Before you set off

Allow 6 hours for the tour which includes 60 minutes for lunch and 20 minutes at each site. The tour largely follows the route of the Ngunnawal Track, a self-drive tourist route designed to showcase the human story of Indigenous presence in the nation's capital. The tour can be shortened by omitting stops or the side diversions.

The route

The recommended start point is the Visitors Centre on Northbourne Avenue.

LEGEND

1 Engineering Heritage sites of interest

Heritage sites with Historic Engineering Markers

1 Lake Burley Griffin

Head south towards the city centre then across Lake Burley Griffin via Commonwealth Bridge, towards Parliament House. There are many viewing and picnic areas surrounding the lake.

The man-made lake was completed in 1963 and filled during 1964 in line with Walter Burley Griffin's original plan for an ornamental lake in the centre of the national capital. Griffin's winning design of 1912 had featured an ornamental lake in the centre of the city along the flood plain of the Molonglo River but it would be 51 years before his vision became reality. The Institution of Engineers dedicated a plaque situated at the information kiosk at Regatta Point to commemorate the historical significance of the lake in 2001.

Lake Burley Griffin is about 9 kilometres long, covers a surface area of 678 ha and varies in width from 300 to 1200 metres. It has about 33 kilometres of landscaped foreshores which provide access to 314 ha of parkland and 142 ha of the Eastlake Wetlands, a breeding ground for many species of water birds. It is a shallow lake with a maximum depth of almost 18 metres near Scrivener Dam and a mean depth of nearly 4 metres.

Follow the road around Parliament House which becomes Adelaide Avenue and take the Cotter Road exit after 6 km. Follow Cotter Road across the Tuggeranong Parkway.

Turn right off Cotter Road at the sign to Mt Stromlo. As you approach Mt Stromlo, you will see on the left hand side the Mt Stromlo Water Treatment and Distribution Centre which receives water from Bendora Dam and distributes it by pipelines to the suburbs of Canberra.

2 Mt Stromlo Water Treatment Plant

In 1918 water was pumped from the Cotter Pumping Station into the Mt Stromlo Reservoir through a 450 mm pipeline beside Cotter Road. Water flows from the reservoir by gravity to the supply reservoirs around Canberra. The water was considered so pure that it did not require chlorination until the 1950s. The water treatment works have been upgraded a number of times including construction of a filtration plant after the 2003 Canberra firestorm to ensure water could be used from the devastated Bendora and Corin catchments.

Continue further along the road until you reach the Mt Stromlo Observatory.

3 Mount Stromlo Observatory

The Mt Stromlo Observatory was established in 1924 to study solar and atmospheric physics with optical telescopes. It is operated by the Research School of Astronomy and Astrophysics of the Australian National University. The Mt Stromlo telescopes and buildings were destroyed after the 18 January 2003 firestorm. There are excellent interpretation boards outlining the history of the area adjacent to remains of these historical telescopes. Smaller telescopes have been reinstalled and the new Advanced Instrumentation and Technology Centre established. The visitors centre and cafe are due to reopen in late 2008.

Return to Cotter Road and turn right. On the right hand side of the road are the water pipes from the Cotter and Bendora dams. The visible (above ground) pipes were installed to supplement the buried original cast iron pipes from Cotter dam which remain in situ.

4 Cotter Pumping Station

The Cotter Pumping Station is on the left hand side and parking is on the right. The station's transformer building and the pump house were designed by John Smith Murdoch, who as Commonwealth Architect also designed the Old Parliament House and the Canberra Hotel (now The Hyatt Hotel). Commonwealth engineers and architects designed the 1954 and 1963 extensions which provided additional pumping capacity to cope with the continued growth in Canberra's population. The building architecture changed in 1963 so that motors and electrical gear for the additional pumps 7 & 8 could be installed on the upper floor, above the level of a major flood, but remained consistent with the Murdoch style.

The Cotter Pumping Station is heritage listed on the Commonwealth Register of the National Estate, the National Trust and the ACT Heritage Places Register. Wall plaques on the front of the building give both historical facts and technical data.

In October 1918 the two Gwynne pumps imported from England began operation for 2 or 3 days per month which was all that was needed to fill the Mt Stromlo reservoir and meet the water demand. The only technicians who knew how to operate them made the arduous trip from Melbourne each time. Altogether there are 8 pumps that have progressively been installed in the pump house until 1963 – pumps 1 & 2 in 1918, pump 3 in 1935, pump 4 in 1942, pumps 5 & 6 in1955 and pumps 7 & 8 in 1963.

The Cotter Pumping Station was no longer required after water from Bendora and Corin dams was made available from 1968. The pump house has been progressively re-commissioned from 2004 as skilled tradesmen refurbished and re-commissioned Pumps 4-8. This was a major task due to lost manuals and the pump manufacturers no longer remaining in business, as well as the need to meet modern safety and performance standards. By 2008, these five historic pumps can again supply water to Canberra from inside a newly refurbished Cotter Pumping Station building.

5 Murrumbidgee River Bridge

To get a good view of the single lane bridge, drive over and continue on until you reach the Cotter Camping Grounds and follow the signs to the parking area. The current bridge is an extension of an earlier bridge built around 1915 and survived the devastating bushfires of 2003. The bridge originally had five spans supported on concrete piers, a superstructure of steel plate girders and a timber deck. Following floods in 1922 which washed away the abutments on the western side, the bridge was rebuilt and lengthened by three 21 m spans, giving it a total length of 200 m. The 600 mm water pipe on the bridge carries water from the Cotter Dam to the Cotter Pumping Station. This pipeline runs through a tunnel between the dam and the pumping station passing under the river parallel to the bridge. Construction of the tunnel was difficult, and it was regarded as a marvel of engineering.

Return to Cotter Road and turn left.

6 Canberra Deep Space Communication Complex

The Deep Space Communication Complex was commissioned by NASA in 1965 and is one of three sites around the Earth which between them maintain continuous communications with deep space probes. The other stations are located in the USA and Spain. The stations play a leading role in the exploration of space and supporting missions to the Moon and the planets of the Solar System. Most recently it has supported missions to explore the surface of Mars. The Complex's Visitor Information Centre is open seven days a week and entry is free.

Return to Tidbinbilla Road and turn left.

7 Tidbinbilla Nature Reserve

As you proceed towards Tharwa, the Tidbinbilla Nature Reserve is on your right. The Reserve features native flora and fauna and offers bushwalking and picnic facilities.

8 Corin Dam

Turn off Tidbinbilla Road to Corin Dam or proceed straight ahead for Tharwa.

Upon arrival at the Corin Dam precinct, drive across the dam wall to the parking area. The dam was completed in 1968 and is the largest in the ACT, holding 75.6 gigalitres behind a 76 m high earth and rock fill wall. Corin Dam acts as a reserve storage facility and water is released down the Cotter River to Bendora Dam.

Return to Tidbinbilla Road and turn right.

9 Lambrigg

On your left as you drive to Tharwa is Lambrigg, the property where in 1895, William Farrer developed his Federation strain of wheat. Farrer spent most of his adult life in the Canberra region, and devoted much of it to developing strains of wheat which were better suited to Australian conditions. He is perhaps best remembered as a result of his depiction on the old two dollar note.

10 Tharwa Bridge

The bridge over the Murrumbidgee River is beyond the township of Tharwa on the eastern side. Park in the picnic grounds just before the bridge. The Tharwa Bridge, opened in March 1895, is the oldest standing bridge in the ACT and was the first bridge built using an innovative timber truss system designed by Australian born engineer Percy Allen. It was the first bridge over the upper Murrumbidgee River. It is 182 m long, sits on four concrete piers 12 m above the bed of the normal level of the river and is constructed largely of NSW North Coast hardwoods. The bridge withstood a major flood in 1925 when the river rose almost to its deck. The bridge was classified in 1980 by the National Trust of Australia (ACT). The bridge was refurbished in 1994 and following further recent reconstruction, is due to reopen in 2009. The Institution of Engineers placed a Historic Engineering Marker on the south west corner of the bridge during its centenary celebrations in 1995.

Return along Tidbinbilla Road back through Tharwa. Take the right turn to Canberra via the Point Hutt crossing of the Murrumbidgee River.

Proceed through the suburbs of Gordon and Calwell to join the Monaro Highway, turning left towards Canberra. Follow the highway north and turn left into Canberra Avenue.

11 Trees of Canberra Avenue

Many of the trees surrounding Manuka Circle at its intersection with Canberra Avenue were planted by members of the Institution of Engineers in 1926 as part of a beautification program for the fledgling capital city. The trees symbolise the endeavour and ingenuity of engineers in building both the city and the nation.

Wheel around Manuka Circle to the right onto Telopea Park (Avenue). Turn right onto Wentworth Avenue.

12 Kingston Powerhouse

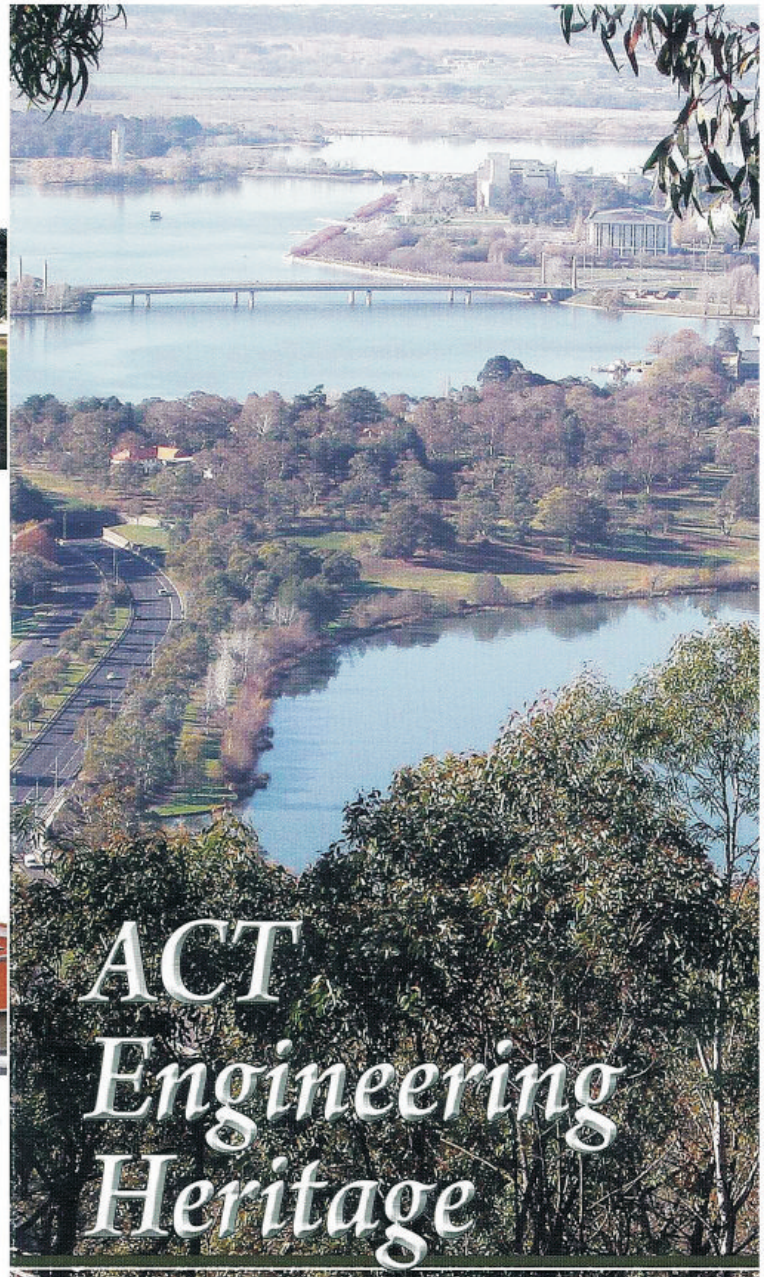
Approximately 500 m along Wentworth Avenue on your left is the Kingston Powerhouse. The powerhouse is the oldest public building in the ACT and was the first major building constructed at the birth of the nation's capital. Designed by the Department of Home Affairs in 1912, the powerhouse was completed in time to generate electricity in August 1915.

Originally powered by steam expansion (piston) engines and later turbine engines, it was the sole source of Canberra's electricity till 1929 when it was supplemented by electricity produced by hydro-power at Burrinjuck Lake. The Kingston Powerhouse continued in virtually fulltime service until 1955 and was used sporadically until 1957 when it was closed down. Much of the plant was removed and the building was used for a variety of purposes until its recent adaptive reuse as the Canberra Glassworks creative arts centre. The Glassworks is open daily for tours and sales of art works produced on site. The remaining original plant has been retained and the heritage significance of the site was recognised by the Institution of Engineers in 1998 with the dedication of a Historic Engineering Marker.

Turn right onto Wentworth Avenue and retrace your steps back towards the centre of Canberra.

This brochure has been produced by the Canberra Division of Engineering Heritage Australia.

If you've enjoyed this tour, or want to know more about these fascinating engineering heritage sites, you can visit our website www.engineer.org.au. This website features a downloadable version of the book "Canberra's Engineering Heritage" which covers many diverse engineering fields such as roads, bridges, electrical power, and water supply for the nation's capital. Its fourteen chapters were written by acknowledged experts in their field and provide an excellent resource for school projects or visitors wanting to know more about how the nation's capital was created.



ACT Engineering Heritage

SELF-GUIDED TOUR

ENGINEERS AUSTRALIA Canberra Division

The 170 km drive passes selected historic ACT engineering sites from the turn of the late 19th Century in addition to other places of interest.

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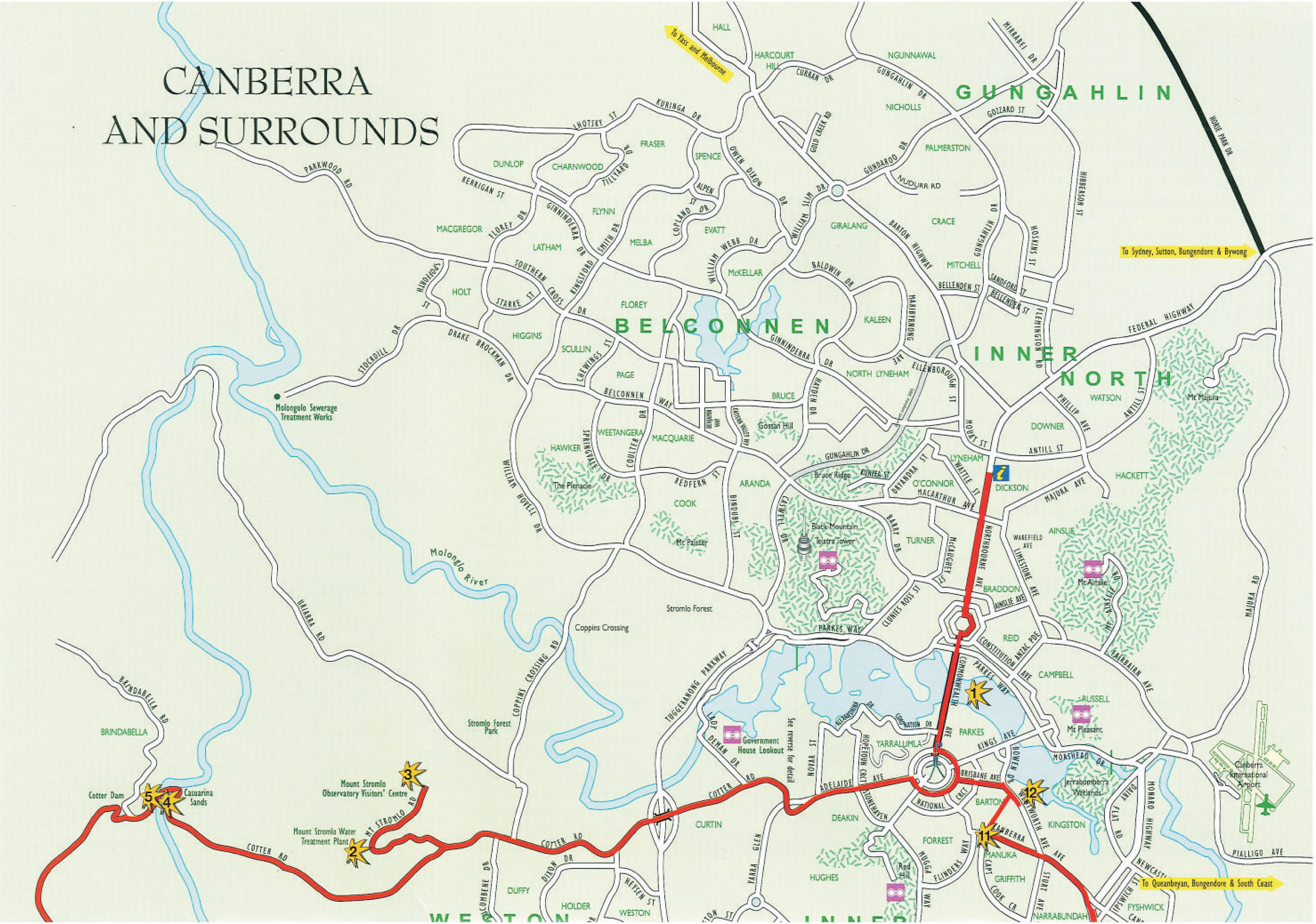
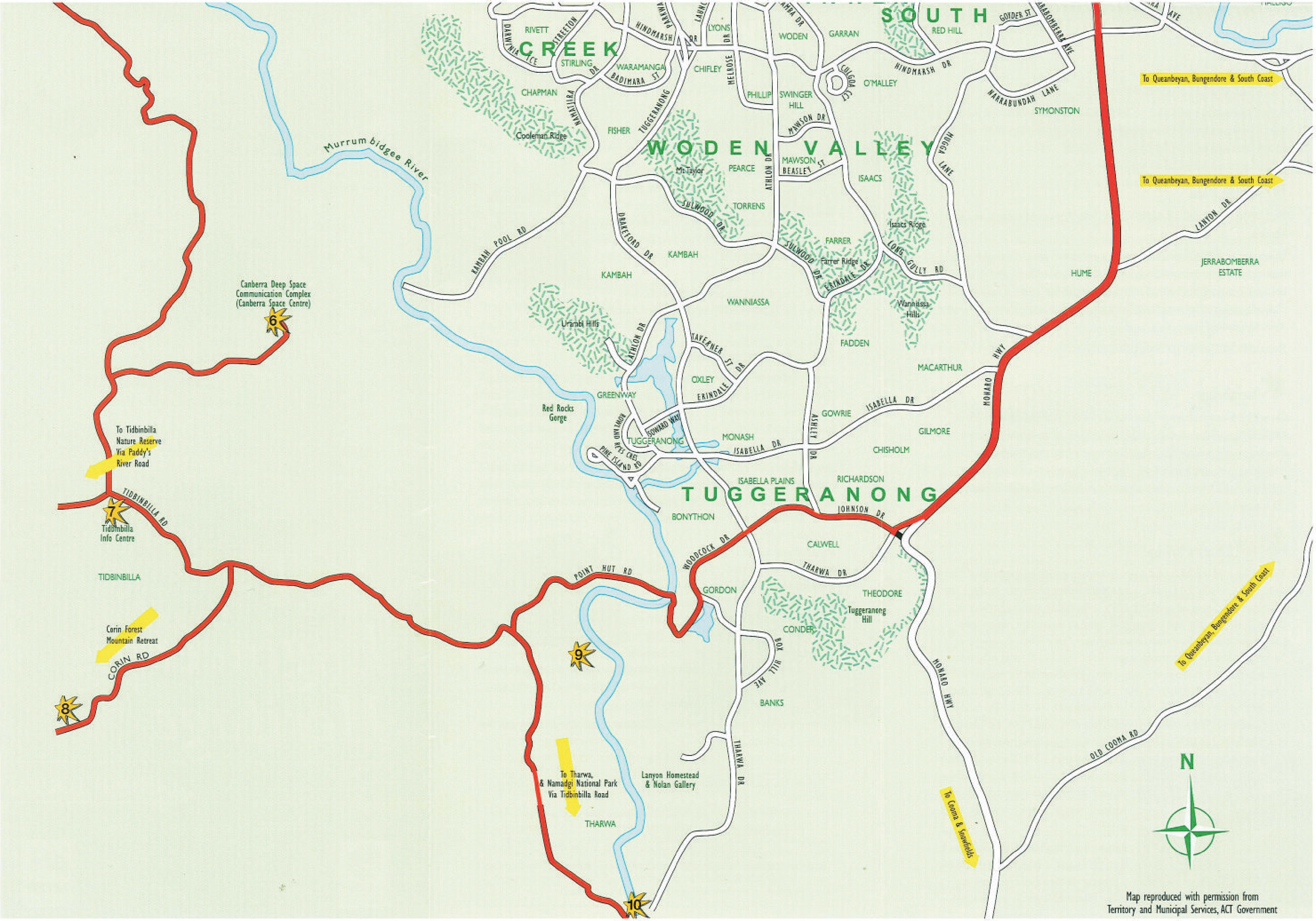

CANBERRA AND SURROUNDS
GUNGAHLIN
BELCONNEN
INNER NORTH
HALL
HARCOURT HILL
NGUNNAWAL
NICHOLLS
PALMERSTON
CRACE
GIRALANG
MITCHELL
FRASER
SPENCE
DUNLOP
CHARNWOOD
FLYNN
MACGREGOR
LATHAM
MELBA
EVATT
McKELLAR
HOLT
HIGGINS
FLOREY
KALEEN
SCULLIN
PAGE
NORTH LYNEHAM
BRUCE
WATSON
DOWNER
HAWKER
WEETANGERA
MACQUARIE
Gossan Hill
ARANDA
Bruce Ridge
LYNEHAM
O'CONNOR
DICKSON
HACKETT
The Pinnacle
COOK
Mt Painter
Black Mountain Telstra Tower
TURNER
AINSLIE
BRADDON
Mt Ainslie
Mt Majura
REID
CAMPBELL
RUSSELL
Mt Pleasant
PARKES
YARRALUMLA
Government House Lookout
BARTON
KINGSTON
Jerrabomberra Wetlands
Canberra International Airport
DEAKIN
FORREST
MANUKA
GRIFFITH
CURTIN
HUGHES
Red Hill
NARRABUNDAH
FYSHWICK
DUFFY
HOLDER
WESTON
BRINDABELLA
Cotter Dam
Casuarina Sands
Mount Stromlo Observatory Visitors' Centre
Mount Stromlo Water Treatment Plant
Stromlo Forest Park
Stromlo Forest
Coppins Crossing
Molonglo River
Molongolo Sewerage Treatment Works
To Yass and Melbourne
To Sydney, Sutton, Bungendore & Bywong
To Queanbeyan, Bungendore & South Coast
See reverse for detail
1
2
3
4
5
11
12
HORSE PARK DR
MIRRABEI DR
CURRAN DR
GUNGAHLIN DR
GOZZARD ST
GOLD CREEK RD
GUNDAROO DR
NUDURR RD
HIBBERSON ST
OWEN DIXON DR
WILLIAM SLIM DR
BARTON HIGHWAY
HOSKINS ST
KURINGA DR
LHOTSKY ST
TILLYARD DR
ALPEN
COPLAND DR
PARKWOOD RD
KERRIGAN ST
FLOREY DR
GINNINDERRA DR
SMITH DR
WILLIAM WEBB DR
BALDWIN DR
MARIBYRNONG AVE
BELLENDEN ST
SANDFORD ST
FLEMINGTON RD
SOUTHERN CROSS DR
KINGSFORD
STARKE ST
SPOFFORTH ST
STOCKDILL DR
DRAKE BROCKMAN DR
CHEWINGS ST
ELLENBOROUGH ST
HAYDEN DR
FEDERAL HIGHWAY
PHILLIP AVE
ANTILL ST
BELCONNEN WAY
MOUNT ST
SPRINGVALE DR
COULTER DR
REDFERN ST
GUNGAHLIN DR
KUNZEA ST
DRYANDRA ST
WATTLE ST
MACARTHUR AVE
MAJURA AVE
WILLIAM HOVELL DR
BINDUBI ST
CASWELL DR
BARRY DR
McCAUGHEY ST
NORTHBOURNE AVE
WAKEFIELD AVE
LIMESTONE AVE
MT AINSLIE DR
MAJURA RD
AINSLIE AVE
CLUNIES ROSS ST
PARKES WAY
ULIARRA RD
CONSTITUTION AVE
ANZAC PDE
FAIRBAIRN AVE
COMMONWEALTH AVE
TUGGERANONG PARKWAY
COPPINS CROSSING RD
LADY DENMAN DR
NOVAR ST
HOPETOUN CRCT
ALEXANDRINA DR
CORONATION DR
KINGS AVE
MORSHEAD DR
BOWEN DR
BRISBANE AVE
DAIRY FLAT RD
MONARO HIGHWAY
PIALLIGO AVE
ADELAIDE AVE
STONEHAVEN
NATIONAL CRCT
WENTWORTH AVE
CANBERRA AVE
CAPT COOK CR
STUART AVE
FLINDERS WAY
MUGGA WAY
YARRA GLEN
COTTER RD
MT STROMLO RD
BRINDABELLA RD
DIXON DR
HEYSEN ST
ISCUMBENE DR
IPSWICH ST
NEWCASTLE



WODEN VALLEY
TUGGERANONG
SOUTH
CREEK
Murrumbidgee River
Canberra Deep Space Communication Complex (Canberra Space Centre)
To Tidbinbilla Nature Reserve Via Paddy's River Road
Tidbinbilla Info Centre
TIDBINBILLA
Corin Forest Mountain Retreat
CORIN RD
TIDBINBILLA RD
POINT HUT RD
To Tharwa, & Namadgi National Park Via Tidbinbilla Road
THARWA
Lanyon Homestead & Nolan Gallery
Red Rocks Gorge
To Queanbeyan, Bungendore & South Coast
To Queanbeyan, Bungendore & South Coast
To Queanbeyan, Bungendore & South Coast
To Cooma & Snowfields
JERRABOMBERRA ESTATE
HUME
SYMONSTON
MONARO HWY
OLD COOMA RD
LANYON DR
KAMBAH POOL RD
DRAKEFORD DR
ATHLON DR
SULWOOD DR
ERINDALE DR
ISABELLA DR
JOHNSON DR
THARWA DR
WOODCOCK DR
BOX HILL AVE
HINDMARSH DR
LONG GULLY RD
HUGGA LANE
NARRABUNDAH LANE
RIVETT
STIRLING
CHAPMAN
WARAMANGA
FISHER
CHIFLEY
LYONS
WODEN
GARRAN
RED HILL
PHILLIP
SWINGER HILL
O'MALLEY
PEARCE
MAWSON
TORRENS
ISAACS
FARRER
KAMBAH
WANNIASSA
FADDEN
MACARTHUR
OXLEY
GREENWAY
GOWRIE
GILMORE
MONASH
CHISHOLM
ISABELLA PLAINS
RICHARDSON
BONYTHON
CALWELL
GORDON
THEODORE
CONDER
BANKS
Mt Taylor
Cooleman Ridge
Urambi Hills
Farrer Ridge
Isaacs Ridge
Wanniassa Hills
Tuggeranong Hill
N
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