BiOWiSH™ Technologies' Role in Waste Water Treatment Plants

Dosing Systems:

BiOWiSH[™] can be dosed in any unit of the waste water treatment plant (WWTP) with existing biology. The ideal dosing point is the grit removal chamber (or any equalization chamber upstream of the primary clarifiers). Dosing early into any unit will maximize HRT and provide ideal C:N for the BiOWiSH[™] microorganisms.

Though BiOWiSH[™] can be easily applied as a solid or liquid, liquid dosing is best for all WWTPs. Start with a shock dose that is 2-5 times stronger than normal dosing (0.1-0.5ppm). BiOWiSH[™] products should be dosed continuously into the effluent stream.

Biological Nutrient Removal:

BiOWiSH™ microorganisms can eliminate nitrogenous loading via heterotrophic pathways. This helps improve nitrogen removal from wastewater without adding any cost or process modifications to the existing treatment system.



Odor:

When added to the inlet or collection system, BiOWiSH[™] provides odor control throughout all downstream treatment stages, including solids and effluent. Odors are removed (rather than masked) through the enzymatic transformation of volatized organic compounds (VOCs) into inert odorless compounds.

Sludge Management:

BiOWiSH[™] helps reduce the total solids content by effectively working on TSS, TDS, and TVS. This results in reduced sludge generation from the treatment system. BiOWiSH[™] is a great option to cut down the cost of handling and transporting sludge.

) Primary Sedimentation Tank:

A small dose of BiOWiSH[™] just before the water enters the primary sedimentation tank will help to reduce TSS and induce better settling in the tank.

Aeration Tanks / Biological Reactors:

Aeration tanks and biological reactors are the unit operations which benefit the most from bioaugmentation with BiOWiSH™. When BiOWiSH™ is introduced into biological reactors, the powerful enzyme chemistry produced by the biology helps catalyze substrate utilization which results in efficient reduction of BOD and COD. BiOWiSH™ also has the unique capability to deliver results under low MLSS conditions.

NAS

Anaerobic Tank:

BiOWiSH[™] microorganisms are facultative. Consequently, they can adapt their metabolic biochemistry to operate under both aerobic and anaerobic conditions. In anaerobic digesters, BiOWiSH[™] helps to accelerate hydrolysis (water mediated macromolecule breakdown) increasing the availability of simpler substrates for downstream reactions.

Mechanical Sludge De-watering



Sludge Drying Beds



Energy and Cost Savings:

BiOWiSH[™] can help reduce operating expense and energy consumption in WWTPs in several ways. BiOWiSH[™] not only maintains effluent water quality, but allows the system to operate at lower MLSS and higher F:M ratios. In addition, the implementation of BiOWiSH[™] does not require any changes of plant infrastructure. BiOWiSH[™] is shipped ready to dose.



Secondary Clarifier:

BiOWiSH[™] contributes to efficient operation under lower MLSS in the biological reactor and provides improved settling characteristics (lower Sludge Volume Index). The improved settling will result in better effluent clarity from the secondary clarifier.

> Tertiary Treatment or Discharge