



Precinct Structure Plan (PSP) **No. 42 Black Forest Road** **Infrastructure and Servicing Report**

Growth Areas Authority

Revision: 1
 Date: 24 June 2011
 Aurecon Reference: 205513.400


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Document History and Status



Document ID: F:\MULTI\205513\ENG\400 PSP42 BLACK FOREST ROAD\INFRASTRUCTURE AND SERVICING REPORT - PSP.42 BLACK FOREST ROAD REV 1.DOC

Rev No	Date	Revision Details	Typist	Author	Verifier	Approver
1	24/06/2011	Final Issue	MD	RD	RG	NEB
0	15/07/2010	Draft – Issued to GAA	RD	RD	AG	

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Appendix A

Servicing Layout Plan

1. Executive Summary

Project Overview

The Growth Areas Authority (GAA) is concurrently undertaking a number of Precinct Structure Plans (PSPs) for precincts within the current growth corridors of Melbourne. These PSPs aim to guide and facilitate development in these rapidly growing areas and ensure that adequate and prompt planning is available to support future development within these precincts.

Project Scope

Aurecon has been commissioned by GAA to undertake a utilities capacity assessment for the Black Forest Road Precinct. This report identifies current service and utility infrastructure capacity issues within the precinct and also presents key opportunities and identifies constraints for provision of servicing and utility infrastructure to fully service the precinct into the future.

Assessment Methodology

Aurecon has consulted and liaised with relevant service authorities in order to assess the capacity of existing services and identify future services. The findings are discussed throughout the report.

Site Overview

The Black Forest Road Precinct is bounded by Bulban Road and rural land to the south, and Greens Road, Armstrong Road, Black Forest Road and McGraths Road along the north east boundary. Located from north to south within the precinct is a reservation for the proposed Regional Rail Link (RRL).

The land to the north and east is highly developed and well serviced while on the west & south sides, the land is largely undeveloped and outside of the Urban Growth Boundary (UGB).

Assessment Findings

Based on the investigations undertaken, there are no major prohibitive constraints to future development within the precinct. There are some capacity shortfalls within current servicing infrastructure and constraints to construction and augmentation of trunk assets, however it is anticipated that these constraints can be overcome 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. It is recommended that the constraints identified within this report be given consideration within the final PSP for the Black Forest Road Precinct.

A number of policy and procedural recommendations have also been made incorporating feedback from various stakeholders in the project area.

2. Introduction

2.1 Project Overview

Precinct Structure Plans (PSPs) are master plans for whole communities which are usually 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 and the connections to transport.

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.¹

One important aspect being investigated as part of the PSP process is the planning and provision of adequate servicing infrastructure for these rapidly developing precincts. New developments place additional load on existing services infrastructure which may necessitate augmentation at small or large scales.

This report aims to identify the opportunities and constraints to development with respect to services infrastructure at a high level. The capacity of existing services has been assessed in consultation with the relevant authorities, and the likely future infrastructure requirements have been subsequently indicated. Preliminary staging and high level cost information has also been provided where available.

The utilities that have been investigated as part of this report are as follows:

- Water
- Sewer
- Recycled Water
- Power
- Gas
- Telecommunications.

2.2 Site overview

As mention earlier, the Black Forest Road Precinct is located within Wyndham Vale, and is bounded by Bulban Road and rural land to the south, and Greens Road, Armstrong Road, Black Forest Road and McGraths Road along the north east boundary. Located from north to south within the precinct is a reservation for the proposed Regional Rail Link (RRL).

The land to the north and east is highly developed and well serviced while on the west & south sides, the land is largely undeveloped and outside of the UGB.

2.3 Statement of Limitations

2.3.1 Service Authority Advice

A part of the information contained within this report has been obtained as a result of master planning and feasibility study undertaken by others. Due to the high level nature of such processes, a large number of assumptions would have been made by the various stakeholders providing input to this report, not all of which have been made known or are contained within this report.

Service Authorities have made estimates of the predicted loadings that are likely to be experienced by their respective services infrastructure and sized future assets accordingly. These estimates are often based on population and development estimates, expected changes to standards and policies, assumed future population behaviour and demands, current usage trends and models, and other factors. All of these factors are subject to change which introduces significant uncertainty to the proposals outlined. The information presented within the report should be understood as high level planning advice.

2.3.2 Exclusions

There is a number of potentially constraining factors which have not been addressed as part of this report but which can exert significant influence over development and infrastructure planning. These factors include:

- Cultural Heritage Assessments
- Environmental Impact Assessments
- Stormwater Drainage Assessments
- Other precinct structure planning activities that are occurring simultaneously or subsequent to this project.

2.3.3 Infrastructure Sizing

The infrastructure indicated within this report is typically the highest tier of infrastructure within the precinct and is part of the central distribution and supply infrastructure required to service the precinct. Smaller scale reticulation at allotment scale has not been indicated, however all services will obviously require assets at these scales.

2.3.4 Information Not Available

Staging and costing information has been presented at various points within the report, however in many cases this information was not available from the relevant stakeholders. Staging is a dynamic consideration that relies on many factors that are sometimes beyond the scope of master planning activities.

With respect to costing advice, in the majority of cases as part of essential services legislation, service authorities will be required to bear the cost of trunk infrastructure provisions and typical development costs are applicable at an allotment level.

2.4 Engineering Services Reports Evaluation

*Delfin – Richmond Property, Werribee West Infrastructure Servicing Report
SMEC Urban – March 2010*

This report comments on the required services infrastructure for Delfin's land parcel within PSP No. 42. According to our review, most of the information presented is consistent with the current service authority advice presented within this report. It is noted however that the sewer strategy indicates a significant portion of the PSP may require a pumped sewer outfall however we now expect that all of PSP No. 42 can achieve a gravity sewer outfall for ultimate infrastructure conditions, although interim pumping measures may be required for small portions to the north west or south west within the precinct.

3. Method of Assessment

3.1 Key Stakeholders

3.1.1 Growth Areas Authority

The Growth Areas Authority is an independent statutory body with a broad facilitative role to help create greater certainty, faster decisions and better coordination for all parties involved in planning and development of Melbourne's growth areas².

3.1.2 Service Authorities

These service authorities are responsible for planning, designing, constructing and maintaining trunk supply and distribution of utilities within the precinct.

3.2 Information Sources

In producing the content within the report, the following sources of information were utilised to varying degrees:

A Dial-Before-You-Dig enquiry was undertaken for the precinct to determine the extent of readily available services information and to assess the size and location of existing services.

Publicly available aerial and street level photography were utilised in addition to cadastral and contour information as part of a high level desktop review into the precinct.

Correspondence, meetings and phone conversations with personnel from the various service authorities provided information with regard to future servicing strategies and master planning.

Accessing the websites of service authorities, industry associations and government departments assisted in providing further information with regard to the capacities of existing assets, plans for future assets, policies, standards and legislation governing development.

3.3 Information Review

Information from the various sources was examined and compared for consistency. Meetings were held with relevant service authorities to discuss the various responses and information provided and to bring further clarity to the information.

3.4 Reporting and Consultation

The information has subsequently been analysed and collated, with the various services information combined on to a common base plan. The key constraints and opportunities have been documented within this report. It is recommended the information provided in the report be reviewed prior to development stage to ensure the information presented is up to date and accurate.

4. Services Investigation

4.1 Water

Provision of water supply to the Black Forest Road Precinct is the responsibility of City West Water (CWW).

Existing developments to the north east of PSP No. 42 are supplied from water mains coming from the east with an existing pump station located adjacent to the intersection of Bolton Road and McGrath Road.

Existing water supply mains immediately adjacent to the precinct are located within Haines Road, to the north of the precinct in Armstrong Road and to the south east within Geelong Road. There are no existing large diameter water supply mains located internally to the Black Forest Road Precinct.

As development occurs within Wyndham Vale, CWW will upsize and augment water supply to the area as required to meet demand.

CWW plan to construct a new water tank reservoir to the north west adjacent to Ballan Road at some point in 2012. Land has already been acquired for this asset. 1150mm diameter and 900mm diameter water mains will extend along Ballan Road from this reservoir toward Wyndham Vale. According to these planned upgrade works, a 600mm diameter water supply main will be constructed within Armstrong Road. This main will extend south into PSP No. 42.

Internally to the precinct, water mains sized in the order of 300-600mm diameter should be adequate to service the new developments, with smaller water mains, servicing smaller areas within the development and individual properties. These mains will be designed and constructed according to the staging that occurs within the precinct.

It is expected that water main infrastructure will need to cross the proposed RRL at least once within PSP No. 42, however it is thought that such a crossing can be readily accommodated subject to the final vertical alignment of the RRL. It may be necessary for water main assets to cross the RRL overhead or alternatively to be bored beneath the RRL, subject to further details of the RRL project being confirmed.

A servicing layout has been provided within Appendix A, with indicative sizing and locations of future water main assets. These details are subject to confirmation by CWW in later stages of development.

4.2 Sewer

CWW is the responsible authority for the provision of sewer reticulation within the precinct.

Sewers within the existing developments of Wyndham Vale convey flows to the south east and subsequently south to the Western Treatment Plant. The overall slope of the land is also in this direction.

It is expected that a gravity outfall will be achievable for the majority of the future sewer network within PSP No. 42. The majority of the precinct will discharge to a 1050mm diameter sewer main adjacent to Flemington Crescent at the eastern perimeter of the precinct.

It is proposed to drain the north west corner of the precinct to an existing 675mm diameter sewer aligned with Lollypop Creek which eventually connects to the 1050mm diameter main in Flemington Crescent.

The south west corner of the precinct may be re-zoned as a commercial area within the precinct. This portion of the site can not achieve a gravity outfall to the east and is proposed to be connected to future infrastructure to the south. If development occurs within this proposed commercial area prior to sewers being constructed to the south, a sewer pumping station and rising main will be required as an interim measure to service the area.

Preliminary sewer master planning within PSP No. 42 indicates that branch sewers ranging from 300mm diameter to 500mm diameter will be required within the precinct.

Due to the proposed Black Swamp Retarding Basin in the eastern portion of the site, outfalls with alternative alignments that avoid the likely retarding basin location have been considered and are reflected in the servicing layout within Appendix A.

The western portion of neighbouring PSP No. 40 is divided from the eastern portion of PSP No. 40 by the proposed RRL. At present the level of detail available for the RRL doesn't allow the impact on sewer to be determined, however it is anticipated that gravity sewers can readily be provided to the western portion of PSP No. 40 via the proposed infrastructure within PSP No. 42 or the sewer aligned with Lollypop Creek.

A servicing layout has been provided within Appendix A, which includes the indicative sizing and tentative locations of sewer mains within the precinct. These details are subject to confirmation by CWW in later stages of development.

4.3 Recycled Water

CWW is the responsible authority for provision of recycled water reticulation within the precinct.

Melbourne Water's Western Treatment Plant (WTP) is located to the south of the precinct and has a large supply capacity for recycled water.

Proposed upgrades to the WTP Recycled Water Facility will enable the majority of new developments within Wyndham Vale to be supplied with recycled water at Class A standards, enabling dwellings to utilise recycled water for toilet flushing and irrigation purposes.

The proposed upgrades are likely to occur in two stages. The first stage, the West Werribee Dual Water Supply project is likely to be completed within the next 2-4 years.

The second stage, the West Werribee Expansion will supply PSP No. 42 and several other areas with recycled water. This second stage is still subject to approvals and detailed planning, and will involve the construction of a new transfer main between the Recycled Water Facility at the WTP and the proposed new tank site along Ballan Road as discussed in Section 4.1.

It is expected that recycled water pipe infrastructure will need to cross the proposed RRL, however it is thought that such a crossing can be readily accommodated subject to the final vertical alignment of the RRL. It may be necessary for recycled water pipe assets to cross the RRL overhead or alternatively to be bored beneath the RRL, subject to further details of the RRL project being confirmed.

A servicing layout has been provided within Appendix A, with the indicative locations of the West Werribee transfer main. These details are subject to confirmation by CWW in later stages of development.

CWW is investigating opportunities for stormwater harvesting and recycling within new precincts.

4.4 Power

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

The nearest existing zone substation is the Werribee Zone Substation to the east which is supplied from the Altona Terminal Station.

There are numerous 22kV distribution lines servicing the existing development adjacent to the precinct.

A high level approximate electrical loading for PSP No. 42 at ultimate development has been estimated at 7MVA.

As development occurs within the precinct, Powercor will continue to augment supply by construction of new sub-transmission lines and additional feeders along existing alignments.

A proposed additional 22kV subtransmission feeder located within the Bulban Road reserve is proposed to augment the supply from the three existing feeders as development occurs within PSP No. 42. This upgrade is expected to occur within the next five years.

As PSP No. 42 and adjacent precincts such as PSP No. 40 and PSP No. 41 approach 75% of ultimate development, a new zone substation and 66kV feeder along Ballan Road is likely to be required in order to maintain adequate supply to the Wyndham Vale area.

The proposed location of this zone substation is within PSP No. 40, adjacent to the proposed retirement village on Ballan Road, on the north side of Ballan Road and to the west of the proposed RRL. An area of approximately one hectare will need to be acquired for this asset and the construction cost is estimated to be in the order of 12 million dollars. The possibility of locating this zone substation within PSP No. 42 was considered by Powercor, however a location within PSP No. 42 would not suit the loadings within the network.

The timing of when this asset will be constructed depends to a large degree on the development that occurs within the neighbouring precincts. Augmentation of feeders and construction of zone substations and terminal stations elsewhere in the immediate region will be influenced by the rate of development and hence the loading experienced by the Werribee and Laverton substations will change subject to other upgrade or augmentation works.

Eventually this new zone substation along Ballan Road will be connected to the Altona Terminal Station via new 66kV sub-transmission lines located along Hobbs Road and Doherty's Road, which will also include a proposed zone substation in the north of Tarneit. The approximate cost of constructing new 66kV lines is \$300,000 per kilometre for overhead assets and \$1,000,000 per kilometre for underground assets.

4.5 Gas

SP AusNet is the responsible authority for provision of gas infrastructure within the precinct.

Existing large diameter supply mains are located adjacent to the precinct, in Ballan Road & Black Forest Road.

In general, existing or proposed thoroughfares will be utilised for any proposed supply mains. Further information on street layouts and the actual housing density is required before SP AusNet can estimate the requirements for reticulation mains and additional city gate stations.

The existing networks have less capacity than they require to adequately service the existing developments. Critical infrastructure augmentation in Ballan Road is experiencing some delays due to ongoing negotiations and environmental factors.

In order to service the Black Forest Road Precinct, it will be necessary to construct a 180mm diameter polyethylene supply main along the southern and western boundary of the precinct. It is also proposed to extend 125mm polyethylene gas mains along Black Forest Road, McGrath Road and Armstrong Road in order to supply the precinct. Reticulation mains will also be required and will be constructed when warranted by developments within the precinct.

In order to fully service the precinct and surrounding precincts to ultimate development, a new connection to the Brooklyn-Lara pipeline is likely to be required. This will require a custody transfer meter and regulator station (city gate) estimated to cost in the vicinity of \$1,000,000 along with the associated transfer mains.

The existing large diameter main within Ballan Road crosses the proposed RRL alignment. It is anticipated that this supply main may require relocation subject to the final vertical and horizontal alignment of the RRL.

The proposed 125mm pipe within Black Forest Road and the proposed 180mm diameter on the southern perimeter of the precinct will also cross the proposed RRL, however it is not anticipated that either of these RRL crossings will impose significant constraints on the gas supply for the precinct.

A servicing layout has been provided within Appendix A, with the indicative sizing and location of supply and distribution mains relevant to the precinct. These details are subject to confirmation by SP AusNet in later stages of development.

4.6 Telecommunications

The provision of copper and optic fibre telecommunications infrastructure has been discussed with Telstra, however a formal response is still pending.

On 7 April 2009, the Australian Government announced the establishment of NBN Co Limited (NBN Co) to design, build and operate the wholesale-only National Broadband Network (NBN).

At the time of writing, due to legal proceedings surrounding the NBN, it is not certain who will be responsible for planning, design and construction of optic fibre networks to new precincts within Wyndham Vale, however the opportunities and constraints for provision of fibre optic infrastructure to the Ballan Road precinct were discussed with network planning personnel at Telstra in order to better understand the telecommunications infrastructure servicing requirements.

The existing developments to the south west have limited availability for high speed internet at the existing exchanges and anecdotal evidence suggests that the capacity of the existing copper network is not sufficient to meet the growing demand of the existing developments adequately.

Anecdotal evidence also indicates that the deployment of copper telecommunications infrastructure is also lagging behind property development in the existing developments such as Manor Lakes.

The nearest exchanges to the Black Forest Road Precinct are Werribee and Tarneit with provisioning of telephone lines apparently being extended into existing neighbouring developments from the Werribee exchange via technologies such as Remote Integrated Multiplexers (RIM).

The following information has been obtained from the Government's Department of Broadband, Communications and the Digital Economy website and indicates the current policy on the rollout of telecommunications infrastructure to new developments:

On 20 June 2010, NBN Co and Telstra announced that they had entered into a Heads of Agreement on the rollout of the National Broadband Network (NBN). In support of that agreement the Government indicated it would progress public policy reforms to support the transition to the NBN.

Following extensive consultation and consideration of the Implementation Study recommendations, the Government has determined that from 1 January 2011 NBN Co will act as wholesale provider of last resort in new developments constructed within, or adjacent to, NBN Co's long term fibre footprint. Developers and, on their own property, owners will be required to cover the costs of trenching and ducting. NBN Co will cover the other costs of installing fibre infrastructure in the development, including backhaul.

During the period that the NBN is being deployed, NBN Co may sub-contract the rollout and operation of fibre networks in new developments, providing that the networks are built to meet the technical specifications of the NBN and operated on an open access basis. Ownership of these networks would transfer to NBN Co and form part of NBN Co's open access wholesale only network.

Telstra will not be required to provide infrastructure in new developments. However to ensure that retail services are offered in new estates, Telstra will be required to provide standard telephone services to end users in new developments in which retail services are not offered by another service provider (retail provider of last resort).³

5. Development Opportunities and Constraints

This section serves to highlight content from the previous section that particularly relates to constraints and opportunities with regard to development. Shortfalls in the existing networks of adjacent precincts have been indicated where identified in *Section 5.1 Current Constraints*, while critical infrastructure required in order to service future development within this precinct is identified in *Section 5.2 Future Constraints*.

5.1 Current Constraints

Water

The existing networks have adequate pressures to service the existing developments.

Sewer

The existing networks have adequate capacity to service the existing developments.

Recycled Water

Much of the existing development doesn't have access to a third pipe (recycled water) system. The present recycled water supply is not adequate to accommodate new developments, and infrastructure is not yet available.

Power

The existing networks have adequate capacity to service the existing developments, and planned augmentation works will allow the network to adequately supply development at the current growth rate.

Gas

The existing networks have less capacity than they require to adequately service the existing developments. Critical infrastructure augmentation in Ballan Road is experiencing some delays due to ongoing negotiations and environmental factors.

Telecommunications

The existing exchanges have limited broadband ADSL ports for some distribution areas and anecdotal evidence suggests that lengthy lead times are presently being experienced with the provision of telephony services to some properties.

5.2 Future Constraints

Water

A reservoir located to the west along Ballan Road and associated trunk infrastructure is required in order to supply the area to ultimate development. Land has been acquired for this asset, which is planned to be constructed in 2012.

Sewer

Subject to further detail of the RRL being confirmed and the staging of development to the south in PSP No. 42, it may be necessary to construct a sewer pumping station in order to service the western portion of neighbouring PSP No. 40.

The south west corner of the precinct may require a sewer pumping station and rising main in lieu of the ultimate network to the south being available.

The location and details of the proposed Black Swamp Retarding Basin may constrain the location of the sewer outfall, however alternative routes have been planned for by CWW.

Recycled Water

It is expected that recycled water will be readily available to PSP No. 42, however the staging may mean that some development within the precinct occurs prior to the completion of major recycled water supply projects, meaning that recycled water supply may initially be unavailable.

Power

Assuming that development occurs at a similar rate in neighbouring precincts, in order to fully service PSP No. 42 it is expected that a new zone substation and associated sub-transmission lines will be required. The currently proposed location of this zone substation is within the neighbouring Ballan Road precinct.

Gas

In order to fully service the precinct and surrounding precincts to ultimate development, a new connection to the Brooklyn-Lara pipeline is likely to be required. This will require a custody transfer meter and regulator station (city gate), along with the associated transfer mains.

Telecommunications

At the time of writing, there were no plans for upgrades at the relevant exchanges. It is believed that further augmentation and upgrade of the exchanges is required in order to fully service the precinct with telephony and broadband services.

5.3 Development Opportunities

Shared Trenching

Where the development staging is known and anticipated, services can often be planned well in advance, enabling the various service authorities to utilise shared trenching. This can significantly reduce servicing infrastructure costs. If services are not installed concurrently, it can create barriers to effective service provision as costs, coordination and approvals may slow the implementation of the trunk infrastructure required.

Water

City West Water have plans for stormwater harvesting and reuse for open spaces, as well as on site detention. These measures may serve to reduce the demand for potable water and hence optimise the infrastructure requirements.

6. Regulatory Framework for Assessment

6.1 Legislation and Policy

Essential Services Commission Act 2001 and related Codes & Guidelines

The Commission is Victoria's independent economic regulator of essential services supplied by the electricity, gas, water and sewerage, ports, and rail freight industries. The services provided by these sectors are among the most important contributors to the social and economic wellbeing of all Victorians. In addition to its regulatory decision making role in these sectors, the Commission also provides advice to the Victorian Government on a range of regulatory and other matters.

It is also responsible for developing and administering the Victorian Renewable Energy Target and the Victorian Energy Efficiency Schemes. In 2009, the Commission was given the responsibility of developing a performance monitoring framework for local government in Victoria.

Established by the Essential Services Commission Act 2001, the Commission subsumes the Office of the Regulator-General and its work builds on the regulatory foundation laid by that Office. The Commission has developed a reputation for high quality and rigorous analysis and regulatory decision making.

The Commission's objective is to promote the long term interests of Victorian consumers. It seeks to achieve this objective by having regard to the price, quality and reliability of essential services.

Subdivision Act 1988

The purposes of the Act are to

- (a) set out the procedure for the subdivision and consolidation of land, including buildings and airspace, and for the creation, variation or removal of easements or restrictions; and
- (b) regulate the management of and dealings with common property and the constitution and operation of owner's corporations.

Local Government Act 1989

Local Government in Victoria is administered under the Local Government Act 1989, which provides a framework for the establishment and operation of councils.

The Act is the main legislative instrument for Victoria's 79 councils. It commences with a preamble that restates the constitutional recognition of local government as a distinct and essential tier of government.

Part 1A of the Local Government Act contains the Local Government Charter, which describes the purpose, objectives and functions of council.

In addition to these matters, the Local Government Act also includes provisions for:

- entitlements for residents and ratepayers to vote in council elections
- the conduct of local council elections, nominations and vote counting
- independent electoral representation reviews by an electoral commission
- council governance requirements, including codes of conduct and disclosure of conflicts of interest
- council decision making, including records of meetings, confidentiality and limits on decisions during election periods

- levying and payment of council rates and charges
- preparation of Council plans, budgets and annual reports
- councils' powers to make and enforce local laws

Planning and Environment Act 1987

The Planning and Environment Act 1987, the Planning and Environment Regulations 2005 and the Planning and Environment (Fees) Regulations 2000 establish the legal framework for the planning system in Victoria.

The purpose of the Act is to establish a framework for planning the use, development and protection of land in Victoria in the present and long-term interest of all Victorians.

Environment Protection Act 1970

The Environment Protection Act 1970 was at its inception only the second Act in the world to deal with the whole of the environment in a systematic and integrated way. The Act is outcome orientated, with a basic philosophy of preventing pollution and environmental damage by setting environmental quality objectives and establishing programs to meet them. Over the years the Act has evolved to keep pace with the world's best practice in environmental protection regulation and to meet the needs of the community.

Key aims of the Act include sustainable use and holistic management of the environment, ensuring consultative processes are adopted so that community input is a key driver of environmental protection goals and programs and encouraging a co-operative approach to environmental protection.

To help achieve these aims, the following Principles of Environment Protection were added to the Act in 2001:

- integration of economic, social and environmental considerations;
- precautionary principle;
- intergenerational equity;
- conservation of biological diversity and ecological integrity;
- improved valuation, pricing and incentive mechanisms;
- shared responsibility;
- product stewardship;
- wastes hierarchy;
- integrated environmental management;
- enforcement; and
- accountability.

Such concepts parallel those included in the National Strategy on Ecologically Sustainable Development and the Intergovernmental Agreement on the Environment (IGAE).

Changes made to the Act by the Environment Protection (Resource Efficiency) Act 2002 were designed to help all sectors of the Victorian community to continue to find innovative ways of using resources more efficiently and to reduce the ecological impact.

The Act establishes the powers, duties and functions of EPA. These include the administration of the Act and any regulations and orders made pursuant to it, recommending State environment protection policies (SEPPs) and industrial waste management policies (IWMP) to the Governor in Council, issuing works approvals, licences, permits, pollution abatement notices and implementing National Environment Protection Measures (NEPMs).

Water Industry Act 1994

(Water- Sewer - Recycled Water)

The Water Industry Act 1994 establishes the framework under which the three Melbourne water retailers are licensed and regulated by the Commission, together with the statutory functions, powers and obligations of the licensees.

Water Act 1989

The Water Act 1989 provides the framework for the allocation and management of the State's water resources, including a bulk water entitlement regime and sets out the functions, rights and obligations and governance arrangements of regional urban water authorities and rural water authorities.

Electricity Industry Act 2000

The main purpose of this Act is to regulate the electricity supply industry.

National Electricity (Victoria) Act 2005

The main purpose of this Act is to make provision in relation to the national electricity market.

Gas Industry Act 2001

The main purpose of this Act is to regulate the gas industry.

National Gas (Victoria) Act 2008

Telecommunications

Telecommunications Act 1997

Australian Communications & Media Authority Act 2005

Emergency Services Telecommunications Authority Act 2004

Telecommunications (Consumer Protection and Service Standards) Act 1999

6.2 Guidelines and Standards

Water

- WSA 03-2002 Water Supply Code of Australia MELBOURNE RETAIL WATER AGENCIES (MRWA) V1.0

Sewer

- WSA 02-2002 Sewerage Code of Australia MELBOURNE RETAIL WATER AGENCIES EDITION (MRWA) V1.0

Recycled Water

- Dual Water Supply Systems Version 1.1 Melbourne Retail Water Agencies Edition

Power

- AS 3000 - Electrical installations (Australian/New Zealand Wiring Rules)
- AS 3175 – Approval and test specification – Residual current-operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs) – General rules
- Electricity Distribution Code for Victoria, Energy Safe Australia

Gas

- AS 1432-2004 Copper tubes for plumbing, gasfitting and drainage applications

Telecommunication

- AS/NZS 3084:2003 Telecommunications installations – Telecommunications pathways and spaces for commercial buildings
- ACA TS 102-1998 Telecommunications Technical Standard (Customer Equipment and Customer Cabling)

7. Conclusion and Recommendations

7.1 Suitability of Precinct for Development

This section is a general overview of the findings within the report and relates to the suitability of the precinct for development with respect to the services investigated within the report. Many other factors influencing the development suitability of the precinct are beyond the scope of this report.

Based on the investigations undertaken, there are no major prohibitive constraints to future development within the precinct. There are some capacity shortfalls 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 supplied with all services investigated within the scope of this report. Refer to Section 5 for a more detailed understanding of the constraints currently being experienced and the key constraints to infrastructure provision into the future.

7.2 Process Improvement

Based on discussions with stakeholders involved with this project, the following recommendations will assist in facilitating the rapid planning and implementation of adequate infrastructure servicing at the precinct scale. It is noted that the majority of the following recommendations will require action from numerous stakeholders however they are presented for the benefit of GAA, both with the possibility of informing future policy and action as well as ensuring that the valuable stakeholder perspectives gained throughout these investigations can be captured within this report where relevant.

Coordination

Timely awareness of development staging within a precinct enables service authorities to be proactive in the planning and delivery of critical infrastructure within the precinct. It also allows accurate budget forecasting and suitable resource allocation to occur. As PSP documentation is a reference point for developers, it is recommended that early engagement with service authorities by developers be emphasised within the PSP. Effective communication between individual service authorities reduces overall costs due to shared trenching etc. and also minimises spatially conflicting services. Service authorities appreciate knowing in advance the zoning and forecast timing of developments within precincts and it is recommended that timelines for development be provided if available.

Safety & Environment

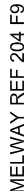
Two aspects for potential streamlining of process and providing clarity for all stakeholders are safety and environmental factors. These are obviously very important to consider in the planning and deployment of services infrastructure. It has also been identified that they can present significant delays to infrastructure provision if not managed well. A consistent and reasonable approach to these elements is needed so that approval authorities and other stakeholders required to provide consent can adopt a uniform approach. For example, some stakeholders mentioned that implementation of the Road Management Act 2004 is sometimes interpreted quite differently by the varying parties involved.

References

- ¹ "Precinct Structure Plans" - <http://www.gaa.vic.gov.au> accessed 28/06/10
- ² "About Us" - <http://www.gaa.vic.gov.au> accessed 28/06/10
- ³ "Fibre in new developments" - <http://www.dbcde.gov.au> accessed 28/06/10

Appendix A

Servicing Layout Plan



WARNING AND DISCLAIMER
BEWARE OF UNDERGROUND SERVICES

The information provided in these drawings relating to the positions of underground services is intended to be only a guide for excavation works. Aurecon does not warrant or represent that the positions of those services shown on the drawings are accurate. Furthermore, services may exist of which Aurecon is unaware, the information provided should therefore not be relied upon and exact positions of services should be verified by hand excavation. Furthermore, Aurecon disclaims responsibility for damage or injury to any person caused directly or indirectly by any works affecting the services.

Dated: JULY 2010

[illegible]

Drawn	CP	Signed	CP	Date	24.06.11
Designed	RD	Signed	RD	Date	24.06.11
Verified	RG	Signed	RG	Date	24.06.11
Approved	AG	Signed	AG	Date	24.06.11

Drawing Title: PSP No. 42. BLACK FOREST ROAD PRECINCT SERVICING LAYOUT PLAN	Project No. 205513-400	
	Scale AS SHOWN	Sheet Size A3
	Drawing No. SK-C-400	Rev. 02

SKETCH

