

NSW Parliament House Water Harvesting Scheme

A water efficiency audit of NSW Parliament House identified the cooling towers and flusherette system as having the largest water demand. BMT WBM staff, in association with the NSW Government Architect's Office, developed the concept design for a water harvesting system to supply the cooling towers.

An existing sump previously collected groundwater seepage, air conditioning condensate and fire testing water prior to pumping out to the sewer main. Site investigations revealed that only a minor downpipe modification was required to direct roofwater into this sump. Water quality testing indicated that the water was suitable for use in the cooling towers following simple filtration.

XP Rafts was used to model runoff from the roof using short time step climate data. This was linked with monitored demand data to establish optimum water storage sizes. The scheme predicted water savings of 14kL/day. Ongoing monitoring indicates that 8kL/day has been saved between Jan 09 and July 09. Ultrasonic flowmeters were also used to track down baseflow, or leakage, of 44kL/day in the building, occurring in the urinals and toilets.

BMT WBM were also engaged to investigate the feasibility of extracting water from a nearby disused railway tunnel which is full of seepage water. This alternate supply could be directly connected to the tank system for further potable water savings.



4 x 60 kL tanks installed for storage on the roof

Client
Sydney Water/NSW Parliament

Date
2007 – 2008

Services & Expertise Provided

Ongoing demand monitoring;

Leakage investigations;

Harvesting modeling;

Water Quality assessment;

Concept design of water harvesting scheme; and

System optimisation.



Harvested water used in cooling towers