

# WATSONS

WESTBROOK  
PRECINCT STRUCTURE PLAN  
No. 92  
BALLAN ROAD, WYNDHAMVALE

INFRASTRUCTURE AND  
SERVICES REPORT  
*Growth Areas Authority*

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## 1.0 EXECUTIVE SUMMARY

### Overview

The Growth Areas Authority (GAA) is in the process of undertaking a number of Precinct Structure Plans (PSP) within the growth corridors of Melbourne. The PSP's are developed to guide and facilitate development in the identified areas ensuring satisfactory planning is provided to streamline future development of the precincts.

### Scope

Watsons has been commissioned by the GAA to undertake a utilities capacity assessment for the PSP 92 area. This report identifies the existing utilities infrastructure capacities, constraints and possibilities for the provision of future infrastructure to service the precinct.

### Authority Consultation

The information provided within this report has been ascertained from representatives of the Service Authorities both formally and informally to assess the capacity of existing services and identify future services.

### Precinct Overview

The Westbrook precinct comprises a number of parcels of land bounded by Ballan Road to the south, Regional Rail Link (RRL) to the east, Werribee River to the north and the Outer Metropolitan Ring Transport Corridor (OMRTC) to the west. The Westbrook PSP is immediately opposite Manor Lakes PSP to the south and PSP42 area east of the RRL.

The land to the south and south east of the PSP is well developed and serviced while the land to the west, north and east is rural in nature and primarily undeveloped. Land to the west and south west is Green Wedge Zone (GWZ) and Rural Conservation Zone (RCZ) respectively, with land to the south, south east and east being Urban Growth Zone (UGZ).

### Assessment Findings

Investigations revealed that there are no significant constraints to development of the precinct with the exception to timing of sewerage infrastructure. The sewerage system will be dependent on development rates downstream of the precinct, or investigation into provision of temporary pumping facilities to allow the precinct to develop ahead of downstream upgrades.

There are some capacity deficits with the existing service infrastructure and constraints to construction and augmentation of trunk assets. It is anticipated that these constraints can be resolved and that the precinct can be supplied with all services investigated within the scope of this report.

## **Recommendations**

The precinct has no major barriers to development with respect to the services investigated as part of this report with the exception of the timing of sewerage infrastructure. It is recommended that the constraints identified within this report to be given consideration within the final PSP for the Westbrook precinct and further investigation in conjunction with City West Water is undertaken into provision of temporary sewage pumping facilities.

## 2.0 INTRODUCTION

PSP's are master plans for whole communities which usually cater for between 10,000 to 30,000 people. Precinct structure planning is fundamental to making Victoria's growth areas great places to live, both today and for future generations. PSP's lay out roads, shopping centres, schools, parks, housing, employment the connections to transport and generally resolve the complex issues of biodiversity, cultural heritage, infrastructure provision and council charges.

The development of greenfield sites, along with urban consolidation, is an important part of the State Government's strategy to address strong population growth and the housing and employment demands that flow from this.

Precinct structure plans are the "blueprint" for development and investment that will occur over many years. They provide an up to date approach to address current global issues such as adapting to climate change, reducing carbon emissions, rising living costs and pressures of increasing travel distances as our cities grow. Precinct structure plans provide a balance between meeting complex policy requirements and providing affordable development.

GAA's goal is to create diverse, compact and well connected communities that are affordable and rich in local jobs, transport access, services and culture. We must also protect our valuable natural and historic features and use land more efficiently.

The GAA is the statutory authority responsible for overseeing the preparation of all precinct structure plans in Melbourne's growth areas and advising the Minister for Planning on their approval.

An integral part of the process for the development of the PSP's is the planning for provision of adequate service infrastructure to the subject precincts. The creation of significant new developments generates additional demand on existing infrastructure that generally requires augmentation of the relevant service networks.

The purpose of this report is to provide high level preliminary engineering advice in relation to opportunities and constraints for service infrastructure to the proposed Westbrook PSP located on Ballan Road Wyndhamvale. The capacities of existing services and their ability for augmentation to service future development requirements has been assessed in consultation with the relevant authorities both formally and informally and provided within this report.

The following utility services authorities were consulted as part of this report:

- City West Water – Sewerage, Potable and Recycled Water Authority
- Powercor – Electrical Network Extensions Authority
- SP AusNet – Gas Network Extensions Authority
- Telecommunications – NBN Co., Telstra

The majority of the information contained within this report has been obtained as a result of master planning and feasibility studies undertaken by service authorities. Due the high level nature of these strategies, numerous assumptions would have been made by the various stakeholders providing input to this report, not all of which have been identified or noted within this report.

There are a number of potential constraints that have not been addressed as part of this report that may have a significant impact on development and service infrastructure planning. These include but not limited to the following:

- Cultural Heritage Assessment
- Environmental Impact Assessment
- Stormwater Management Assessment

### 3.0 GENERAL SITE DESCRIPTION

The approximate 597 hectare precinct comprises of a number parcels of land bounded by Ballan Road to the south RRL to the east and Werribee River to the north and OMRTC to the west.

The precinct has approximately 3 kilometres' of frontage to Ballan Road, Wyndhamvale to the south excluding RRL and OMRTC.

Due to the RRL land acquisition the developable land no longer has direct access to Hobbs Road, Wyndhamvale. The majority of the land is currently zoned Urban Growth Zone (UGZ) while the northern portion of the site has an approximately 39ha of Rural Conservation Zone (RCZ) that is related to the location of the Werribee River.

The majority of the land falls towards the east of the subject site towards Hobbs Road. Smaller portions of the land fall to the South West and South East of the site towards Ballan Road, and to the North towards the Werribee River.

Existing grades generally vary between 1% (1 in 10) to 0.4% (1 in 250) through the site. The steeper grades are usually the result of rocky outcrops or the Werribee River while generally the grades vary through the site between 1 in 90 and 1 in 200, which are conducive to residential development.

There are a number of existing dams of various locations and sizes across the site, in addition to a number of low points subject to ponding across the land.

As the precinct has three larger storm water catchments it will require a number of outfall solutions for overland water flows, reticulated sewerage and drainage.

The land to the south east of the site is well developed, with development currently occurring on the south side of Ballan Road.

## 4.0 CITY WEST WATER

The precinct land is outside of City West Water's (CWW) current licence boundary. CWW has undertaken significant planning for the land in the Werribee West area and is currently in the process of extending the licence boundary to include this precinct. CWW will be able to provide water and sewerage infrastructure into the precinct.

CWW is in the process of developing the West Werribee Dual Water Supply and Sewerage Strategies to cater for provision of water supply and sewerage services to the area. These strategies are subject to regular review by CWW and should be considered as indicative only and subject to confirmation by CWW as development plans progress.

Please refer to Appendix A for the following plans. These should be reviewed in conjunction with this section of the report.

1. Services Plan 34541SV-A Rev A
2. CWW Werribee West Sewerage Growth Strategy (Draft)
3. CWW West Werribee Dual Water Supply Scheme (Draft)

### 4.1 Sewerage

The majority of the precinct is remote from the existing sewerage system. Therefore the extension of the sewerage system will depend on development rates downstream of the development area, bringing forward trunk asset construction or provision of temporary pumping facilities.

CWW's Werribee West Sewerage Growth Strategy identifies sewerage infrastructure required to service the site area. The precinct land falls across three sewer sub-catchments of which a number of gravity branch sewers have been identified as follows.

Branch Sewer No.1 begins as a 500mm dia. main generally follows the Werribee River will ultimately require extension of approximately 5.3km to reach the eastern boundary of the site and service the northern and eastern catchments that comprise the majority of the subject site, approximately 73% of the PSP area. It is noted that this Branch sewer will need to traverse the proposed RRL in several locations.

Branch Sewer No.2 a 225mm dia. is proposed to service a relatively minor portion of the South Eastern catchment, approximately 4% of the PSP area. It is currently located within the existing residential development immediately to the south of Ballan Road.

Branch Sewer No.3 begins as a 525mm dia. adjacent to Lollypop Creek. It is proposed to service the South Western catchments, approximately 16% of the PSP area and ultimately require extension of approximately 2.0 km to enter the subject site from the existing residential development located to the south of Ballan Road.

Branch Sewer No.4 begins as a 375mm dia. from the existing residential development located South East of Woollahra Rise. It is proposed to service a portion of the south eastern catchment, approximately 7% of the PSP area and ultimately require extension of approximately 2 km to enter the subject site from its existing location.



The current CWW strategy assumes at least three sewer crossings of the RRL will be required for Branch Sewer No.1. Further significant portions of the future branch sewers will traverse through adjacent properties, namely the Manor Lakes PSP and the proposed Ballan Road PSP. Orderly development of these two PSP's would provide the necessary Branch Sewer No.3 to the south at Ballan Road and Branch Sewer No.1 and 4 to the west at Hobbs Road.

It is Branch Sewer No.2 that has immediate potential for initial residential development that can be serviced by existing gravity sewerage. The existing 225mm sewer located in Brockwell Crescent in Manor Lakes has the hydraulic capacity to service approximately 600 standard dwellings within the precinct. Due to the small size of the gravity catchment a temporary sewage pump station may be required to allow development of 600 standard lots.

Alternatively, longer pumping distances to the 525mm BS No.1 in McGraths Road or to the 450/525mm Lollipop Creek branch sewer within Manor Lakes would enable a significantly greater area to be serviced.

The provision of service for 600 lots would likely provide sufficient time (5 years plus) for outlet works to commence within Ballan Road PSP and for alignments to be determined for future branch sewers.

## **4.2 Potable Water**

The existing potable water supply adjacent to the precinct consists of a 600mm dia water main that extends for approximately 50% of the precincts frontage to Ballan Road

CWW's West Werribee Dual Water Supply Strategy identifies a number of significant potable water infrastructure items that are required to service the precinct and surrounding land.

The most significant infrastructure required for the precinct is the provision of a new West Werribee tank reservoir to be built on the north side of Ballan Road near the intersection of Cobbledick Ford Road. It will supply a new 900mm dia water transfer main that will extend from the tank site South East along Ballan Road to Ison Road. This will result in a 900mm dia. and the existing 600mm dia. distribution water mains fronting the entire length of the subject site in Ballan Road. CWW advised that all planning approvals for these works have been obtained and the works have been tendered. It is expected that the provision of the new tank reservoir and transfer mains should be complete by 2014.

Additional augmentation of external potable water infrastructure to facilitate development of the area by CWW will be based on demand.

The existing water supply system supplied from the elevated tank located south of Ballan Road does not have the capacity or the elevation to service the site. Therefore to provide supply to the site prior to commissioning the new West Werribee Tanks would require temporary works comprising a new pump station and an elevated tank located on higher elevated land north of Ballan Road. These would be considered temporary works.

Internally the precinct will be serviced by water mains that will be sized appropriately for the expected demand, taking into consideration the mix of land use for residential and commercial development.

## 4.3 Recycled Water

The precinct is currently remote from existing recycled water supply infrastructure.

CWW's West Werribee Dual Water Supply Strategy identifies a number of significant recycled water infrastructure items that are required to service the precinct and surrounding land.

The most significant infrastructure required for the precinct is the provision of a new West Werribee tank reservoir to be built on the north side of Ballan Road near the intersection of Cobbledick Ford Road and an Ultra Filtration Reverse Osmosis (UFRO) plant to the south to reduce the level of salt in the recycled water to acceptable levels. The UFRO will source Class A water from Melbourne Water's Western Treatment Plant located south of the precinct and supply the Wyndhamvale area with recycled water. In turn the tank will supply a new 900mm dia recycled water transfer main that will extend from the tank site south east along Ballan Road to Ison Road before reducing to a 600mm dia. main. This will result in a 900mm dia. and 600mm dia. distribution mains fronting the entire length of the subject site in Ballan Road.

CWW has already committed to building the new tank reservoir and UFRO plant to supply the adjacent Manor Lakes development located immediately south of the Ballan Road and subject precinct. CWW has indicated that supply of salt reduced recycled Class A water should be available in 2014.

Additional augmentation of external recycled water infrastructure to facilitate development of the area by CWW will be based on demand.

Internally the precinct will be serviced by mains that will be sized appropriately for the expected demand, taking into consideration the mix of land use for residential and commercial development.

## 5.0 POWER

Powercor is the responsible authority for provision of electrical infrastructure within the precinct.

Please refer to Appendix A Services Plan 34541SV-A Rev A. This should be reviewed in conjunction with this section of the report.

Power supply to the area is currently sourced from the north by way of Hobbs Road and the West by way of Ballan Road through 22kV over head power lines. This supply is also supported by the underground network of 22kV from the adjacent Manor Lakes Estate.

Powercor are currently in the process of augmenting the current network by installing a new feeder line from the existing Zone Substation at the intersection of Shaws and Tarneit Roads to the precinct. This work is to be completed by the end of 2012. Therefore the existing network with the addition of the new feeder will provide spare capacity for initial supply to the precinct depending on the nature and size of the initial development.

Powercor expect that the proposed Truganina (TNA) zone substation and associated feeders currently expected to be delivered in 2016 will provide additional capacity to the precinct. The ultimate supply will likely require the proposed Wyndham Vale (WVL) zone substation. The proposed location of the WVL zone substation is the corner of Greens Road and RRL. This location is subject to discussions between Powercor and relevant authorities. An area of approximately one hectare will be required for this facility.

The timeline for the zone substation and associated feeders will be dependent on the development of RRL, and neighbouring precincts.

Powercor's existing network can be augmented as required to supply the subject land under their standard Urban Residential Development supply contract conditions.

## 6.0 NATURAL GAS

The Precinct area falls within SP AusNet's distribution area for provision of gas infrastructure.

Please refer to Appendix A Services Plan 34541SV-A Rev A and SP AusNet's gas existing infrastructure layout. This should be reviewed in conjunction with this section of the report.

Gas supply to the area is generally sourced from APA Group's 500mm dia Brooklyn-Lara gas transmission pipeline that currently traverses the western portion of the precinct area. The transmission pipeline runs in a north east – south west direction generally parallel to the proposed OMRTC.

The 500mm dia pipe is located within an existing easement varying between 10 and 20m in width. This easement is reserved for additional pipelines should they be required.

APA Group has indicated their preference is for the width of the easement to be used for open space within any future PSP. Further APA recommends that uses such as schools and hospitals are located away from the pipeline.

SP AusNet has an existing pressure reduction facility (city gate) fronting Ballan Road that provides gas to the area through a recently constructed 200mm dia pipeline in Ballan Road that connects to the existing network at the intersection of Ballan and Hobbs Roads. An existing 110mm dia main also exists in Hobbs Road.

SP Ausnet currently has sufficient capacity for initial supply to the precinct depending on the nature and size of the initial development. Due to the proximity of the 500mm gas transmission pipeline, the existing network can be augmented as required to supply the precinct.

## 7.0 TELECOMMUNICATIONS

Communication services can be provided to the land via a fibre network under the current National Broadband Network (NBN Co.) development process where by an appropriately sized and located pit and pipe infrastructure network is progressively installed by developers as development occurs.

NBN Co. will only provide telecommunication services to developments larger than 100 lots.

Alternative private sector organisation's are currently available providing equivalent or similar high speed fibre networks to developing areas under commercially negotiated arrangements with developers.

Internally the precinct will be serviced appropriately for the expected demand, taking into consideration the mix of land use for residential and commercial development.

## 8.0 CONCLUSION

The precinct has no major prohibitive barriers to development with respect to the services investigated as part of this report. There are some capacity deficits within current servicing infrastructure, and there are also constraints to deployment and augmentation of trunk assets, however it is anticipated that these constraints can be overcome and that the precinct can be provided with all services investigated within the scope of this report.

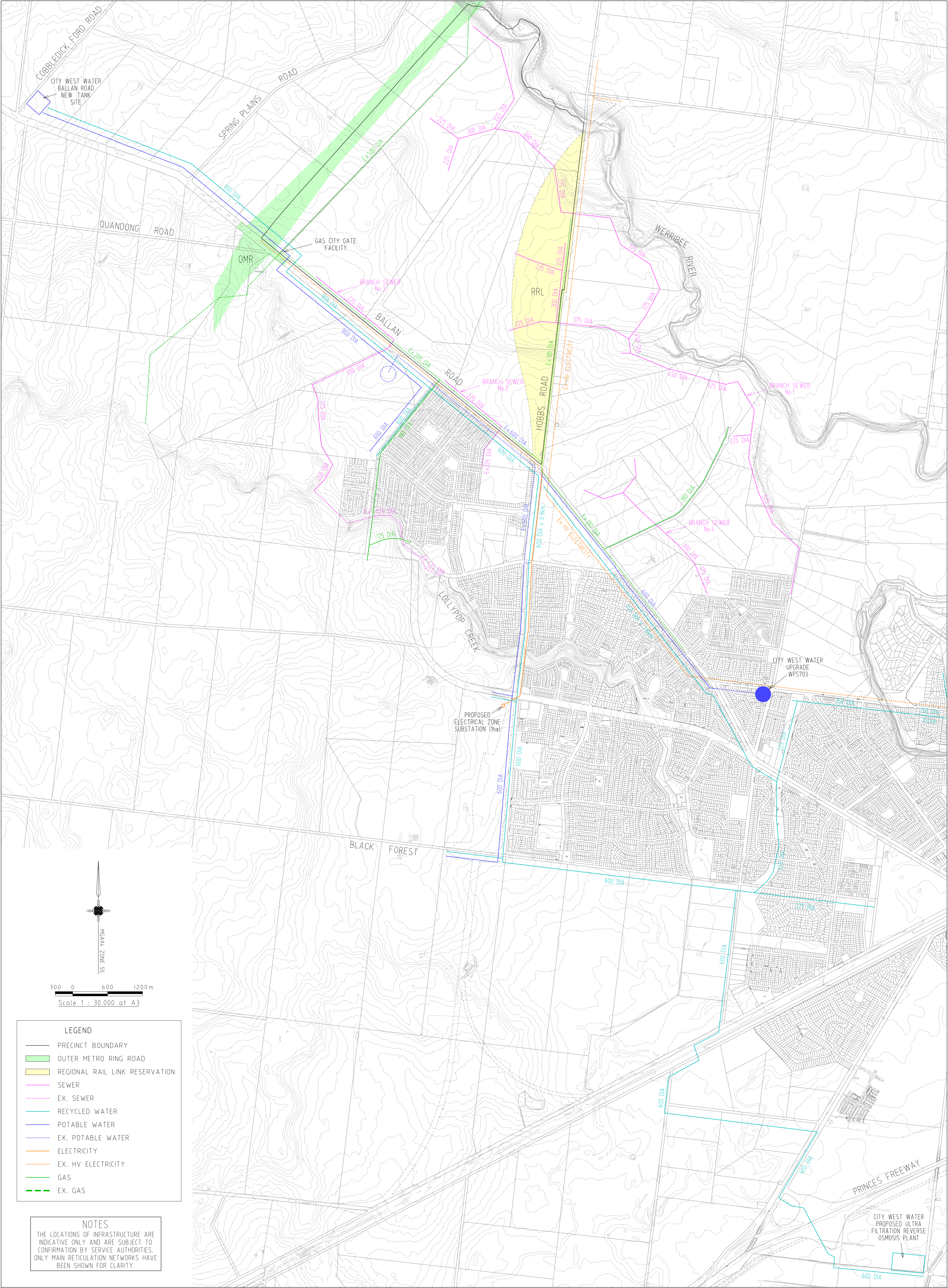
### References


1. "Precinct Structure Plans" - [http://www.gaa.vic.gov.au/Precinct\\_Structure\\_Plans](http://www.gaa.vic.gov.au/Precinct_Structure_Plans)

## **APPENDIX A**

- 1. Services Plan 34541SV-A Rev A**
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- 3. CWW West Werribee Dual Water Supply Scheme (Draft)**



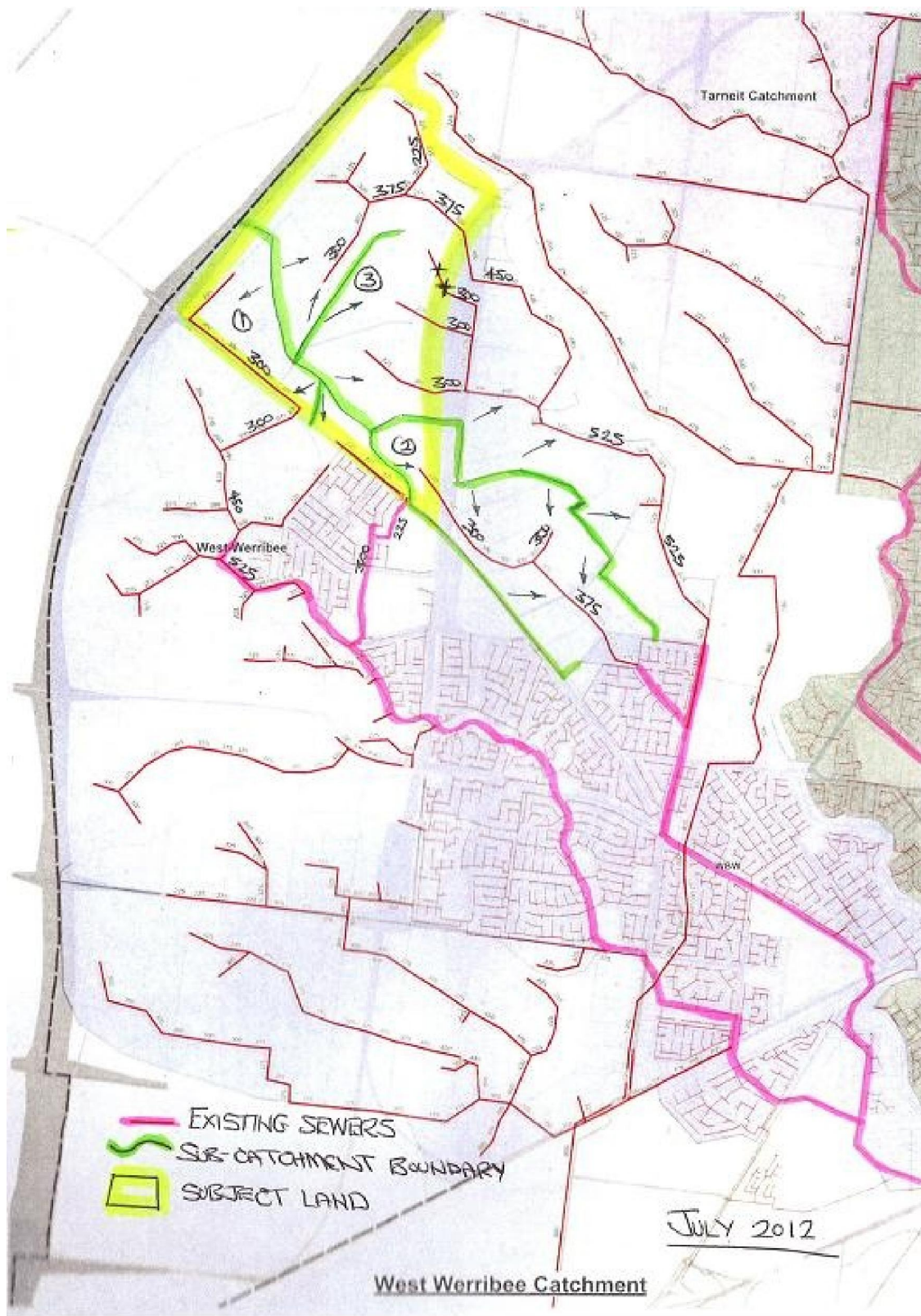


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				LEVEL DATA:	Vicmap		• Project Managers • Urban Designers • Structural Engineers				
				LEVEL DATUM:	A.H.D.						
				PROJECT No.:	34541		MELBOURNE The Melburnian, Suite 2 250 St. Kilda Rd. Phone:(03) 9697 8000 Fax:(03) 9697 8099			REVISION	A
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Sewerage