellings to address the outerlying road network.
5. No vehicular access permitted to Clarkson Avenue.
6. Primary road entrance from Corvus Road.
7. Secondary road entrance to Hirundo Bend.
8. A minimum rear setback of 4m will be applied where development abuts existing single residential development, as depicted on the adjoining plan.
9. Residential development adjacent to existing residential lots shall interface appropriately.
10. Multiple Residential Development to be generally located towards the intersection of Clarkson Avenue and the future Corvus Road to minimise visual impact on properties outside of the development site.
11. A nil side setback is permissible to one side boundary only.
12. All development to be of a high architectural standard.

Planning Design Delivery

LEGEND

- Boundary of Local Development Plan
- 4m Building Setback
- Extent of 2 Storey Heigh Limit
- Extent of 3 Storey Height Limit
- Extent of 5 Storey Height Limit
- Extent of 8 Storey Height Limit

0 25 50

REVISIONS

Rev	Date	Drawn
A	2014.07.17	K. Trenberth

ROWEGROUP
PLANNING DESIGN DELIVERY

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Date Drawn:	2014-07-17
Job Ref:	8082
Scale:	1:1000 @ A3
Client:	BMC Properties Pty Ltd
Designer:	G. Hajigabriel
Drawn:	K. Trenberth
Projection:	MGA50 GDA94
Plan ID:	8082-LDP-01-A

Cadastral Data Supplied by the Water Corporation of WA

Local Development Plan

Lot 19 Clarkson Avenue Tapping

N:\TOWN PLANNING\8000-8999\8082\DRAFTING\A-CAD\8082_LDP01A_20140717_TAPPING.DWG
Kim Trenberth 18 July 2014

ATTACHMENT 2 - WATER CORPORATION CORRESPONDENCE - WATER

Brad Harris

From: Ross Crockett [Ross.Crockett@watercorporation.com.au]
Sent: Monday, 18 August 2014 3:07 PM
To: 'Brad Harris'
Subject: RE: 14-07-102 Land planning and servicing enquiry - Lot 19, 0 Clarkson Ave, Tapping
Attachments: Clarkson Ave.dgn; Clarkson Retic.pdf

Hi Brad

Attached is the Water reticulation required for your R60 zoning option with 160 dwellings. This consists of a small upgrade and a 150mm connected to the 500mm water main in Clarkson Ave.

However the Water Corporation would prefer that the 100mm existing water main in Hirundo Bend as well as the 450mm sewer (due to be constructed about mid 2015) be looped through to Corvus Road in a road reserve to give a better solution.

Regards Ross

Ross Crockett
Development Planner
Water Corporation
Development Services
T: (08) 9420 2013| **F:** (08) 9420 3193
629 Newcastle Street, Leederville, WA 6007
Mailing address e.g. PO Box 100, Leederville, WA 6902
www.watercorporation.com.au

From: Brad Harris [mailto:brad@portereng.com.au]
Sent: Monday, 18 August 2014 9:50 AM
To: Ross Crockett
Subject: 14-07-102 Land planning and servicing enquiry - Lot 19, 0 Clarkson Ave, Tapping

HI Ross – The attachment you sent through was blank? Can you send again?

In regard to this site the planners advise no development layout is yet available but they are aware of the 450mm water main and the strata development would be built around the proposed sewer easement as per the GDG sewer sketch attached. So that item is ok and provided for in the future development.

The development on this site if supported at R60 is expected to be a combination of various dwellings, some multi storey. At this stage it could be one large grouped dwelling site on the one title.

If this is the case – what are the limitations with the water supply?

Would it be possible to service this development with 150mm water main by extension through Corvus and upgrade to the small sections of 100mm to complete a 150mm supply around the site?

Regards

Brad Harris | Director Projects

Porter Consulting Engineers
58 Kishorn Road | Mt Pleasant | WA 6153
PO Box 1036 | Canning Bridge | WA 6153
T: (08) 9315 9955 | **M:** 0413 614 111

website | **vCard** | **map** | **email**

From: Ross Crockett [mailto:Ross.Crockett@watercorporation.com.au]

Sent: Thursday, 14 August 2014 11:07 AM
To: 'Brad Harris'
Subject: RE: 14-07-102 Land planning and servicing enquiry - Lot 19, 0 Clarkson Ave, Tapping

Hi Brad

The difficulty will having only one Lot is that we only allow one Water Service per lot and that will be off a single retic main for the 160 dwellings, unlike wastewater that could be directed to different connections.

Having one Lot will also leave the two sewers and one water main at the northern end of Hirundo Bend that have been planned to continue.

The 100mm water main isn't suitable for your increased density with the 160 services, the 150mm sewer could be used for some of your wastewater flow and the 450mm main sewer about 6 meters deep will need to be continue into the extension to Corvus Road and then onto Clarkson Avenue (see attached plan) it could be laid in an easement through Lot 2, but a road reserve would be preferable.

Your original query was for three lots could you please recheck with the planners to determine the proposed development layout.

Regards Ross

Ross Crockett
Development Planner
Water Corporation
Development Services
T: (08) 9420 2013| **F:** (08) 9420 3193
629 Newcastle Street, Leederville, WA 6007
Mailing address e.g. PO Box 100, Leederville, WA 6902
www.watercorporation.com.au

From: Brad Harris [mailto:brad@portereng.com.au]
Sent: Wednesday, 13 August 2014 12:06 PM
To: Ross Crockett
Subject: 14-07-102 Land planning and servicing enquiry - Lot 19, 0 Clarkson Ave, Tapping

Thanks Ross

The planners do not have a layout as such (I asked a few weeks ago). Attached is the proposed subdivision. Lot 1 is commercial (commercial under existing zoning)

Lot 2 is the Lot in question that is seeking higher density. It is likely that it would be developed as 1 large strata lot at the R60 density – and they advised it would have about 160 dwellings.

Regards

Brad Harris | Director Projects

Porter Consulting Engineers
58 Kishorn Road | Mt Pleasant | WA 6153
PO Box 1036 | Canning Bridge | WA 6153
T: (08) 9315 9955 | **M:** 0413 614 111

website | **vCard** | **map** | **email**

From: Ross Crockett [mailto:Ross.Crockett@watercorporation.com.au]
Sent: Wednesday, 13 August 2014 11:34 AM

To: 'brad@portereng.com.au'
Subject: RE: Land planning and servicing enquiry - Lot 19, 0 Clarkson Ave, Tapping

Hi Brad

Servicing this Lot to R60 looks feasible; your query stated 3 lots with 160 dwellings.

To supply further details can you supply a layout for the subdivision and a likely timing?

Regards Ross

Ross Crockett
Development Planner
Water Corporation
Development Services
T: (08) 9420 2013| **F:** (08) 9420 3193
629 Newcastle Street, Leederville, WA 6007
Mailing address e.g. PO Box 100, Leederville, WA 6902
www.watercorporation.com.au
From: digital@watercorporation.com.au [mailto:digital@watercorporation.com.au]
Sent: Friday, 25 July 2014 10:08 AM
To: Feasibility Requests
Subject: Land planning and servicing enquiry - Lot 19, 0 Clarkson Ave, Tapping

CUSTOMER DETAILS

Name: **Brad Harris**

Company name: **Porter Consulting Engineers**

Email: brad@portereng.com.au

Contact number: **93159955**

LAND DETAILS

Lot number: **19**

House number: **0 Clarkson Ave, Tapping**

Are you or your client the owner of this land: **No**

Local authority: **Wanneroo**

WAPC subdivision reference: **NA**

Attached PDF copy of location plan: **/sitecore/media library/Rezoning Area Tapping**

Purpose of your inquiry: **Proposed Residential component of site (1.94 ha) proposed change from r40 to R60 and need to know if this has any impact on the water and sewer capacity/planning for this area. We have background data and area aware main sewer is proposed to be extended through site.**

LAND DEVELOPMENT/SERVICING PROPOSAL DETAILS

Description of proposal

Refere above - change of residential zoning from r40 to R60

Number of proposed lots: **3** Number of proposed dwellings: **160**

Area of industrial/commercial development: **0 m2**

Timeframes for development: **Would like feedback within a couple of weeks to support re-zoning application**

URBAN DEVELOPMENT PROGRAM DETAILS

Is this land identified in Department of Planning Urban Development Programs (UDP)? **No**

If yes, please provide the UDP project location number:

Current Local Government Town Planning Scheme (TPS) land zoning: **Urban**

Proposed land use: **Urban**

Is the land subject to a Local Government Town Planning Scheme (TPS) rezoning proposal?

Is the land within an endorsed District Structure Plan? **Yes**

Is the land within a proposed District Structure Plan?

Is the land within an endorsed Local Structure Plan/Outline Development Plan? **Yes**

Is the land subject to a proposed Local Structure Plan/Outline Development Plan? **Yes - not yet lodged**

Is the land within a current approved development application? **No**

Is the land within a current WAPC approved subdivision application? **No**

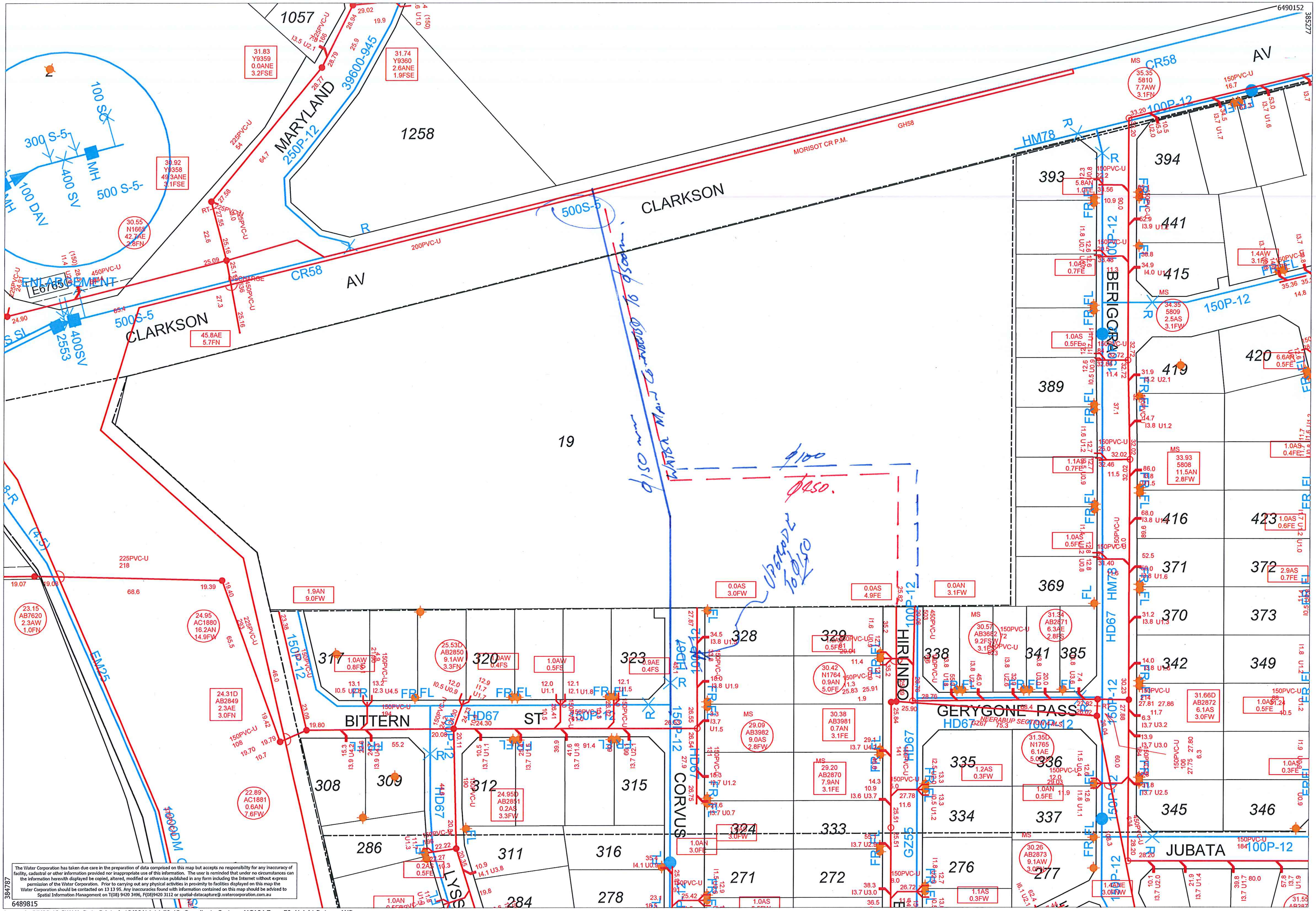
Is the land within a proposed WAPC subdivision application? **No**

Applied for water or wastewater services for this land? **No**

Are water or wastewater services needed for this development? **Yes**

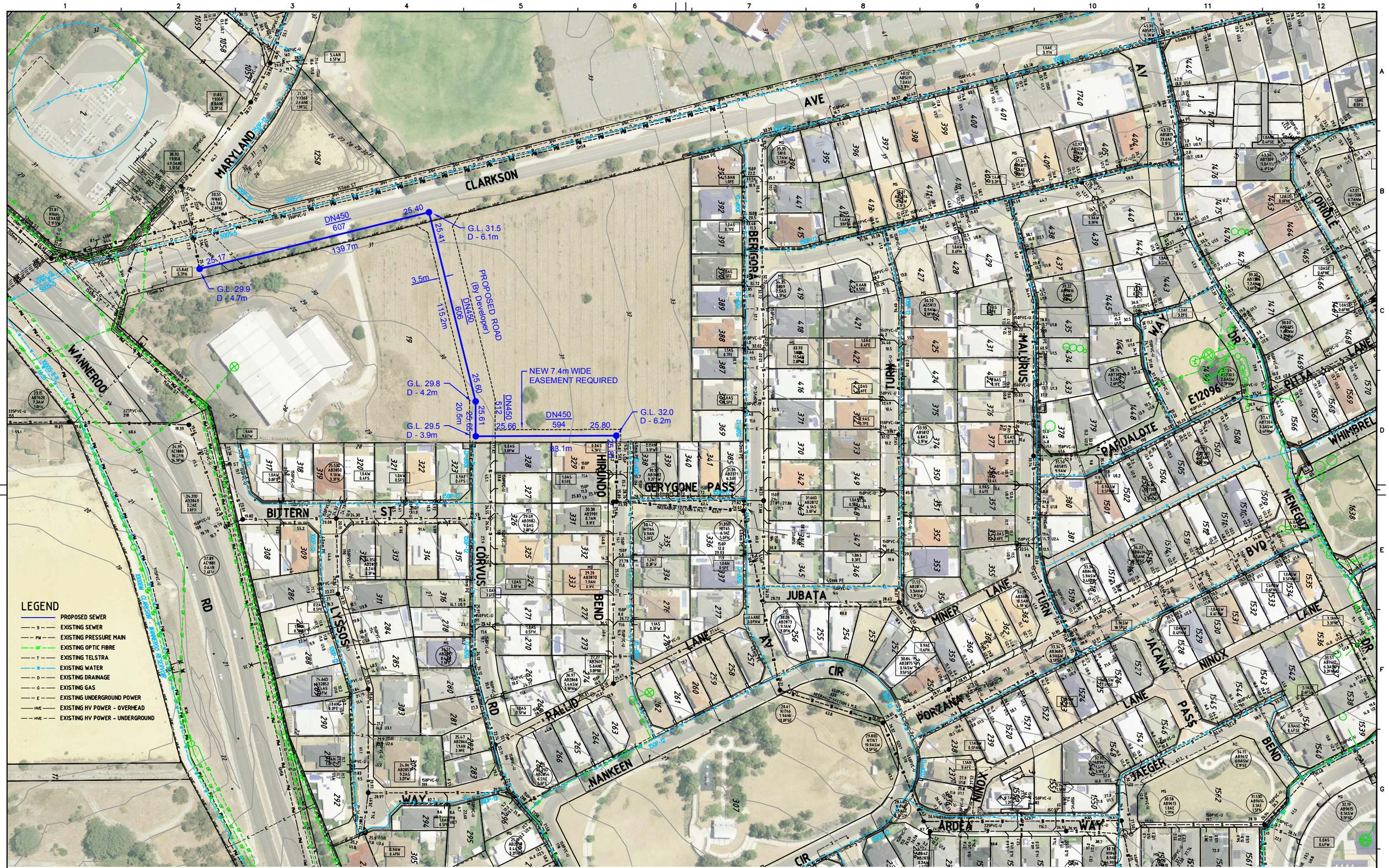
Proposed water requirements, excluding fire services: **to be determined litres/second**

Proposed wastewater flows: **to be determined litres/second**



Screen bg35/09.10 SWAN Date Printed: 18/08/14 14:50:12 Coordinate System: MGA94 Zone 50 Height Datum: AHD

ATTACHMENT 3 - WATER CORPORATION SEWER PLANNING



LEGEND

- PROPOSED SEWER
- EXISTING SEWER
- EXISTING PRESSURE MAIN
- EXISTING OPTIC FIBRE
- EXISTING TELSTRA
- EXISTING WATER
- EXISTING DRAINAGE
- EXISTING GAS
- EXISTING UNDERGROUND POWER
- EXISTING HV POWER - OVERHEAD
- EXISTING HV POWER - UNDERGROUND

10 5 0 10 20 30 40 50 60 70 m (1:1000)

PRELIMINARY

DATE : 14-Nov-2013

ISSUE	DATE	GRID	REVISION	DRN	REC	APPD
1	11/2013		ISSUED FOR CLIENT REVIEW	P.J.S		

DESIGN SURVEY: NONE
VERTICAL DATUM: AHD
COORDINATE SYS: MGA94-50
ASCON SURVEY: NONE
DES REF: GHD 61-30031
DES CALC:
DES CHD:
DRN: P.J. SIMPSON
Q.C. CHD:

NORTH POINT

GHD House, 239 Adelaide Terrace, Perth WA 6004 Australia
T 61 8 6222 8222 F 61 8 6222 8555
E permail@ghd.com.au W www.ghd.com.au

RECOMMENDED
CONSULTANT JOB MANAGER
APPROVED
CONSULTANT PROJECT DIRECTOR

WATER CORPORATION

METROPOLITAN WASTEWATER
NEERABUP MAIN SEWER
PRELIMINARY DESIGN
PROPOSED RETICULATION ROUTE – COMMERCIAL AREA OPTION 1

FILE:
PROJECT:
PLAN: SKETCH 02
CAD:
ISSUE: 1
ORIGINAL SHEET SIZE: A1
MF

61\30031\CADD\CONCEPT DESIGN\SKETCHES\SKETCH-02 14/11/2013

566
810

ATTACHMENT 3 –
Local Development Plan

Planning Design Delivery

Subdivision & Development Requirements:

1. A residential density code of R60 applies to the land.
2. Maximum building height limits as depicted on the adjoining plan.
3. Lots and/or dwellings to be oriented north-south or east-west as far as practical.
4. Dwellings to address the outerlying road network.
5. No vehicular access permitted to Clarkson Avenue.
6. Primary road entrance from Corvus Road.
7. Secondary road entrance to Hirundo Bend.
8. A minimum rear setback of 4m will be applied where development abuts existing single residential development, as depicted on the adjoining plan.
9. Residential development adjacent to existing residential lots shall interface appropriately.
10. Multiple Residential Development to be generally located towards the intersection of Clarkson Avenue and the future Corvus Road to minimise visual impact on properties outside of the development site.
11. A nil side setback is permissible to one side boundary only.
12. All development to be of a high architectural standard.

LEGEND

- Boundary of Local Development Plan
- 4m Building Setback
- Extent of 6m External Wall Height
- Extent of 9m External Wall Height
- Extent of 12m External Wall Height
- 393 Existing Lot Numbers

NOTE: Maximum height can be increased by 1m for development using a concealed roof.

0 25 50

REVISIONS

Rev	Date	Drawn
A	2014.07.17	K. Trenberth
B	2014.09.25	M. Sullivan
C	2015.03.09	K. Trenberth

ROWEGROUP
PLANNING DESIGN DELIVERY

w: www.rowegroup.com.au
e: info@rowegroup.com.au
p: 08 9221 1991

Date Drawn:	2014-07-17
Job Ref:	8082
Scale:	1:1000 @ A3
Client:	BMC Properties Pty Ltd
Designer:	G. Hajigabriel
Drawn:	K. Trenberth
Projection:	MGA50 GDA94
Plan ID:	8082-LDP-01-C

Cadastral Data Supplied by the Water Corporation of WA

Local Development Plan

Lot 19 Clarkson Avenue Tapping

N:\TOWN PLANNING\8000-8999\8082\DRAFTING\A-CAD\8082_LDP01C_20150309_TAPPING.DWG
Kim Trenberth 9 March 2015