



Article by Elliotts Irrigation

Above: Optus Stadium. Photo: Courtesy Optus Stadium

OPTUS STADIUM BORE WATER IRON FILTRATION

High Iron levels found in a sizable percentage of bore water in Perth can be a huge issue to those responsible for irrigation maintenance and aesthetics of large commercial projects. Water with high iron concentration is not only responsible for unsightly staining onto surrounding surfaces but can also provide an environment for iron bacteria to grow which can cause breakdown of the watering system due to fouling of irrigation mainlines, blockages of sprinklers and failure of solenoid valves.

Optus Stadium is an award-winning, 60,000 seat sporting and entertainment complex within the City of Perth. The stadium is used to present both national and international events of numerous sports along with corporate occasions both inside and outside the stadium itself.

During the initial planning for the stadium the developers needed to consider the inevitable staining that would result should the bore water be used directly through the irrigation system. As a result, an iron filtration system was needed for

the stadium to deal with the challenge of reducing the raw water quality from up to 16.0ppm (parts per million) down to below staining levels.

The Elliotts Irrigation Iron Filtration System has been developed specifically to combat the bore water iron issues found in the WA water, and has a proven record of over 20-year history. This filtration process involves a unique method of removing soluble iron from groundwater without the need for large dropout tanks or chemical extraction procedures.

The process of removing the iron is carried out through a two-part procedure:

- a) Oxidation:- Air is injected through a venturi via an aeration pump into the raw bore water. This starts the iron oxidation process.
- b) Filtration:- The oxidised water then passes through a naturally occurring catalytic media catching the precipitated iron.

The Optus Stadium iron filtration unit is capable of removing iron for up to 25 hours of continuous service. After this time; the filtration system will automatically backwash using the bore water itself. This process rids the filter of accumulated iron effectively recharging it for its next operation period. A rinse stage cleans the filter before returning it to service.

After installation of the filter at Optus Stadium, the iron level dropped to below 0.3ppm and has maintained this level since commissioning over 12 month ago. The outstanding results of



Above: Bore Water iron filtration system installed at Optus Stadium. Photo: Elliotts Irrigation

the system contribute to this venue being able to maintain the highest possible standards in the presentation of its grounds and buildings, displaying the Stadiums grandeur to an Australian wide audience through all forms of media avenues.

This filtration process involves a unique method of removing soluble iron from groundwater without the need for large dropout tanks or chemical extraction procedures.

BORE WATER IRON REMOVAL



GIVING GROUND WATER A HELPING HAND

Elliotts Irrigation are pioneers in bore water iron removal and are undoubtedly the leaders in **this** field

Now with over 400 systems across the State, this system offers and maintains high quality water standards.



ei ELLIOTTS
IRRIGATION

9342 0636 info@elliottsirrigation.com.au

24 Canham Way, Greenwood WA 6024