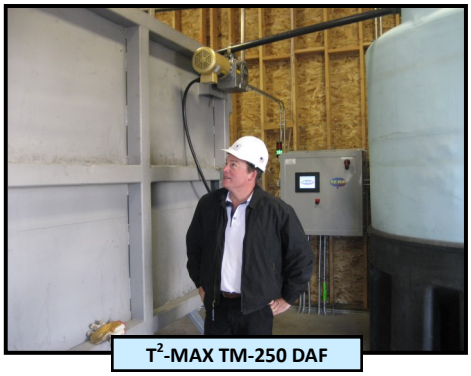
Wastewater Treatment: Liquid/Solids Separation

Vegetable processor treats wastewater with DAF system for solids removal
Stuart Ward of *Process Engineered Water Equipment* explains system design...

Case Study

The Vegetable Processor was experiencing increasingly higher costs for wastewater discharge paid as a surcharge on their monthly sewer bill to the local POTW. The surcharge was a bit of a surprise when the production facility first relocated to the area. Particularly troubling were the settle-able solids, TSS and associated BOD rates. The client contacted PEWE first to perform a pilot DAF test and check the treatability of their waste stream. Several weeks later the tests indicated a new PEWE DAF would benefit them greatly.



T^2-MAX TM-250 DAF

System Solution

PEWE surveyed the available area, presenting several potential layouts before a final selection was made. The system package included EQ tank components, PEWE ***T^2-MAX$_{TM}$*** DAF and a ***PolyAccu Dose$_{TM}$*** chemical station for both coagulant and flocculent dosing.

PEWE rounded out the system with a centrally located and integrated ***Command Control$_{TM}$*** PLC. Process water is collected continuously in the EQ tank and is pumped via flow proportional programming to the DAF unit for removal of the non-dissolved impurities.

Controlled Operation

The cleansed wastewater then discharges directly to the POTW. The DAF solids are pumped to a holding tank for later wet hauling to the local landfill. The entire system is located near the boiler room for easy periodic access by the operator.

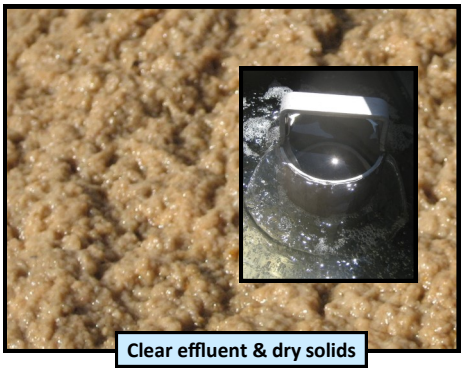
Liquid/Solids Separation

Using an PEWE designed layout, the client built a new addition to house the equipment in. Installation support was on -hand for the system delivery and on site for commissioning. Upon start-up the water flowed and the DAF unit performed on schedule. The in-soluble organics were readily floated to the surface. The skimmer removed the float solids on an operator selected time/speed basis and settled solids were pumped away. Clean effluent water drained by gravity from the Clearwell. Periodic sampling showed good results.

Final Results

The all stainless steel PEWE ***T^2-MAX$_{TM}$*** *DAF* proved efficient and easy to keep clean by maintenance staff. The client is very pleased with the new wastewater treatment system. Waters discharged to the city POTW have had all the extra surcharges virtually eliminated.

The system takes mere minutes a day to maintenance. The daily routine includes checking the aeration gages, assessing discharge water quality, hosing off the skimmer system and monitoring the solids tank. A tanker is called when the solids tank is ready for load out.



Clear effluent & dry solids

The plant's clean water efforts are a big success within the entire corporate organization. Should unexpected surcharges re-appear in the future PEWE stands ready to assist.