



SYDNEY PARK WATER RE-USE: PROTOTYPING THE WATER USAGE CYCLE

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How will Sydney cope as its population swells to eight million people by the middle of the century? The now internationally-acclaimed Sydney Park Water Re-Use Project addresses this enduring tension between growth and liveability. With conservation, sustainability and functionality in mind, an expert team has created a prototype for replication.



As the suburb's population and industry continue to expand, the City of Sydney was faced with an increasingly universal challenge: how to increase and improve green amenity and biodiversity in a densifying built environment. Comprising 44 hectares, Sydney Park covers more than 10 per cent of Alexandria. A former brickworks, then landfill site, the park acts as a partial buffer between industry and encroaching residential development. As a green wedge, the existing park's wetlands held

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promise, but suffered from low rainfall and algae outbreaks. Recreational space was fragmented, and existing grassed areas relied heavily on precious drinkable water.



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The City of Sydney engaged a team of designers, engineers, water technologists, ecologists, and artists to deliver a complex vision in response to a dynamic problem. Improved biodiversity was dependent on a healthy ecology, with a steady water supply central to this success. Given the site's magnitude, the team focused on water harvesting and re-use to ensure waterway health and to future-proof water supply for the site. The project has enhanced circulation of water through the ponds and wetlands, diverting 840 mega litres per annum of local stormwater for treatment and re-use, renewing ecosystems and creating greener and more functional public amenity.

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As Sydney's largest water harvesting project to date, Sydney Park is integral to Sustainable Sydney 2030; which aims to meet 10 per cent of the city's water demand through local water capture and reuse. The project has successfully reduced drinkable water use, through the capacity to capture and clean the equivalent of 340 Olympic-sized swimming pools of water per year. The park's flora and fauna are flourishing, with improved recreation options, visual appeal and enhanced biodiversity increasing the park's value. A landmark test-case for the large-scale future-proofing of our urban landscapes, the project demonstrates the importance of sustainable water use.

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Thirty million litres a year of harvested water is now recycled for improved pond and wetlands circulation, irrigation of grassed areas and to supply the park's nursery operations. Impact of water harvesting and re-use already extends beyond the limits of Sydney Park, with non-drinkable water supplied to truck washing at the neighbouring City of Sydney Depot. The project intends to expand this function further, with plans to supply recycled water to neighbouring industry and to large-scale, neighbouring urban redevelopment projects now in planning.

The Sydney Park Water Re-Use Project demonstrates excellence in design through an integrated response that delivers a unique and dynamic city parkland, integrating landfill remediation, recreation, enhanced biodiversity, civil infrastructure, with new urban water re-use systems.

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