

## **12. Engineering Services**

The engineering services around the Airport have been progressively upgraded with new developments to meet future demand across the Airport. The engineering infrastructure on the Airport is in a significantly better state today than at the time of the privatisation of the Airport in 1998.

Canberra Airport has paid for all engineering services and utilities including the provision of major off-site works. The land uses on the Airport (especially commercial land uses) have only been possible due to the Airport's provision of on-and-off Airport utilities, including Grade 1 water supply, electricity supply, services and reticulation, co-generated electricity, stormwater and sewer, and substantial contributions to the road system around the Airport.

### **12.1 Gas**

#### EXISTING SYSTEM

The ActewAGL gas main serving the Airport consists of a 100 millimetre diameter steel pipeline at a pressure of about 1,050 kilopascals (kPa), generally aligned along the southern verge of Nomad Drive. From there it crosses the Runway 17/35 and feeds Fairbairn.

Gas-powered tri-generation plants are now in place in Brindabella Business Park and at the Majura Park offices to provide environmentally-friendly energy generation, with excess heat (created in the generation of electricity) used to heat and cool the buildings. The use of these plants increases the demand for natural gas supplies, which will continue to rise as the plants' use increase with additional office occupation.

Natural gas is provided via multiple connections to the ActewAGL main.

#### MASTER PLAN IMPLICATIONS

Additional natural gas use will occur as part of the new terminal development, including the incorporation of one or more gas tri-generation plants to both power and heat/cool the terminal building. Additional gas will be required at other Airport precincts as development of each of the precincts continues.

Additional gas supply may be required during the 20 year life of this Master Plan as on-Airport development continues. Canberra Airport will work with ActewAGL and all other relevant parties to ensure the ongoing supply of adequate gas supplies to the Airport site.

### **12.2 Sewerage**

#### EXISTING SYSTEM

Most areas served by sewerage infrastructure are currently reticulated with gravity collection systems, although some have sewerage pumping stations. The system effectively has three main ties from the Airport into the sewer mains provided by ACTEW.

## MASTER PLAN IMPLICATIONS

There is no existing infrastructure in parts of the proposed development precincts. In some cases proposed developments are below the existing infrastructure so the collection system will need to gravitate to a central pumping station, with sewage pumped to the existing gravity collection system and connected to town infrastructure.

The existing sewer connections into the ACTEW sewer mains are operating with significant capacity available, so it should be possible to connect additional facilities without downstream augmentation works.

Current ACTEW requirements do not allow for blocks to be served through adjoining sites. The RAAF golf course sewer currently joins into the sewer mains on the Airport site. This is against ACTEW requirements and may need to be corrected in the future.

### **12.3 Stormwater**

#### EXISTING SYSTEM

Stormwater catchments incorporating the Airport site extend well beyond the Airport toward the pine plantations to the east of the Airport. All areas of the Airport are currently supported by gravity stormwater collection systems comprising underground pipes and open drains.

Stormwater drainage is directed from catchment areas into the adjoining Woolshed Creek (a tributary of the Molonglo River) and Molonglo River systems.

The catchment area of the Airport site is about 436 hectares and the catchment areas upstream of the Airport are about 1,145 hectares, giving a total catchment area of 1,581 hectares.

Significant changes to stormwater flows were made in 2006 with the extension of Runway 17/35 to the south. This involved the provision of significant stormwater detention basin infrastructure as well as a major drainage diversion to the south.

#### MASTER PLAN IMPLICATIONS

The Canberra Airport Water Management Plan outlines Canberra Airport's actions to manage stormwater flows on the Airport in a sustainable manner. This Plan will be updated from time to time and will guide the further development of stormwater infrastructure on the Airport. Further information on the Water Management Plan and management of stormwater more generally is included in the approved Environment Strategy.

In the short-term, it will be necessary to manage run-off from the upstream stormwater catchments (most of which are located on Defence land) before it enters into the Fairbairn and Glenora Precincts. The management of this run-off is critical to aviation safety and will involve the construction of catchment drains, earth mounding, diversion banks and detention basins. Works have recently commenced at Fairbairn to put these protection measures into place.

## WATER QUALITY CONTROL

Pollution control is an integral part of any drainage system, and all developments at the Airport will meet the standards set out in the approved Environment Strategy. Developments are also subject to a Construction Environmental Management Plan and have in place sediment and erosion control plans.

### **12.4 Potable Water Supply**

#### EXISTING SYSTEM

Potable water supply to the Airport is supplied by ACTEW at a single meter point.

The existing airport potable water supply is divided into four zones corresponding with the four precincts, and has adequate capacity to handle significant growth. All onsite water pipes from the single supply point have been paid for and maintained by the Airport. In addition, the Airport has built a multi-million dollar onsite pumping station at the supply point to maintain pressure across the network.

#### MASTER PLAN IMPLICATIONS

Water reticulation to most precincts on the Airport can be provided from the existing system. Significant upgrades to the water system, both on and off-airport, have been completed at the Airport's cost to ensure a Grade 1 water supply.

A water ring-main is progressively being developed around the whole Airport to increase the reliability of water supply. It may be necessary for ACTEW to provide additional points of supply to the Airport's ring main in the future to maintain the quality and reliability of supply.

### **12.5 Non-Potable Water Supply**

#### EXISTING SYSTEM

Two water recycling plants have been installed at Canberra Airport to convert sewer water into drinkable-quality water. Whilst recycled water is not currently used for drinking, the water is used for a range of uses including toilets, cooling towers and irrigation. Canberra Airport works closely with the appropriate authorities to ensure that these plants meet all relevant health and safety standards. These water recycling systems are not expected to have any negative environmental consequences as they have been designed with multiple safety layers.

In addition to the installation of water recycling plants, as permitted under the Airport lease as well as the Airports Act, a network of groundwater sources have been developed across the Airport, including bores and water being pumped from basements for drainage. The use of this water is similar to the use of recycled water, such as irrigation and possible use in cooling towers.

## MASTER PLAN IMPLICATIONS

As the Master Plan develops, additional recycled water and groundwater capacity (including additional bores and the pumping out of basements) may be used across the Airport. Additional water recycling plants may be installed.

### **12.6 Electrical**

#### EXISTING SYSTEM

Three high-voltage ACTEW feeders supply power to the Airport. A primary feeder has been upgraded to meet capacity growth associated with development on-Airport. With the ongoing growth in development across various precincts, the other feeders will need further upgrade to maintain the electrical supply over the long term and to provide for adequate capacity and reliability. The ACTEW electricity network is supplemented by tri-generated power at a number of points.

#### MASTER PLAN IMPLICATIONS

Further development will require the provision of new and upgraded external networks by ACTEW. Additional tri-generated power or alternative power sources will be considered on a case-by-case basis.

### **12.7 Telecommunications**

#### EXISTING SYSTEM

Telstra provides landline (copper and fibre optic) telecommunications services to all precincts of the Airport. TransACT provides an optical fibre service to the Majura Park and Fairbairn precincts and are considering providing fibre services to other precincts. Underground communication ducts in all precincts permit a number of carriers. The majority of carriers provide mobile telephony services across the Airport.

Recognising that the *Telecommunications Act 1997* does not apply at airports, Canberra Airport will work with telecommunications providers to augment the airport's conduit network for use by such providers on reasonable commercial terms.

#### MASTER PLAN IMPLICATIONS

Upgrades to existing telecommunications infrastructure by the various carriers will be required over time to handle the anticipated growth and development at the Airport.

## **12.8 Airport access**

Subject to law, all infrastructure and utility providers must apply for access from Canberra Airport prior to undertaking any works on Airport land. No works may commence until such time as the relevant access licence has been executed by the provider. Any proposed works must comply with the Master Plan for that area or precinct of the Airport. Works may not commence until approval has been given by both Canberra Airport and the Airport Building Controller.

All works are to be undertaken in accordance with the Safety, Security and Environment Procedures – Contractors and Operators Standard Conditions (as amended from time to time).