



WELCOME



TO THE NEW STEPHENSON, MICHIGAN WASTEWATER TREATMENT PLANT!

Stephenson's Wastewater Treatment Plant is currently operated by EARTH TECH Operation Services, headquartered in Grand Rapids, Michigan.

EARTH TECH Operation Services provides operation, management, and consulting services for water and wastewater utilities to communities and industries throughout Michigan.

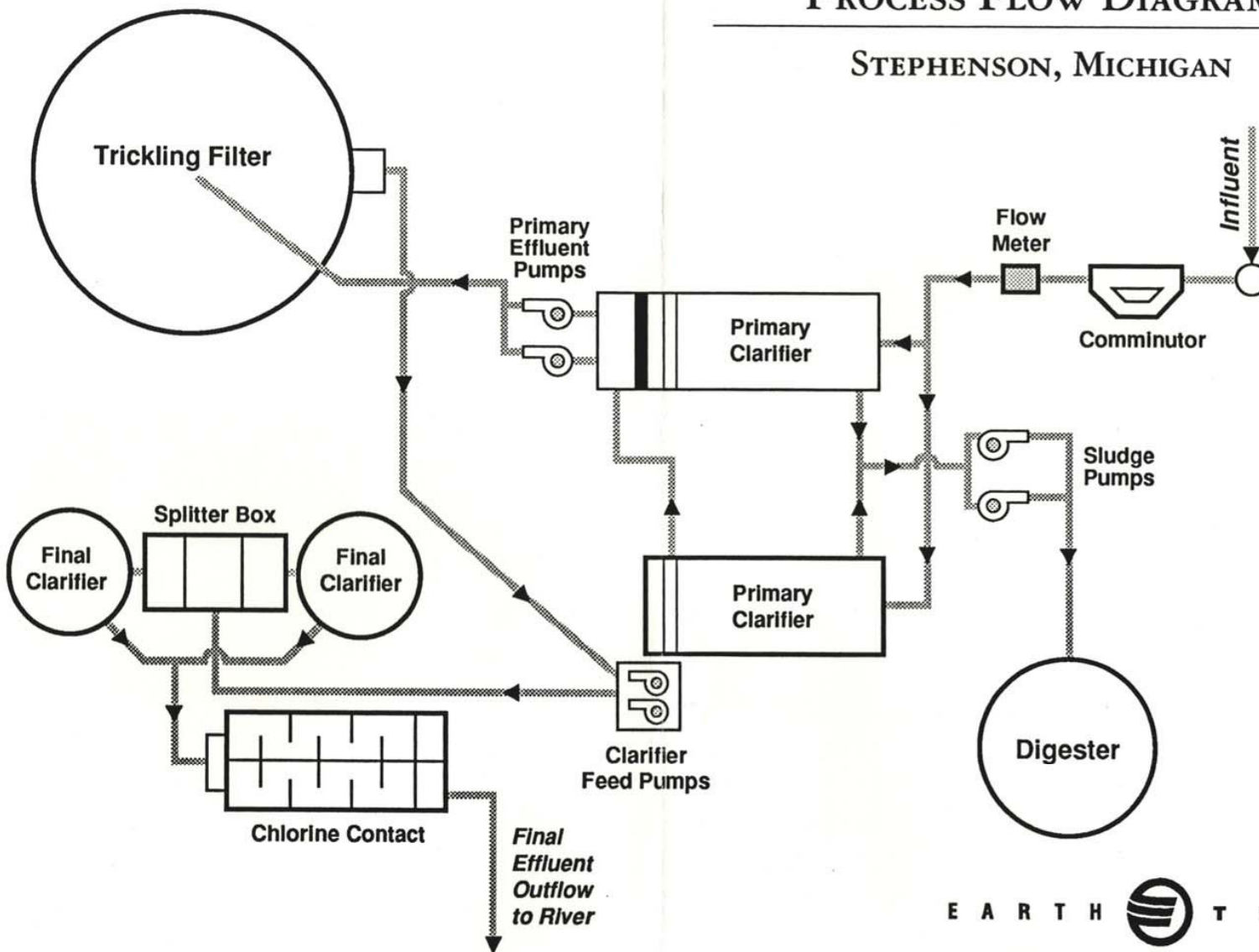
The newly expanded wastewater treatment plant was fully operational in January 1995 at a cost of \$700,000.



**EARTH TECH Operation Services
Michigan Contract Locations**

WASTEWATER TREATMENT PLANT PROCESS FLOW DIAGRAM

STEPHENSON, MICHIGAN



EARTH  TECH
OPERATION SERVICES

Process Description

General

The Stephenson wastewater treatment plant is designed to provide secondary treatment for an average daily flow of 150,000 gallons of domestic wastewater with a peak design flow of 450,000 gallons.

Primary Treatment

Wastewater flow enters the plant through a 10-inch comminutor which shreds large particles for later removal. The flow is metered and then sent to the two primary clarifiers where the heavier solids are allowed to settle to the bottom of the tank and the lighter solids float to the surface. Both the floating solids and the settled solids are pumped to the sludge digestion system for final treatment prior to disposal.

Secondary Treatment

Following primary treatment, the wastewater is pumped to the trickling filter where it is sprayed over plastic media which supports the growth of a bacteriological slime which absorbs and consumes approximately 95% of the organic matter that is dissolved in the water. The partially treated wastewater is then pumped to the two secondary clarifiers where the "sloughings" from the trickling filter settle out and are returned to the primary clarifiers.

Disinfection

Following secondary treatment, the treated water flows by gravity to the chlorine contact chambers for disinfection. Following disinfection, sodium bisulfite is added to remove any remaining chlorine prior to discharge to the Little Cedar River.

Bio-Solids Digestion System

Settled solids from the treatment facility is pumped to the digester where anaerobic bacteria feed on the organic material in the solids, reducing it to a more stable substance. Following digestion, the bio-solids are ultimately disposed of as fertilizer on farm fields.
