

# **CITY OF FORT MYERS**

## **CENTRAL ADVANCED WASTEWATER TREATMENT FACILITY**



# RAW SEWAGE

Raw sewage is the water that flows into a wastewater treatment facility. It is made up of waste from toilets, sinks, garbage disposals, industries and restaurants. Raw sewage is over 99.9% pure water. Raw sewage can also include items such as articles of clothing, lumber, sand and an occasional bowling ball. Items such as these are removed during the first stage of treatment, known as grit and screenings removal or preliminary treatment.



**Archimedes Screw influent pumps. Each pump, capable of pumping 7639 gal./min., lifts the raw sewage to the Grit & Screenings building where the first stage of treatment begins.**

# MIXED LIQUOR

Mixed liquor is a mixture of raw sewage (after grit and screenings removal) and healthy "activated sludge". This mixture is the heart of the biological wastewater treatment process. When properly conditioned through the control of oxygen and solids content, the organisms in mixed liquor will eat, absorb or convert pollutants to an environmentally acceptable form.



**This 2.5 million gallon aeration tank which is the heart of the BardenPho process contains 83,500 pounds of micro-organisms.**

# FINAL EFFLUENT (Surface Water Discharge)

After proper biological treatment and addition of aluminum sulfate, the mixed liquor flows into settling basins known as clarifiers. The heavier solid particles are settled out and collected to be used as activated sludge or dewatered and land applied. The remaining clear water is then disinfected and flows to the Caloosahatchee River.



Final Clarifiers

# RECLAIMED WATER

A portion of the final effluent is diverted before reaching the river and given further treatment. This water is passed through disk filters, disinfected to a higher degree than surface water discharge and is currently being supplied to industrial users and for irrigation. These users (Lee County Waste-to-Energy Facility, Fort Myers Nursery, Redsox Training Fields, and others) utilize the reclaimed water for irrigation or process water, thus eliminating the waste of drinking water for these purposes.



Reclaimed Water Production Facility

# DEWATERED OR CAKE SLUDGE

A portion of the activated sludge collected in the clarifiers is removed from the process for final disposal. This process is called beneficial reuse of **wastewater biosolids**. During this process, the biosolids are stabilized in aerobic (with air) digesters, dewatered (thickened) on belt filter presses and utilized as fertilizer on pasture land, hay or sod fields and in citrus groves.



Digesters



Dewatered biosolids

# SUMMARY

The wastewater treatment process is primarily a biological process with limited chemical addition. Through stringent process control and proper staffing with qualified, state certified operators 24 hours of every day, the City produces a very high quality effluent suitable for reuse or river disposal. The City's effluent and biosolids consistently meet or exceed the limits set forth by the numerous State and Federal regulations, thus helping to preserve Florida's limited water resources.

# CITY OF FORT MYERS

## WASTEWATER TREATMENT

### FACT SHEET

The City of Fort Myers has two regional Advanced Wastewater Treatment Facilities. The Central AWWT Facility treats wastewater from Central and East Fort Myers as well as Lee County wastewater from as far away as Buckingham and Riverdale Shores. The South AWWT Facility receives the flows from South and Central Fort Myers as well as Lee County wastewater from as far away as Daniels Road. Listed below is just a small portion of the data collected at the Central AWWT Facility.

#### CENTRAL AWWT FACILITY

Location:	1501 Raleigh Street
Treatment Capacity:	11 million gallons per day (MGD)
Maximum Flow Capacity:	30 MGD
Average Daily Flow during 2009:	5.57 MGD
Wastewater Treated during 2009:	2,032,240,000 gallons
Biosolids Produced for Beneficial Reuse in 2009:	12,190 cubic yards 10,448 wet tons 1,401 dry tons
Reclaimed Water Production Capacity:	6 MGD
Average Reuse Water Distribution during 2009:	2.75 MGD
Total 2008 Reuse Water Distribution:	1,022,490,000 gallons
Operating Budget – FY 08/09:	\$4,139,800
Treatment Cost- FY 08/09:	\$1.79 per 1,000 gallons treated
Chemical Used/Reason:	Aluminum Sulfate (ALUM)/Phosphorus Precipitation Sodium Hypochlorite/Disinfection Sodium Bisulfite/Dechlorination Cationic Polymer/Residuals Dewatering
Number of full time employees:	20

Tours: Encouraged for all schools, civic organizations or individuals. Tours can be scheduled through the Wastewater Treatment Superintendent's office at (239) 321-7571.