

Innovation at Sunshine Coast development

Stormwater treatment project

An innovative stormwater treatment project on a Sunshine Coast estate is leading the way in healthy water practice and eco development.

The facility, designed by Covey Associates, has been incorporated into the 82-hectare Parklakes estate at Bli Bli on the central Sunshine Coast and has already been selected as a case study by South East Queensland Healthy Waterways for its innovation.

Mr Chris Walker, who led the project, said the Parklakes stormwater treatment facility was designed to treat stormwater run-off from the estate as well as adjacent upstream catchments.

"The facility is designed with an inlet basin, which collects the run-off from the entire estate, which provides treatment of primary pollutants and then discharges it into a wetland, which provides further treatment," Walker, who also teaches at the University of the Sunshine Coast, said. "The wetland will then discharge into the urban lake."

He said the main objectives of the project were to ensure that run-off was treated to an acceptable level before being discharged into the lake, to maintain the long-term health of the lake and to provide an amenable



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and interactive environment for the local community.

"The first level of treatment is achieved through the gross pollutant controls installed throughout the development and the stormwater treatment facility," Walker said.

The first component of the treatment facility is a 3000 m² inlet basin, which removes secondary pollutants such as coarse sediment and some fine particulates from the stormwater run-off.

The water is then discharged into the wetland, which removes secondary and tertiary pollutants, including soluble nutrients and heavy metals.

He said a recirculation system had been installed to maintain the lake's long-term health and discourage eutrophic conditions and the growth of algal blooms.

"When activated, a pump will circulate water from the lake back into the inlet basin and the wetland, effectively treating the water again and achieving the desired retention time in the lake," he said.

Solar panels have been installed to offset the power used to run the pump.

"This project is innovative on a number of levels, the first being that it actively incorporates a large-scale treatment facility into a developing residential community," Walker said.

He said another innovative approach was that the lake was considered to be the receiving environment and not part of the treatment facility.

The extensive landscaping was also innovative and critical to the project.

"It plays a vital role in the treatment process as well as creating biodiversity and enhancing the visual aspects of the landscape," he said.

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