

Troy Junction STP Augmentation Options Study

Dubbo, New South Wales, Australia

The Troy Junction sewage treatment plant consists of inlet works, an aeration carousel, two clarifiers and an ultra violet (UV) disinfection channel. The original surface aerators have been augmented with diffused air a few years ago, bringing the capacity of the plant to 35,000 equivalent populations (EP), or 9ML/d. The sludge is stabilised in sludge lagoons and then dewatered in a mechanical dewatering facility. All the effluent is used for agricultural irrigation.

The plant requires augmentation to meet the growth demand in Dubbo. In addition, the single concrete bioreactor has developed a structural problem with a vertical joint opening, putting the entire treatment plant at risk.

Dubbo City Council commissioned HydroScience to investigate options to augment the plant and to repair the existing concrete tank. The proposed augmentation will enable the treatment plant to cater the population of 55,000 EP in 2021.

The options investigated by HydroScience included a new secondary treatment process, overcoming the design limitations of the existing secondary treatment that has become outdated. Other options included maintaining the existing treatment process and augmenting it with a parallel process train.

The inlet works and the sludge management system generally have enough capacity, but the wet weather storage facilities require upgrading.

HydroScience has completed developing options including process calculations, tanks and equipment sizing and costing for the options. HSc has also developed evaluation criteria and performed options assessment to select the option that best suits the needs and requirements of the Dubbo City Council.



Project Overview

Highlights

- ❖ Sewage treatment plant upgrade
- ❖ Options investigation
- ❖ Cost estimates

Details

Completion Date: 2009

Contact: Gidi Azar

Ph: 02 9249 5100

gazar@hydroscience.net.au

