

WETSEP WASTEWATER FILTRATION SYSTEM

What the innovation is:

The WetSep wastewater filtration system is designed for the Construction Run Off and or any other effluent treatment for the construction activities. It employed different technologies, those are Chemical Enhanced Precipitation Treatment, Impinging Stream Reaction, Computerized Fluid Design and Advanced Oxidation Process. After treatment, the wastewater can be reuse or direct discharge into the urban storm drain or river near by. The treated effluent meet most of the established discharge standard.

Why it is innovative:

The Patented Wetsep wastewater filtration system changed the common practice in the construction site. In lieu of using sedimentation tank, holding tank or complicated treatment plant, the WetSep system became a "Wastewater Washing Machine for the Construction Project" (coded by Far Eastern Economic REVIEW)

The system use the incoming water flow from the submersible pump that found in all construction site for the driven force. No mixing motor or moving parts is required for the treatment. The WetSep system is designed to remove suspended solids using an 'impinging stream' reaction and chemical enhanced treatment process.. At the inlet of the system a flocculent agent is added followed by a coagulant agent. The impinging stream reaction works by the creation of a spiral flow. As a result floc will be separated from streams according to density. Oil rises to the top of the chamber, suspended solids to the bottom and clearer water leaves via a cone filter to the universal process chamber.

The system required no skilled labour or engineer to operate and can be set up within one day.

What it changed or replaced:

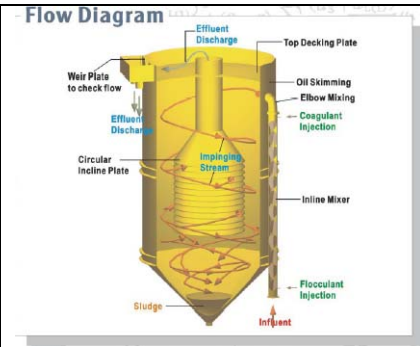
In construction site, rectangular sedimentation tank is used for solid removal. In North America, they stored the wastewater in a holding tank for hauling. The efficient, operation and maintenance cost and footprint is a great problem. The WetSep system provides a compact all in one system to construction site. The system only require less than one 20' container size which will include chemical preparation, impinging, sedimentation and mixing altogether. As the system do not employ any mechanical or electrical parts. It reduces a lot of operation and maintenance cost. The mobility is also another advantage of the system. The system is simply transport and just plug in type of operation.

Where and when it originated, has been used, and is expected to be used in the future:

The system first invented in 1998 and has since continued to improve and modify. In 2000 it had been adopted by Gammon Skanska during construction of a HK\$500 million (\$64 million) sewage tunnel in Hong Kong. It has also been applied for contaminated soil treatment project and achieved 25ppb in removal of Total Petroleum Hydrocarbon from a retired Bus Depot.

Apart from Hong Kong, WetSep also applied in overseas such as Taiwan and Australia... In Taiwan Pinglin tunnel project, the system treated wastewater of 320m³/hour underground at 250M before discharging to the nearest reservoir. Until then, more than 150 installations have been recorded

**Contact: Leung Wai On • Waste & Environmental Technologies Ltd • Area 14b, Yuen Shun Circuit
Siu Lek Yuen, Shatin • Hong Kong • +852-2602-0308 • Fax + 852-2694-7757
leung@wastech.com.hk • www.wastech.com.hk**



Schematic Diagram of WetSep (impinging stream reactor)

WetSep Filtration c/w 2 stages filter



WetSep family 15, 30, 80 m³/h

WetSep by solar power for remote area



A construction site in Chiba, Japan
 -Utilize 14 sedimentation tank for wastewater handling
 -1M bore piling project

Foundation Project in Bangkok used numbers of sedimentation tank

Construction Site in Japan



WetSep installed in Taiwan Pinglin Tunnel Project 250M underground

Holding Tank in Canada