

GESI—Global Environmental Solutions Inc.

6061 Blackberry Ln. Buford, GA 30518 • (678) 534-8915 • (310) 270-5612 • ron@gesi-solutions.com • didacus@gesi-solutions.com
www.gesi-solutions.com

This is one of the technologies that GESI is proud to present.

MMF is proud to introduce to you a revolutionary advance in wastewater processing. We have created the solution for solids handling and separation virtually eliminating primary clarification and anaerobic digesting.

Forget everything you know about treating solids because the Clean Screen™ system will save you money, save space and save the environment. Let's see how it works.

The Clean Screen™ primary separator begins with raw wastewater that has passed through a gross screen. The wastewater is pumped onto the top of the screen and allowed to pass through the nylon mesh. As the mesh plugs with solids the influent collects on top of the screen with the height being measured by a level sensor. Once a specified level is reached, the belt automatically moves, providing a clean screening area, and the process repeats. Throughout the process, the water is collected at the bottom of the separator and decanted out for secondary treatment. The process is automated with a process logic computer (or PLC) mounted nearby.

As the screen moves, solids trapped in the mesh are carried to a heated air knife which removes the solids from the screen. The solids are blown into a hopper which contains an auger which pushes the solids through a spring-loaded cap. The cap provides pressure against the solids, restricting their exit from the hopper. This pressurized cap in conjunction with the auger allows the separator to ring out the solids removing most of the liquid contained therein. The result is solids that are 27% to 30% dry matter. This without the use of any coagulants or other chemicals.

After removal from the separator, the solids are ready for processing in the Clean Screen™ gasification unit. Please note that there is no further treatment required for disposal. During the gasification process the solids are heated in a basin with burners that are AQMD (Air Quality M District) certified for clean emission. The holding basin is sealed so that all gas and water vapor created is secured and there are no emissions of any substance released into the air. The gas produced is captured outside the gasification unit and can be used for various applications such as electricity generation or compressed for use in commercial buses and vehicles. The gas product has a BTU value of approximately 1050—10% higher than that of natural gas.

Take, for example, a 7 MGD plant. The natural gas produced would provide the equivalent of approximately 800 gallons of gasoline per day.

The gasification process is performed in one hour batches. The net result is a residual ash that weighs approximately 95% less than the original solids.

Imagine, instead of trucking 20 tons of solids to a landfill, 1,000 pounds of carbon ash could be disposed of through land application.

At the beginning, we told you that the Clean Screen™ would replace primary clarifiers and digesters. Our preliminary separator provides processed water comparable to that of a standard primary clarifier at a fraction of the space.

Two Clean Screen™ separators, each measuring about 25 square feet, would be capable of processing the same amount of wastewater as standard clarifiers which measure 2,500 square feet.

There are no bio-solids produced from the separator.

Sludge from secondary treatment can be processed within the separator by combining with the raw influent. This fully eliminates the need for biological digesters. Since there are no longer biological digesters, the need for standard de-watering equipment is also eliminated.

The Clean Screen™ primary separator and gasification unit save money, save space and save the environment.

For more information, please contact Didacus Ramos at didacus@gesi-solutions.com or call at (310) 270-5612. We look forward to working with you to improve the world's environment.