WESTERN DOWNS DIGITAL PARK – Water facts

Water is critical to the Western Downs, so WDDP won't compete with local producers and communities for it. The facility uses **100% air cooling**, eliminating the need for water-based cooling. We are also targeting a water-neutral outcome through onsite rainwater harvesting, onsite water recycling and treated CSG wastewater reuse (subject to water supply agreement). Building 1 will use approximately the same amount of water as around 30 typical Queensland households, with this supplied by onsite harvested rainwater, avoiding town water and groundwater entirely, even through drought.

How much water will the WDDP really use when operational?

The first building (Phase 1) needs about 21,000 litres (0.021ML) of water a day for operations, this is to supply things like a bathrooms, kitchens, fire test water and maintenance. Almost 40% of that daily demand, about 8,000 litres, will be met through on-site water recycling before any new water is needed at all. That brings the actual outside water requirement down to around 13,000 litres a day which will be met by rainwater harvesting. To put that in perspective, that is roughly the same amount of water used by 30 typical Queensland households in a day.

Annual water use at a glance

The table below translates those daily figures into megalitres per year, for the first building and for the fully built-out campus of four buildings.

Building	Total Requirement	Onsite Recycled water	Raw Water Required	Rainwater (in an avg. yr)	Surplus (in an avg. yr)	Rainwater (in a drought yr)	Surplus (in a drought yr)
Building 1 alone	7.7	3.1	4.6	22.4	17.7	7.1	2.5
Buildings 1+2 combined	13.7	5.5	8.2	44.7	36.5	14.2	6.0
Buildings 1+2+3 combined	19.3	7.7	11.6	67.1	55.5	21.4	9.7
Buildings 1+2+3+4 (full campus)	25.5	10.2	15.3	89.5	74.2	28.5	13.2

Where does the water come from?

The project **will not** connect to the town water network for its operations, and no groundwater or bore extraction is planned. Instead, the building's own roof, covering around 35,000 square metres of usable collection surface, captures rainwater which is treated on site and used to meet most of the raw-water need. An on-site dam and occasional water deliveries from outside the region exist purely as an emergency backup, not as a routine source.

This rainwater-first approach holds up even in poor conditions. In 2019, the driest year on record for the local area since 1972, with only 200mm of rainfall, a roof of the size of the WDDP is still expected to capture almost twice the water the campus needs, before recycled water is even counted. On-site storage, together with supplementary backup supply, is proposed to manage extended periods when rainfall is unavailable.

Confidential - Not for Public Consumption or Distribution

No water cooling

WDDP does not use water to keep severs cool, instead the data halls use a fully air-cooled, closed-loop cooling system: heat is released to the air, and the coolant stays sealed in a loop rather than being drawn from a water supply. There is no evaporative cooling and no continuous water draw for the mechanical systems.

The only water used for mechanical systems is a one-off fill and flush of each building's piping when it first starts up, not an ongoing demand. This will also mostly be the treated CSG water. In practice, almost all of the water this project uses is for the people working on site, drinking, washing, kitchens, toilets, cleaning and site testing, rather than for running the technology itself.

Water during construction

Construction is a temporary, higher-demand period, with peak use reaching up to 375,000 litres a day at busy times. The project intends to run construction primarily on processed water that is a by-product of nearby coal seam gas operations, subject to agreement and approvals, rather than drawing on local town or farm water supplies. Water deliveries from outside the region exist as an emergency backup.