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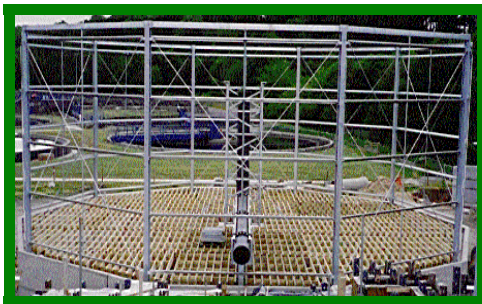
sewaco
LIMITED

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Technical Bulletin No 4 HYRATE Polytower Nitrifying Biofilters



Sewaco were contracted to design and construct TWO plastic media biofilter structures to contain modular media for a nitrifying application to treat municipal sewage effluent prior to discharge to a nearby watercourse. HYRATE Polytower structures were selected as being suitable for this application due to their light weight and ability to blend with surroundings. Each filter shell has an internal diameter of 18.0 mts with an overall height of 7.3 mts above concrete base slab. In addition to construction of biofilter shells, the project incorporated provision of a central stairway with a high level catwalk linking both filters, providing access to twin rotary distributors. This stairway also forms an integral part of the support structure for twin 2 tonne running beams, equipped with electric powered hoist and beam trolleys, to facilitate servicing of installed submersible pumps. Our factory built Timber Matrix modules were delivered to site and placed onto dwarf walls formed within each concrete base. This matrix design ensures adequate support, effective ventilation and free passage of effluent from the modular plastic media pack. Our prefabricated Rotary Distributor Support Columns, provide ventilation to centre of the media pack, simplifies installation of pipework and the top precast concrete plinth acts as the mounting block for HiGARD distributor machines. The HYRATE Polytower structures are formed from GMS sections and internally clad with plastic coated steel sheeting. On completion of construction, Sewaco packed some 1540 m3 of Munters 120:60 modular media into each filter to a depth of 5.85 mts. The new plant has reduced discharge levels of NH₃ by more than 90%; producing a Final Effluent which is constantly below 2 mg/l.



HYRATE BIOFILTRATION
HYCOVER ROTARY AND
STATIC DISTRIBUTORS
DISSOLVED AIR FLOTATION

CONSTRUCTION OF TURNKEY PROJECTS
COMPLETE SITE INSTALLATION SERVICE
EFFLUENT TREATMENT PLANT
DESIGN AND EQUIPMENT SUPPLY

AERATION EQUIPMENT
SLUDGE HANDLING EQUIPMENT
PROCESS CONSULTANCY
SERVICING AND MAINTENANCE