CITY OF MANTECA
WASTEWATER QUALITY CONTROL FACILITIES
CURRENT TREATMENT PROCESS FLOW DIAGRAM

BAR SCREEN
Removes large rags, paper & plastic.

AERATED GRIT CHAMBER
Removes heavier inorganics, sand, etc.

PRIMARY SEDIMENTATION TANKS
Removes settleable floating organics & grease.

AERATION BASINS
Activated sludge process (bacteria). Bacteria convert remaining dissolved organics to settleable matter.

SECONDARY SEDIMENTATION TANKS
Settles & removes activated sludge - some bacteria are returned to aeration basins for more work.

TERTIARY FILTER TANKS
Removes remaining suspended solids particles to comply with Title 22 unrestricted reuse requirements.

UV DISINFECTION CHANNELS
Disinfects wastewater using ultraviolet (UV) light by killing disease causing organisms.

Raw wastewater
→ Rag to landfill
→ Grit to landfill
→ Primary sludge & grease to anaerobic digesters
→ Excess bacteria to anaerobic digesters
→ Treated wastewater to agricultural irrigation during summer months
→ Filtered matter returned to bar screen
→ Methane gas is used to heat digesters, excess gas is flared off
→ Anaerobic bacteria have about 30 days to break down and stabilize organic solids, Methane gas is produced as a by-product

ANAEROBIC DIGESTERS

CENTRIFUGE

Stabilized solids to landfill
→ Water separated from stabilized solids
→ Water to bar screen

Treated wastewater to San Joaquin River, OR To purple pipe for construction purposes.