

HUNTER WATER'S LARGEST TREATMENT PLANT INSTALLS LOGMAX® CLARIFIERS

CASE STUDY



THE CLIENT

The Burwood Beach WWTP is the largest sewage treatment system that Hunter Water operate, with a processing capacity of 44 million litres per day, or up to a population equivalent of 190000.

OVERVIEW

A recent upgrade included the installation of a new secondary clarifier system. EPCO Australia were awarded the design, fabrication, installation and commissioning of a 33M diameter peripheral drive clarifier mechanism.

The clarifier mechanisms consist of the following:

- A stainless steel rotating access bridge, suitable to carry one radius of scrapers complete with aluminium grating and handrail and trailing stairs for access.
- A peripheral drive unit consists of a shaft mounted gear motor, adjustable axial torque element and track wiper with corresponding emergency plough limit switch.
- A centre mechanism comprises of a combination of a slewing bearing sandwiched between a base plate secured to the access bridge and the centre column. There is a 26 ring slipring with an integrated heater mounted on the centre column.
- Mixed liquor enters via the centre column and is contained by a feedwell, which is constructed from a stainless steel frame and skinned with HDPE sheeting. Connected between the feedwell and scum skimmer

is a peripheral scum scraper.

- The scum skimmer is a hinged stainless steel blade with neoprene squeegee, supported from the bridge which skims the water surface adjacent to the scum baffles.
- An array of LogMax® sludge scraper blades, suspended from the bridge by chains vertical supports, rotate around the inclined tank floor, directing the settled sludge towards the centre pocket. The sludge scrapers are designed to approximate a log spiral configuration with the ability to be adjusted to accommodate floor imperfections.
- There is a ring of GR316 stainless steel vee notch weir plates and baffle plates fixed to the tank wall. To limit the growth of algae in the launder channel, a self adjusting launder broom assembly is utilised.
- Stamford baffles ring the tank to redirect vertical wall currents to further reduce suspended solids flowing into the launder trough.

Item	Value
No. of Units	1 x 33M diameter
Bridge Length	23.68M Rotating
Clarifier Type	Peripheral Drive
Scum Control	2 x EPCO Scum Boxes
Launder	316SS V-Notch