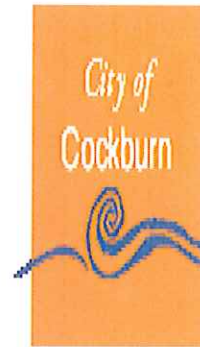


APPENDIX 2

Southern Suburbs District Structure Plan – Stage 3 Servicing Report

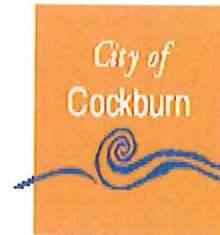


SOUTHERN SUBURBS DISTRICT STRUCTURE PLAN STAGE 3

CITY OF COCKBURN

STAGE 3

- Infrastructure Servicing Advice
- 14 July 2004



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CITY OF COCKBURN

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1. INTRODUCTION

Further to City of Cockburn's request, Sinclair Knight Merz are pleased to provide a revised servicing report into the engineering servicing and infrastructure requirements associated with the future urban development of the Stage 3 area of the Southern Suburbs District Structure Plan in Wattleup and Hammond Park.

WHAT IS A STRUCTURE PLAN?

The City of Cockburn perceives a Structure Plan, as a plan that illustrates the proposed structure and layout of a future development area.

The preparation of a Structure Plan is one of the first steps in progressing proposals for the development of new urban areas. In addition to illustrating details such as road configuration and the location of retail and community facilities such as shops, schools and public open space, a Structure Plan can also show details such as housing density, land use classifications and buffer zones.

A Structure Plan can be prepared for a variety of planning purposes, but generally it is done to indicate the way in which an area is proposed for development as well as providing a broad framework to guide Council when it considers subdivision and development proposals.

BACKGROUND

In July 2001, Sinclair Knight Merz provided the City of Cockburn with a servicing report for Stage 2 of the urban development that included the area now defined as Stage 3. This report provides a review and update of the previous infrastructure planning information and reports relevant changes that have taken place that may have impacts on Stage 3 of the new structure plan. Information on existing service infrastructures and future planning infrastructures were sought from the following service providers:

- Department of Planning and Infrastructure (DPI);
- Water Corporation;
- Western Power;
- AlintaGas;
- Telstra; and
- Council (City of Cockburn).

SINCLAIR KNIGHT MERZ

DEVELOPMENT AREA

The Southern Suburbs District Structure Plan Stage 3 consists of a portion of Hammond Park and Wattleup. The proposed acquisition for development is generally bounded by Beeliar Regional Park and Gaebler Road to the north, Kwinana Freeway to the east, Rowley Road to the South and existing, undeveloped lots to the west. Stage 3 is shaded on the Locality plan in **Appendix A**.

Stage 3 proceeds at the completion of the Structure Planning for Stage 2, just east of the Study area, of which is also defined in **Appendix A**.

2. TRANSPORT INFRASTRUCTURE

The Department of Planning and Infrastructure (DPI) provided the City of Cockburn with information (dated 24th May 2004) for their current transport infrastructure plans in the vicinity of the subject site.

The DPI advises that the Planning Control Area (PCA) N.76 currently affect the southern boundary of the subject site adjacent to Rowley Road. The act was declared in 2003 to protect sufficient land for the proposed road and rail transport access corridor between the proposed Outer Harbour site Kwinana/Naval Base Industrial area, and is expected to remain in force for a period not exceeding 5 years or when the subject land is reserved in the Metropolitan Region Scheme (MRS).

The act may affect future servicing infrastructure plans on Rowley Road as it provides for a future four lane divided road. Rowley Road is planned as a high standard regional road with no direct property access and limited side access to minimise disruption for industrial and port traffic between Kwinana Freeway and the proposed Naval Base.

Attached as **Appendix B** is the Main Road W.A. concept plan for Rowley Road, which indicates the proposed carriageway design and access arrangements within the vicinity of the Hammond and Wattleup area.

The DPI also advises that the following traverse the Structure Plan area: -

- Existing Other Regional Road (ORR) reservation for Hammond Road in the Metropolitan Regional Scheme (MRS). Refer to **Appendix C** for a copy of the WAPC Land requirements. The final road design, timing and construction of Hammond Road are under the jurisdiction of the City of Cockburn.
- The DPI is currently considering reviewing the Hammond Road reservation alignment and land requirements for the Hammond/Rowley Road intersection in view of the additionally nominated Bush Forever site located north of Rowley Road.
- In late 2004, it is expected that the MRS Major Amendment will become effective which includes proposals that affect the subject land including:
 - Removal of existing 'Railways' reservation adjacent to the section from Glen Iris to Rowley Road to be rezoned as 'Urban Deferred Zone';
 - Increasing the existing 'Railways' reservation which would require the existing Western Power land adjacent to the Freeway reserve just north Rowley Road for railway purposes to allow for a park & ride area.
- Any existing and proposed bicycle infrastructures will require liasing with the DPI.

3. SEWERAGE RETICULATION

EXISTING SEWERAGE INFRASTRUCTURE

There is currently no Water Corporation sewerage infrastructure within the Study Area. In 2001, the Water Corporation advised that the developments in Wattleup in Hammond Park would be ultimately serviced by extending the existing gravity sewer near Gadd Street and Branch Circus in Success.

Development front has now proceeded south into Hammond Park just north of the Study Area planned for Stage 3. An existing DN 375 exists on the extended Deanmore Road. The Water Corporation has provided a conceptual sewerage catchment plan (dated May 2004) which shows that the subject site will be ultimately serviced by the sewerage infrastructure in Hammond Park as the developments advance southwards.

Negotiation with Water Corporation on a development-by-development basis may result in approval to construct temporary sewer pump stations and rising mains to direct sewage northwards to the existing gravity sewers north of Bartam Road.

FUTURE SEWERAGE SERVICING INFRASTRUCTURE NEEDS

The Thomsons Lake Sewerage Reticulation Conceptual Planning for Wattleup and Hammond Park as provided by Water Corporation is outlined in the plan attached in **Appendix D**.

Most of Hammond Park and the eastern part of Wattleup are planned to gravitate northwards into DN375 mains on Deanmore Road. Some land within the subject area requires fill to enable the sewerage system to gravitate northwards as allowed for in the scheme planning. These areas are also outlined in **Appendix D**.

For the western and southern parts of the subject area, the Water Corporation has advised the construction of a permanent Pump Station with a pump rate of 13.5L/s . The lots are to be serviced via a DN150 and DN225 sewer pipe connecting to a DN100 pressure main for pumping the wastewater into the gravity system to the north.

As the scheme is not scheduled for construction in the near future, the Water Corporation advises that the area be developed following the development of the areas to the

immediate north. As previously advised, development is likely to commence in the north-eastern portion of the Study Area as the development front, and associated sewerage infrastructure, advances southwards. Cost sharing can then be an option if the development front is allowed to move south towards the subject area. Should development rates require the construction of these works ahead of the Corporation's timing, prefunding may be required.

Standard Water Corporation fees for sewer infrastructure will be charged at \$1,434 / Lot (September/October 2004 rates).

4. WATER RETICULATION

EXISTING WATER INFRASTRUCTURE

There is currently no residential water reticulation infrastructure operated by Water Corporation located within the Study Area. Properties within the Study Area obtain water from rainwater tanks and/or privately operated bores.

The area is within the existing Thomsons Lake Water Supply Scheme. A DN600 main exists on Hammond Road north of the study area terminating approximately 1.5km north of Gaebler Road. A series of Water Corporation groundwater bore sites connected by distribution mains are also located along Lyon Road and supply water to the Jandakot Groundwater Treatment Plant located on the south side of Bartram Road, near the intersection with Hammond Road. The locations of these bores are shown in **Appendix E**. Consideration to the existing bore sites along Lyon Road must be made during development of adjoining land. Development of the land adjacent to these bore sites will be subject to review by Water Corporation.

The water mains shown on **Appendix E** are indicative of future infrastructure requirements only and are subject to change as development of the area progresses. Until more detailed planning has been completed, allowances should be made for the indicated servicing routes of the major distribution mains.

FUTURE WATER SERVICING INFRASTRUCTURE NEEDS

Preliminary scheme planning of the subject area indicates that water supply from the Thomsons Lake Reservoir will be gravitating along two possible routes:

- 1) From the north, through a DN600 main along Frankland Avenue;
- 2) From the south, through several feeding mains, gravitating into a DN400/DN300 along Frankland Avenue.
- 3) From the west, gravitating from a DN500/DN400 along Rowley Road.

Both northern and southern mains meet at Frankland Avenue, forming a T-junction with Gaebler Road, where a DN400 branch is planned to gravitate eastwards into Hammond Park. A DN400 along Wattleup Road forms part of the southern feeding main (Refer to **Appendix E**).

The above mains are not planned for construction before 2010, at the earliest. The Water Corporation advises the extension of the existing DN600 main from Hammond Road may require prefunding should development rate change without giving the Corporation sufficient notice or sudden and accelerated growth rates occur. A *minimum of 12 months notice* is normally required. This is subject to the developer keeping the Corporation accurately informed of the proposed development rate, which should be reflected in the Metropolitan Development Program prepared by the DPI.

Consultation with the corporation is required at an early stage for the initial water supply, timing and refunding requirements for the future distribution main.

Standard Water Corporation fees for water infrastructure will be charged at \$2,876 / Lot (September/October 2004 rates).

5. STORMWATER DRAINAGE

EXISTING STORMWATER DRAINAGE INFRASTRUCTURE

To facilitate the urban development east of the Beeliar Regional Park, which incorporates Thomsons Lake and Kogolup Lakes, the Water Corporation agreed to construct the *Southern Lakes Main Drainage scheme*. The majority (~ 70%) of the Southern Suburbs Stage 3 area, comprising mostly of Hammond Park, falls under this scheme. The *Southern Lakes Drainage Scheme* endorses an acceptable level of water quality for all runoff discharging into the South Jandakot Main Drain. Water Corporation advises that prior to commencement of development within the Study Area, strict nutrient monitoring of surface runoff should be implemented to determine existing background nutrient levels to the satisfaction of the Water and Rivers Commission (WRC) and the Department of Environmental Protection (DEP).

The southern portion, approximately 20% is located within the '*Peel Drainage Catchment*' which is also the Mundijong Drainage District, whilst the remaining south western portion (~10%) falls into an area which is currently outside the Water Corporation's Licensed Operation Area (See **Appendix F**).

Development within the *Peel Harvey Drainage Catchment* is subject to the requirements of the Peel-Harvey catchment management strategy. The Peel Main Drain has been designed and maintained by the Water Corporation and has a restricted capacity of 10 year Average Recurrence Interval (ARI) flows, whilst the sub-drain have a maximum capacity of 2 year ARI flows, with no monitoring of water quality. Currently, the main drains export groundwater, and the scheme has to consider flood conveyance. Additional ground water monitoring of base flows and water quality data is required. Hydrological surveys are needed for predicting ground water levels. The Water Corporation will only manage the base flow channel and will not agree to manage multiple use corridors.

The south west portion of Stage 3 which falls into an area currently outside the Water Corporation's licensed Operation Area. As this area is not the responsibility of the Water Corporation, developments will be under the responsibility of the Local Council, the City of Cockburn.

As the development area is within the Thomson's Lake Special Developer Contribution Area, Drainage Headworks Contributions are charged at higher than standard rates.

FUTURE STORMWATER SERVICING INFRASTRUCTURE

Any proposed infrastructure in the northern portion that lies under the *Southern Lakes Drainage Scheme* will require initial agreement with the WRC and the DEP on the acceptable level of water quality, prior to seeking the Corporation for approval. Maximum nutrient levels will be endorsed on any discharge into the South Jandakot Main Drain under this scheme, resulting in the need for local nutrient stripping of runoff from future developments. The drainage strategy is required to conform to the requirements of the Drainage and Nutrient Management Plan (1990) and the Environmental Management Plan (1991) for the Southern lake Drainage Scheme.

Any proposed infrastructure in the southern portion that lies under the *Peel Harvey Drainage Scheme* is subject to the requirements of the Peel-Harvey catchment management strategy. The Corporation has a restricted capacity of 10 year Average Recurrence Interval (ARI) flows and a maximum capacity of 2 year ARI flows for sub-drains. Unlike the *Southern Lakes Drainage Scheme* there is no monitoring of water quality.

All developments in the Peel-Harvey Coastal Plain Catchment Area is subject to the provisions of the Planning Commission's Statement of Planning Policy No. 2 (SPP) which was published on 21 February 1992. The intent of SPP No. 2 is to ensure that land use changes within the Peel-Harvey Estuarine System likely to cause environmental damage to the estuary are brought under planning control and prevented. The policy promotes the retention of vegetation, control of nutrient export in the drainage system and restrictions on the types of effluent disposal systems used in the area. Specific deemed-to-comply requirements that will apply to the subject land will be the mandatory connection of sewer to all lots and the preparation of a Drainage and Nutrient Management Plan to minimise potential pollutants such as nitrates and phosphorus. Most of the vegetation on the lots within the SPP No. 2 area has already been cleared.

Informal discussions with Water Corporation have identified suggested preliminary locations of future significant drainage infrastructure within the Study Area. This infrastructure is shown on the Stormwater Drainage Strategy plan included in **Appendix F**. This strategy has not been finalised and is subject to change following negotiation between Water Corporation, the Water and Rivers Commission and the City of Cockburn.

Future developments within the Study Area should allow for detailed drainage and water quality assessments to ensure local authority, Water Corporation, Water and Rivers Commission and the Department of Environmental Protection requirements are satisfied.

These requirements are likely to be administered by the new Department of Environment, Water and Catchment Protection.

The development area is within the Thomson's Lake Special Developer Contribution Area, and therefore, Drainage Headworks Contributions are higher than standard rates. The Water Corporation rates for the upcoming quarters are:

- September 2004 – October 2004: **\$1,234 / Lot**
- November 2004 – March 2005: **\$1,244 / Lot**

Future developments within the study area should allow for detailed drainage and water quality assessments to ensure local authority, Water Corporation, Water and Rivers Commission and the Department of Environmental Protection requirements are satisfied.

6. ELECTRICAL RETICULATION

EXISTING ELECTRICAL INFRASTRUCTURE

Western Power high voltage (22kVA) transmission cables and towers run through the Study Area on Abercrombie Road (north) in Wattleup and parallel to the Kwinana Freeway on the eastern boundary of the development in Hammond Park. The development of land adjacent to this corridor will be required to conform to Western Power buffer zones and setbacks. There also exists transmission poles on Gaebler Road on the northern boundary of the Stage 3 development.

The attached **Appendix G** indicates the location of Western Power Infrastructure including distribution transformers, high voltage cables (overhead and underground) and transmission poles.

Planning data for expansion of Western Power infrastructure within the Study Area was not available.

FUTURE ELECTRICAL INFRASTRUCTURE NEEDS

Western Power advises that the available power supply in the surrounding high voltage cables in Lyon, Rowley, Gaebler and Wattleup Roads adjacent the Study Area is not adequate to serve extensive development of the area.

In 2001, Western Power advised they were in the process of reviewing sites for a future substation to serve future development of the area, expected to be commissioned by 2003. Western Power has now advised that the nearest proposed Zone substation is Jandakot that is approximately 10km away. There is no scheduled start date for the Jandakot substation.

A connection to the high voltage aerial lines and associated high voltage equipment within the development would be covered under Western Power's System Charge policy. As with typical residential developments, the cost of low voltage services and street lighting within the development is not included in the System Charge and as such, will remain the responsibility of the Developer.

7. NATURAL GAS

EXISTING GAS SUPPLY

Correspondence from AlintaGas Networks Pty Ltd states that there currently exists no AlintaGas infrastructure within the study area or its surrounds.

FUTURE GAS INFRASTRUCTURE NEEDS

AlintaGas advises there are currently no plans to extend natural gas service into this area and future applications for gas services will be considered on a case by case basis.

AlintaGas reviews the provision of gas services on a case by case basis and thus cannot provide additional information regarding future infrastructure installations without first undertaking an economic evaluation of a proposed subdivision.

It is anticipated that AlintaGas infrastructure will be extended from the north as the development front progresses southward.

8. TELECOMMUNICATIONS

EXISTING TELECOMMUNICATIONS INFRASTRUCTURE

The attached **Appendix H** show the location of existing Telstra distribution cables and optical fibre cables in the Study Area. Telstra has confirmed existing Optic Fibre Cables running along Rowley Street and terminating at the corner of Gable and Barfield Street.

FUTURE TELECOMMUNICATIONS INFRASTRUCTURE NEEDS

Telstra plans expansion of their infrastructure to suit on-going development and thus has no planning information for this area. Verbal advice from Telstra indicates extension of the optical fibre network to the north-east of the Study Area is expected to occur as the development front moves south.

Verbal advice from Telstra indicates any development would be fed from existing Optic Fibre Cables on Wattleup Road and along Rowley Street.

Telstra plans expansion of their infrastructure to suit on-going development and thus has no planning information for this area.

9. GENERAL

The information provided in this report is based on the best data available at the date of printing and subject to ongoing review and amendment.

Responses from the aforementioned service providers were generally qualified with statements regarding the dynamic nature of planning data and no assurances were given to the future accuracy of information that was provided.

The information included in this report is an accurate representation of the verbal, electronic and written data provided by the service providers.

We trust that this information is suitable for preparation of your feasibility for development of the Stage 3 of the Southern Suburbs project.

SKM CONTACT

Should you have any queries or wish to discuss any matter, please do not hesitate to contact Tanya Moe on 9268 4312 or Chris Beard on 9268 4425.