

Wash Plant Sampling Information for Bespoke Environmental Permit for aggregate and soil recycling facility at Crown Waste Management Limited - Hartshill Quarry Nuneaton Road, Nuneaton CV10 0RT.

The wash plant we are installing at Crown Aggregates and most wash plants we install have a full closed loop water treatment plant.

The dirty water from the wash plant is fed into a large thickener tank to separate the solids from the water so the water can be reused in the washing process.

A flocculant solution is added to the dirty water as it enters the thickener tank which causes the silt particles to clump together and settle within the tank.

A large rake in the bottom of the thickener tank rotates slowly to plough the settled particles to the centre of the tank so a thickened sludge can be pumped out of this tank into a sludge buffer tank.

From the sludge buffer tank, the sludge is pumped through a filter press so that the flocculated silt particles can be separated from the water. The clean water is then returned to the washing process.

The filter press monitors the flow of clean water coming out of the sludge and when the desired moisture content has been reached the filter press will open and automatically discharge the solid filter cakes.

The water treatment plant has an automatic sampling system which takes samples every few minutes of the dirty water entering the thickener system. This system measures the settlement rate of the silt particles and automatically adjusts the flow rate of the flocculant solution which is added to the dirty water. This ensures that the dirty water is not over or under flocculated and maintains the clarity of the water overflowing the thickener to be reused in the washing process.

The anionic flocculant is stored in powder form in 20kg bags and is added to an automatic mixing and dosing system to make up a small batch of liquid solution which is then dosed into the thickener.

This system makes up a batch of liquid solution and only creates another batch when the previous one has been used.

Wash waters will be sampled on a monthly basis for the presence of hazardous substances.

The recycled aggregates are also tested on a monthly basis as part of the end of waste testing regime. This aggregate is tested for the presence of hazardous substances.

The filter cake will be tested on a monthly basis in line with WM3 requirements. Any hazardous substances that are identified within the cake will be trigger wash waters to be sampled on a more frequent basis.

At the point where any wash water needs to be removed it will be removed from the site via tanker to a permitted waste facility that can accept it.

Any visual pollution within the wash water such as oils, fuels or grease creating an Iridescence will mean the washing process has be stopped whilst the water system drained and cleaned with the removed liquids being transferred to a permitted waste facility.