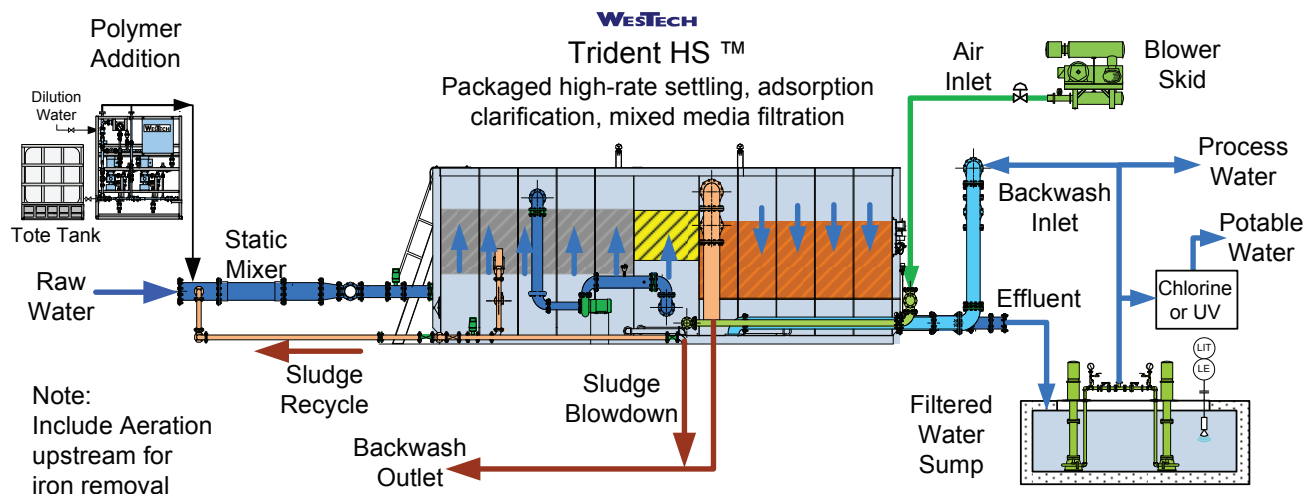
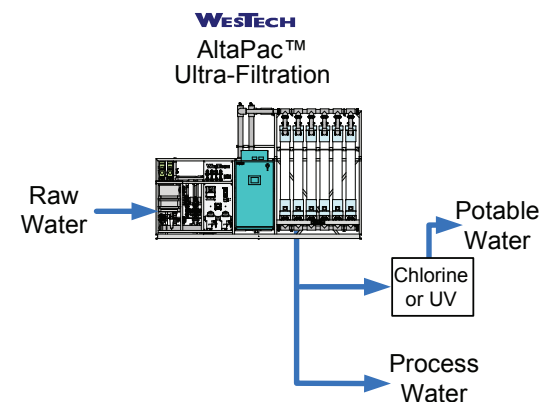


Process / Potable Water Treatment

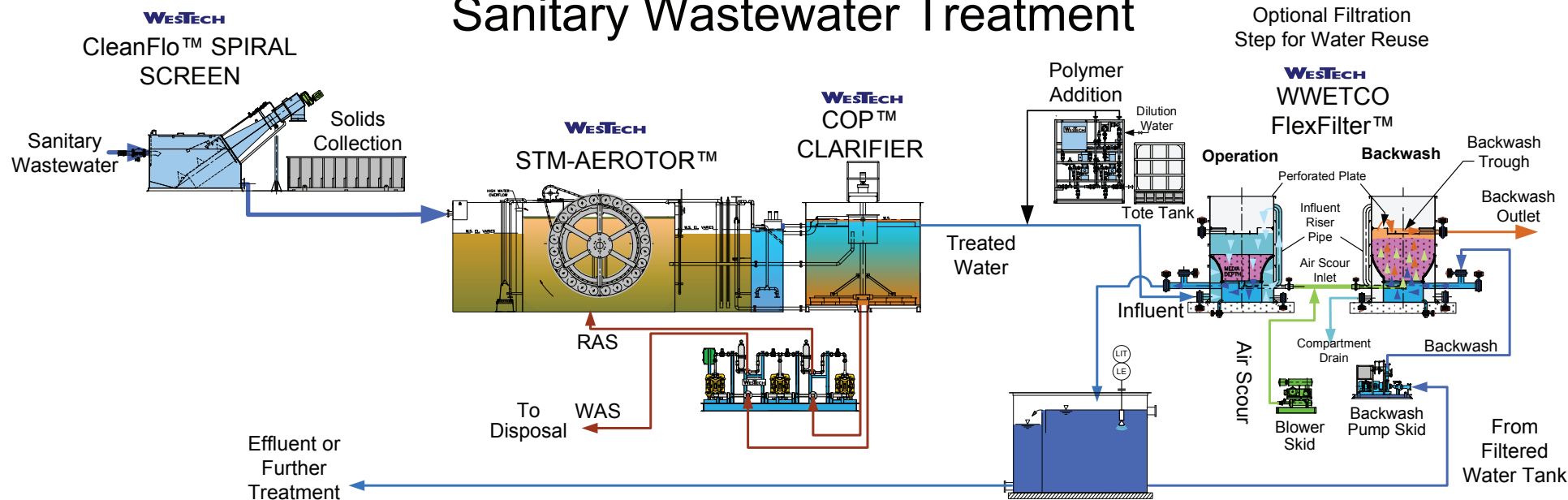
For Inlet TSS > 100 mg/l



For Inlet TSS < 25 mg/l



Sanitary Wastewater Treatment



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Package Plant – Water / Wastewater Treatment

WESTECH

DWN: RCS DATE:



The **Trident® HS** is a high-rate clarification system utilizing tube clarification enhanced by sludge recirculation. Internal sludge recirculation increases settling by increasing available surface area for flocculation. Periodic sludge blowdown maintains the optimum concentration of sludge in the clarifier. The Trident® HSR can be used to convert an existing Trident® installation to Trident® HS technology. By converting from Trident® to Trident® HS, it is possible to increase solids loading capacity, remove *Cryptosporidium* and *Giardia*, and increase total organic carbon removal by 40%.

Man Camps

Many times mining, oil and gas exploration, construction, and other activities take place in remote areas of the world. In these cases it is necessary to provide both potable water and treatment of sanitary wastes for the facility. In addition, many of these activities take place in temporary fashion as the sites will either be developed or abandoned at a future date.

Therefore, it is often necessary to provide treatment systems which will be able to produce and/or process the necessary volumes of water for the “crew” manning the site, but to also do so with packaged equipment which is easy to transport and set up at the site. Most often this type of treatment is skid-mounted or built within a standard container for easy shipping and installation.

Water Sources

Possible water sources for these sites typically consist of rivers, streams, or lakes. These sources may have high suspended solids levels and may also be contaminated with microbiological organisms. In addition, there may also be seasonal changes in the water quality, i.e., higher suspended solids in the springtime due to rain runoff.

Trident

An effective way to deal with these sources of raw water is a packaged treatment plant consisting of a coarse up flow clarification followed by a plate-type separator and finally a multimedia filter. The WesTech Trident® system has proven itself in thousands of applications to be able to handle high and varying solids while producing a stable high-quality effluent. Effluent from the system is often of sufficient quality to be used for various process water applications at the site.

In order to make the water potable (safe for drinking), one of the most efficient and effective ways is to treat it through ultrafiltration membranes. These membranes have sufficiently small pore sizes to remove 99.99% of all microbes including *Giardia* cysts and *Cryptosporidium*. After treatment with ultrafiltration the water is typically treated with either chlorine or ultraviolet light to ensure it is safe.

STM-Aerotor™

The other half of the equation at these sites is to treat the sanitary waste generated. As with most “municipal” systems, these waste streams peak in both volume and contaminant levels at certain times of the day, in this case typically at shift change. A system which can handle these spikes in quantity and quality is therefore required. The system also needs to operate with little operator attention. Since power is normally at a premium on these remote sites, a system with low horsepower requirements is extremely desirable.

The STM-Aerotor™ meets all these requirements. It has the lowest ratio of horsepower per pound of dissolved oxygen of any commercial biological treatment. It uses conventional mixed liquor activated sludge technology in addition to fixed film biological growth to provide the maximum biological treatment in the minimum footprint. As with conventional activated sludge treatment, the STM-Aerotor™ employs a downstream clarifier to settle the biological solids.