

# case study

## PUMP AND FILTRATION SYSTEM FOR STORM WATER RE-USE

Barker College

### Clients Brief:

Barker College on Sydney's North Shore is serious about saving water and reducing their demand on town water. They commissioned Matthew Wilson from Total Irrigation Designers to design a complete water management plan that harvested storm water for re-use on the schools sporting fields.

### The Challenge:

A 1million litre tank had been constructed under the new tennis courts 3 years prior. A pump system had been installed but did not meet the schools demands. The tank has a large catchment and is located at one of the lowest points on the property.

### Our Solution:

The old pump and electrics were removed from the tank and a new pump and gravel filter installed. The system consisted of a vertical multistage booster pump, including Variable Frequency Drive (VFD) and a media filter. Matthew designed the system to allow for the addition of an injection unit to purify the water in the future, if required.

A pulse water meter takes care of flow monitoring and can be connected to the injection unit in the future. The VFD controls the pump and maintains constant pressure. This ensures the system operates at optimum efficiency and saves power. A tank level gauge monitors the level in the tank so the user can see at a glance the available water.

Once the water passes through the filter it is pumped to the numerous irrigation header tanks located on each of the sporting fields as demand requires.

### Outcomes:

This installation could potentially eliminate the reliance on town water for irrigation, saving over 1 000 000 litres per year. The installation of a variable speed drive pump will reduce power use and costs of maintenance.

### Client Testimonial:

"No fuss, No dramas, No mess. Apart from a fully functioning system you wouldn't even know they were there"

*Richard Odd,  
Grounds Manager, Barker College*



The variable frequency drive maintains the system at constant pressure.



The gravel filter automatically back flushes which helps improve system efficiency



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