

Federation Park

HumeGard® GPT

Case study



Delivering a healthier Condamine

Installing two HumeGard® Gross Pollutant Traps (GPTs) at Federation Park, Warwick, has improved public amenity for people enjoying the popular park on the Condamine River, while also **greatly improving water quality** in this important waterway before it feeds into the **Murray-Darling Basin**.

Federation Park is located upstream to the stretch of river skirting the town centre. The river is typically turbid, but enters the town with negligible anthropogenic litter. The park was previously the point where approximately 60% of stormwater and surface runoff from the Warwick CBD would discharge into the river without water quality treatment measures.

The Southern Downs Regional Council engaged Humes to provide a stormwater quality improvement device (SQID) to improve the quality of stormwater discharged to the river. The primary design considerations were that the GPTs had to be **retrofitted to an existing stormwater system**, and additional **headloss had to be minimised**. The two existing pipes were closely aligned, and the new storage chamber had to be able to capture pollutants in regular/frequent flow conditions, yet retain these during peak flows.

Humes supplied the HumeGard® GPTs which uses a floating boom, allowing for industry-leading **low headloss conditions** in peak storm-flow events ($K = 0.2$). Because the existing trunk network drains the Warwick CBD under pipe-full conditions, any reduction in performance of the system through increased headlosses would cause flooding in the CBD during major storm events.

The existing infrastructure comprised two parallel 1,200 mm diameter reinforced concrete pipes. The two HumeGard® GPTs were **oriented back to back**. One of the pipelines was offset to facilitate connection to the two GPTs. Another critical consideration in the design of the GPTs was the volume of pollutants the units could store, and the ability to retain captured pollutants during infrequent, high flow events. The HumeGard® GPT system was developed to meet this key consideration, through the combination of an offline pollutant storage chamber and a floating boom.

This project delivers a number of high-priority outcomes with a **cost effective solution**. The GPTs provide water quality treatment for gross pollutants (litter, large pollutants) and sediments (of particle size $> 150 \mu\text{m}$) to 60% of the Warwick CBD, with a capture efficiency of 99% up to the treatable flow rate, effectively reducing the gross pollutant loading and sediment loading by 85% on an annual basis (allowing for peak flow bypass).

Humes
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Project

Federation Park, Warwick
Queensland

Client

Southern Downs Regional
Council

Product supplied

Two HumeGard® Gross
Pollutant Traps (GPTs)

