

Unit Process Inventory
CITY OF EDEN MEBANE BRIDGE WASTEWATER TREATMENT PLANT
Unit Process/Operation Inventory and Parameters of Design

CAPACITY

13.5 MGD Plant As per completion on July 1, 1992

INFLUENT

Receives Force Main flows from the Junction Pump Station the Covenant Branch Pump Station, Railroad Pump Station and the Industrial Park Pump Station
Influent flow is measured by a Parshall Flume – 28.0 MGD max
Septic Waste Receiving Pump Station

SCREENING

Two Mechanical Bar Screens with 1 inch clear openings
One Manual bar screen with 1 inch clear openings

GRIT REMOVAL

One chain and bucket type grit collector
Aeration System with two Positive displacement blowers
One collection hopper for Transport to Landfill

EXTENDED

Two Aeration Basin with a 7 MG volume

AERATION

Each Basin will have: Twelve 20 HP Horizontal Brush aerators (24 Total)
Retention Time Approximately 1.04 days @ 13.5 MGD flow rate
Two, flow splitter boxes to regulate flow to clarifiers
Two, 90 Ft. diameter clarifiers Siphon feed, Peripheral effluent and suction type sludge collectors
Two, 130 Ft. diameter clarifiers Siphon feed, Peripheral effluent and suction type sludge collectors
Wet well/Dry well recirculation station #1 with Three 1550 GPM centrifugal pumps
One 350 GPM Submersible Waste Activated Sludge Pump
Wet well/Dry well recirculation station #2 with Three 3125 GPM centrifugal pumps
Two 800 GPM Submersible Waste Activated Sludge Pumps

DISINFECTION

Two V-notch 500 lb/day Automatic Chlorinator w/flow proportional controllers
Automatic Switchover w/vacuum regulator
Dual Ton Cylinder Weight Scale
One V-notch 500 lb/day Manual Chlorinator
One flash mixing chamber with turbine type mixer with 14000 GPM Chamber flow
Three 74000 gallon baffled chlorine contact basins

CHEMICAL FEED

Storage Tank for Polymer and associated feed pumps for color removal, fed to a post-aeration location
Storage Tank for Sodium Bisulfite and associated feed for Dechlorination

DECHLORINATION

Sodium Bisulfite is used for Dechlorination
One flash mixing chamber with turbine type mixer with 14000 GPM Chamber flow

AEROBIC SLUDGE DIGESTION

One 2.3 MG Basin
Four 20 HP Horizontal Brush aerator
Wet well/Dry well decant station
Two 300 GPM Centrifugal pumps
Decant pumps to the recirculation wetwell
Wet well/Dry well Waste Sludge Pumping Station
Two 150 GPM centrifugal pumps
Pumps Sludge to Sludge Holding Lagoons

SLUDGE DEWATERING and DISPOSITION

Two 2 MG Sludge Holding Lagoons
Five Sludge Drying Beds (Currently unused)
One Gravity Decant Dewatering Line
Two Pump Assisted Gravity Decant Dewatering Line Decant water returns to recirculation wetwell
Sludge is Land Applied by Contracted Company