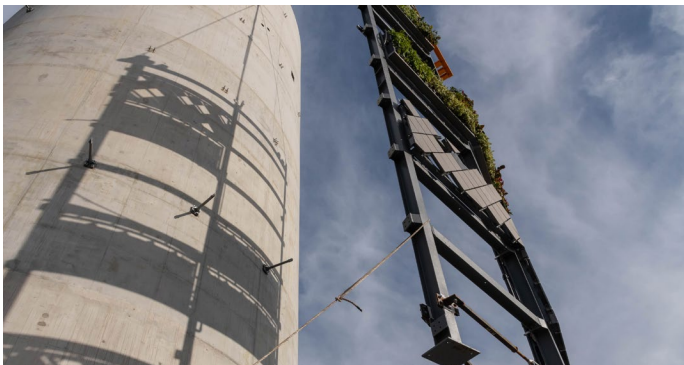




Ventilation stacks bloom with new modular green wall

Rozelle Ventilation Facility

The Rozelle Ventilation Facility comprises two elements – an underground cavernous structure which houses part of the ventilation system, and three above ground ventilation outlets. The outlets are one of the few operational elements of the Rozelle Interchange Project that will remain visible during operation.



Design

To create an aesthetic integration with the surrounding parklands and bring a sculptural element to the facility, the outlets' architectural design was developed by [Studio Chris Fox](#). The structure consists of ladder and twisted steel frames with interspersed architectural zinc aluminium cladding and live plant sub-frames. Each plant wall panel contains a mix of native endemic and exotic plants to ensure year-round greenery, and each species was chosen to bring a variety of colours and textures to the structure.

This is the first known use of plant walls on a ventilation facility in the world, serving as an inspiration for future, out-of-the-box urban greening projects across Sydney.

Construction

To erect the structure, a customized lifting jig was designed in collaboration with engineering firm [TSS](#) to stabilise the uneven weight distribution caused by the asymmetrical architectural and plant wall panels. Ladder frames are held horizontally on the jig at the base of the facility while they are lifted with the panels. Once attached, the jig and ladder frame are tilted 70° using a mobile crane. The ladder frame is then detached from the jig and manoeuvred around the ventilation outlet by a tower crane for final installation.

Operations

The plant wall panels are an innovation featuring a modular design and integrated irrigation system from [Junglefy](#) that reduces water consumption by 75% compared to traditional felt green wall systems.

Thanks to this innovation, the structure will only require minimal maintenance during operations.

