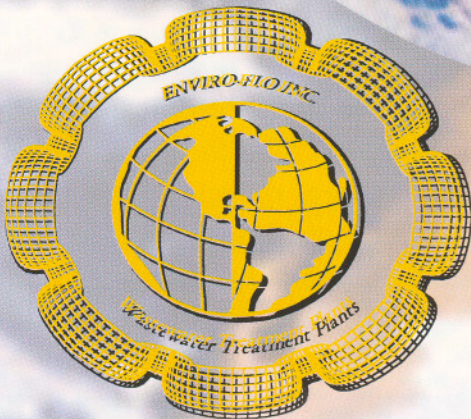


ENVIRO-FLO

*The Environmentally Friendly
Alternative For
Wastewater Treatment*



ANSI Accredited
Certification Program
NSF's Certification Program is
accredited by The American
National Standards Institute

ENVIRO-FLO WASTEWATER TREATMENT PLANT

PROCESS DESCRIPTION

The Enviro-Flo, Inc., E-500 uses extended aeration activated sludge processes to achieve treatment. In the activated sludge process, microorganisms remove soluble contaminants from the wastewater, utilizing them as a source of energy for growth and production of new microorganisms. The organisms tend to be flocculent and form clumps, or floc, that physically entrap particulate organic matter. The organic matter is attacked by extracellular enzymes that solubilize the solids to make them available to the microorganisms as a food source. The conversion of the organic matter from soluble to biological solids allows for removal of the organic matter by settling of the solids in the treatment process.

Extended aeration is a modification of the activated sludge process in which the microorganisms are allowed to remain in the treatment process for long periods of time. The large inventory of biological solids in the process provides a buffer for shock loading of organic matter. The long aeration period allows for the organisms in the system to consume themselves, reducing the total amount of solids produced by the treatment process.

The organisms primarily responsible for the degradation of the organic matter are aerobic bacteria. As such the transfer of oxygen into the wastewater by an aeration system is critical to the treatment process. The aeration system also provides for the mixing of the wastewater and organisms to provide contact between the organic contaminants in the wastewater and the organisms that provide for removal of the contaminants. For this reason, an activated sludge process is referred to as a suspended growth system.

PERFORMANCE EVALUATION

The E-500 tested in this evaluation has a rated capacity of 500 gallons per day (gpd). Specifications and drawings are included on the right. The tank is constructed of concrete, asphalt coated steel, or fiberglass.

The system achieves treatment by a flow through process. Wastewater enters into the pretreatment aeration chamber which has a hydraulic capacity of 310 gallons. Air is introduced and the promotion of aerobic microorganisms begins. Wastewater moves from the pretreatment aeration chamber into the main aeration chamber through a three inch collar opening located below the flowline. The main aeration chamber has a hydraulic capacity of 450 gallons. Aeration is provided by a diffused air system that operates on a continuous cycle. Settling is accomplished in a clarification chamber (hydraulic capacity of 160 gallons) following the main aeration chamber. Treated wastewater exits the plant through a multi-directional outlet tee.

The main aeration chamber provides a retention time of 22 hours at design flow. Aeration is achieved by release of air through two silicone based stone air diffusers located at the bottom of both the pretreatment aeration chamber and the main aeration chamber. The release of air causes the wastewater to rise in the chambers, establishing a circulation pattern. The diffused air provides oxygen for the aerobic bacteria, as well as mixing of the wastewater with the bacteria.

From the main aeration chamber, the wastewater passes by hydraulic displacement into the clarification chamber through a slot in the bottom of the wall dividing the clarification chamber from the main aeration chamber. The quiescent design of the clarification chamber allows gravity settling of the solids. The bottom of the clarification chamber is sloped to help direct settled solids back toward the opening between the two chambers. The hydraulic roll created by the air system in the main aeration chamber helps to draw settled solids from the bottom of the clarifier back into the aeration chamber.

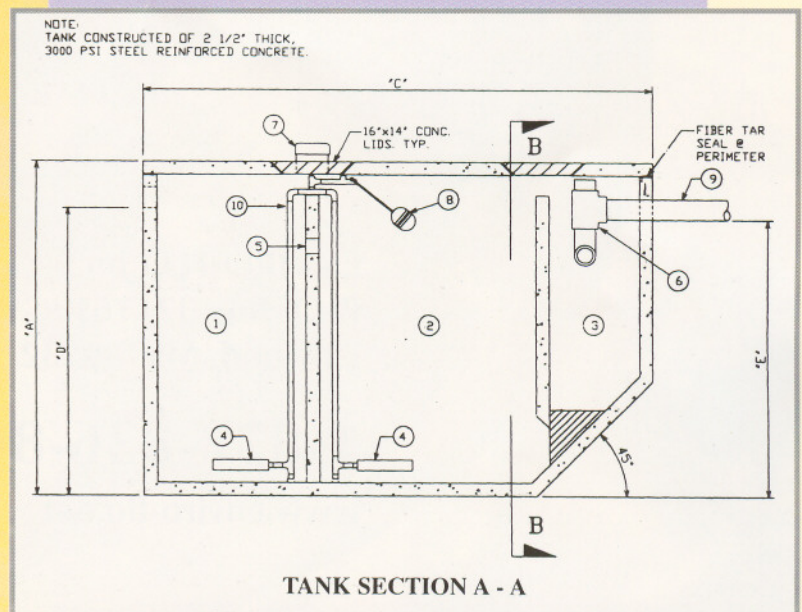
PLANT SPECIFICATIONS FOR ENVIRO-FLO, INC., E-500

PLANT CAPACITY

Design Flow	500 gpd
Plant Hydraulic Capacity at Design Flow	920 gallons
Pretreatment Chamber	310 gallons
Aeration Chamber	450 gallons
Clarifier	160 gallons
Hydraulic Retention Time (at Design Flow)	
Aeration Chamber only	22 hrs.
Entire Plant	44 hrs.

FEATURES

- NSF listed to internationally recognized performance standards. Certified testing insures quality, reliability, safety, and long life.
- Low operating cost. The Enviro-Flo aerator is the only electrical component.
- Low installation cost--The Enviro-Flo plant may be installed to treat all domestic wastewater at a cost comparable to that of a septic system.
- Increases property value, insures a safe, sanitary home environment.
- Consistent treatment, variations in flow from vacations, or added guest do not affect performance
- Capable of producing effluent with a CBOD5 of <2mg/L and a TSS level of <2mg/L
- No moving parts • No filters
- Dual aeration process
- Low cost maintenance
- Easy access to every component of the system
- 1 & 2 piece models available
- Environmentally friendly
- 3-year full warranted components
- Quiet linear aerator
- Integrated failure warning system
- All models available with pretreatment septic tank, built on chlorine contact chamber, or 300 gallon pumping chamber
- Available with a 500, 550, 600, 750, or 1,000 gallon per day treatment capacity



Contents with the performance of the worlds most advanced treatment units. Enviro-Flo, Inc., complies with U.S. EPA wastewater treatment guidelines for secondary treatment systems and meets all requirements of NSF Standard 40.

FAST FACTS

- Testing of the ENVIRO-FLO E-500 was conducted under the provisions of ANSI/NSF standard 40 for residential wastewater treatment systems. ANSI/NSF Standard 40 was developed by the NSF joint committee on wastewater technology.
- The ENVIRO-FLO E-500 is the Environmentally friendly alternative to wastewater treatment.
- The ENVIRO-FLO E-500 was the first NSF approved wastewater treatment plant designed and manufactured in Mississippi.
- The ENVIRO-FLO E-500 exceeds NSF standards for wastewater treatment.
- Most rectangular molds can be modified to accommodate the ENVIRO-FLO design.
- ENVIRO-FLO Wastewater treatment units are available in concrete, asphalt coated steel, and fiberglass.
- Training seminars available upon request.

Also available from ENVIRO-FLO Inc.

- Complete treatment units
- Molds
- Mold modification
- Monorail truck beds



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