SAVANNAH

Water, Sewer and Sanitation
February 11, 2021

Office of the City Manager

Water Supply & Treatment

Provide Safe Drinking Water

Raw Water Intake Facility
Pump raw water to reservoir or treatment facility

Reservoir
Help Stabilize Water Quality
90 million gallons capacity
Constructed 2018

Water Treatment Facility
Constructed 1946
Permitted 50 MGD

Water Testing Laboratory

- 131,231 Analyses Performed
- Ensure AWWA (American Water Works Association) drinking water compliance

Water Distribution System

- Pumps
- Pipes
- Storage Tanks

Customers (Regional Provider)

1. City of Savannah
2. Garden City
3. Effingham County
4. Port Wentworth
5. Pooler
6. Thunderbolt
7. Vernonburg
8. Industries

Fire Protection

Residents

Industries/ Economic Development

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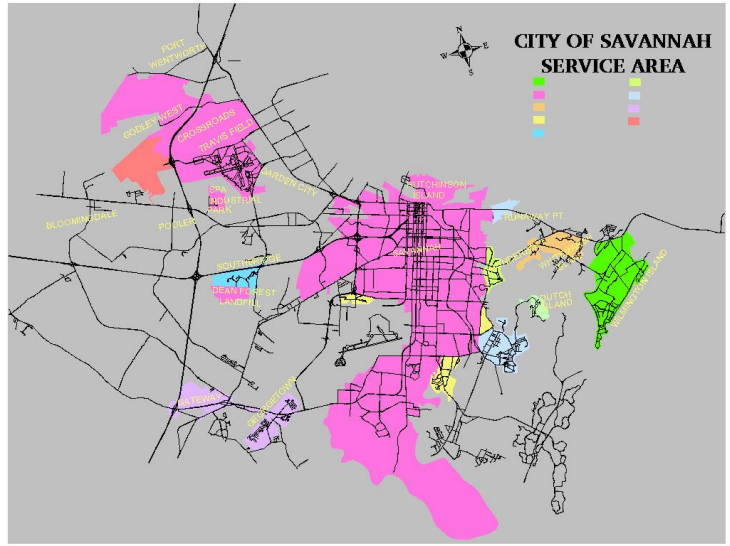

City of Savannah Sewer Services

Sewer Collection, Conveyance, Wastewater Treatment and Reuse

Wastewater is generated from homes and industries

Wastewater is collected in sewer pipes and pumped to treatment facilities via Lift Stations.

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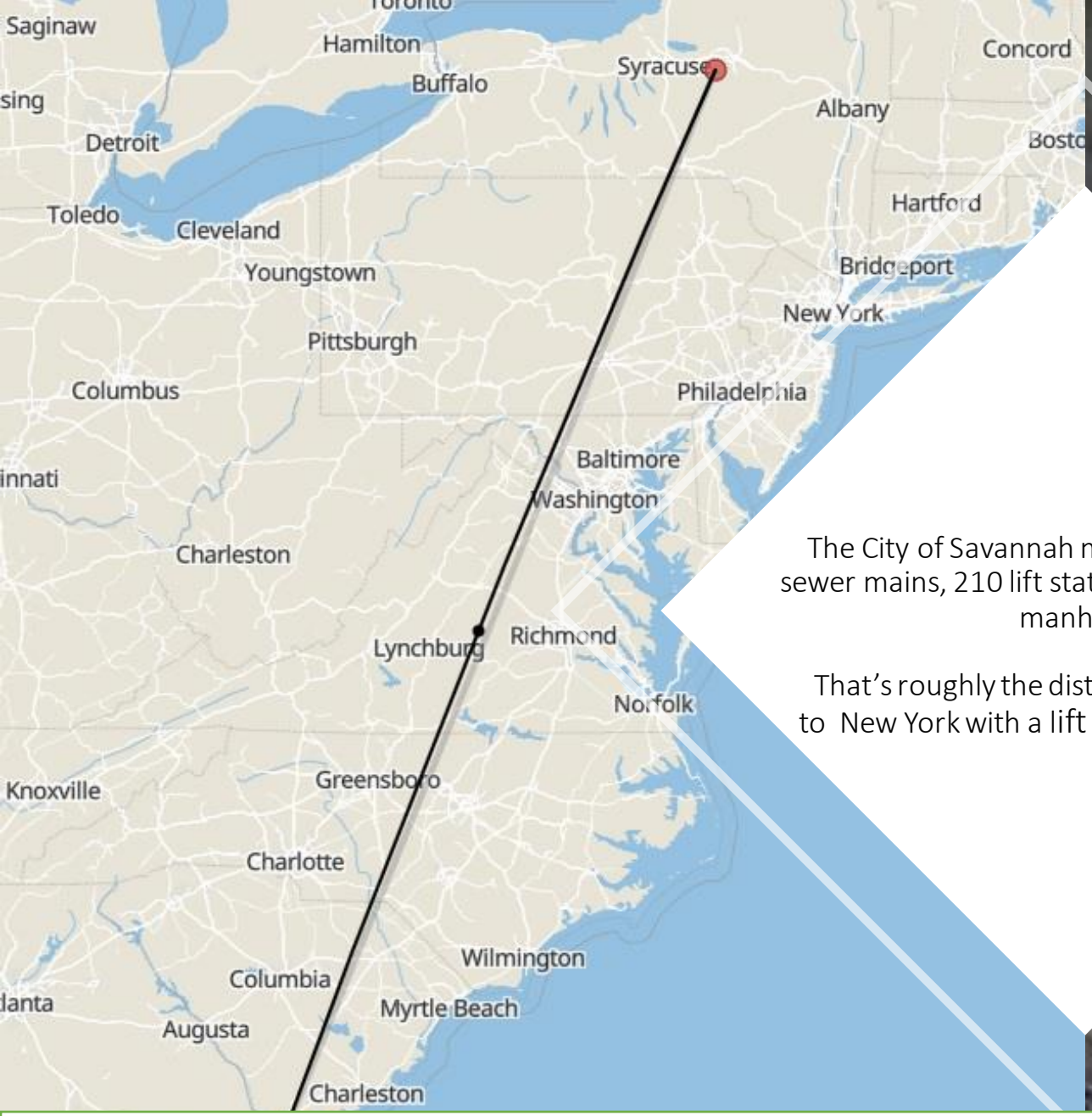
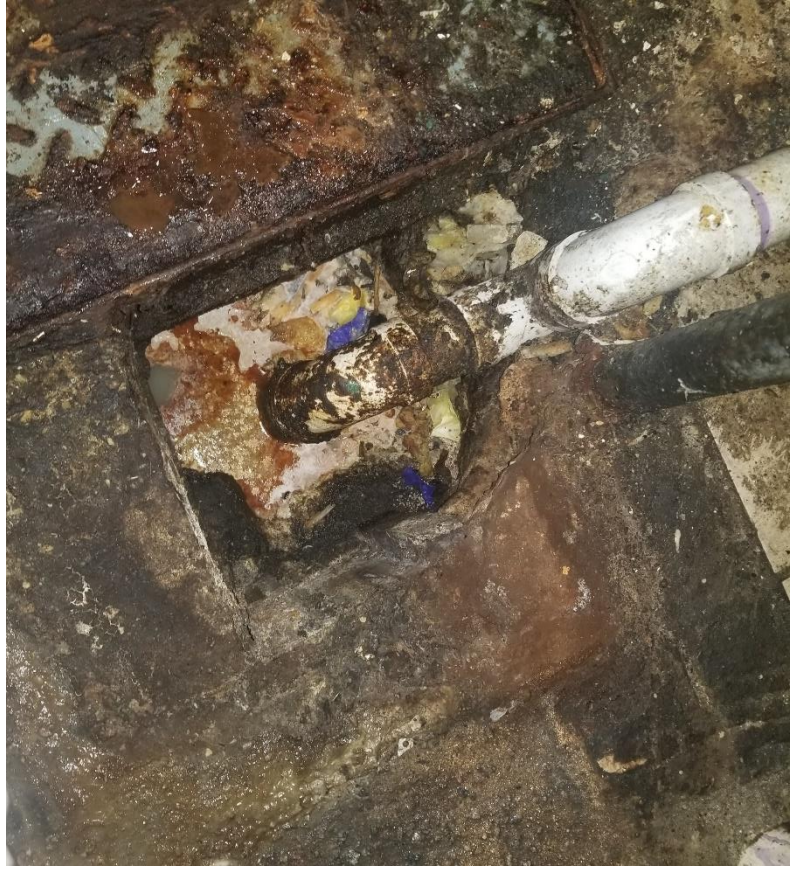


The City of Savannah maintains 800 miles of sewer mains, 210 lift stations, and 20,000 sewer manholes.

That's roughly the distance from Savannah to New York with a lift Station every 5 miles.



To aid in the smooth conveyance of wastewater and to prevent sewer back-ups the City of Savannah operates and manages a Fats, Oils, & Grease Program.



The Fats, Oils, & Grease program inspects and permits 1200 food service establishments for proper handling of grease waste.

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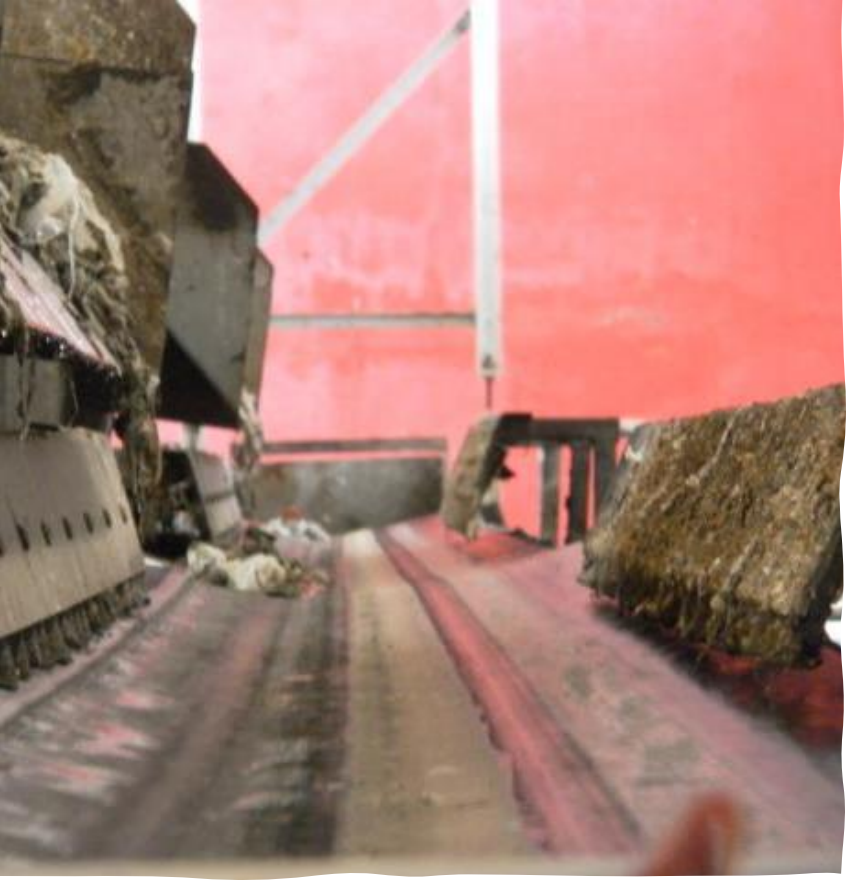
The Fats, Oils, & Grease program also inspects grease transporter trucks, and conducts public outreach to educate citizens of the importance of keeping grease out of the sewer system. The Fats, Oils, & Grease program consists of three inspectors.

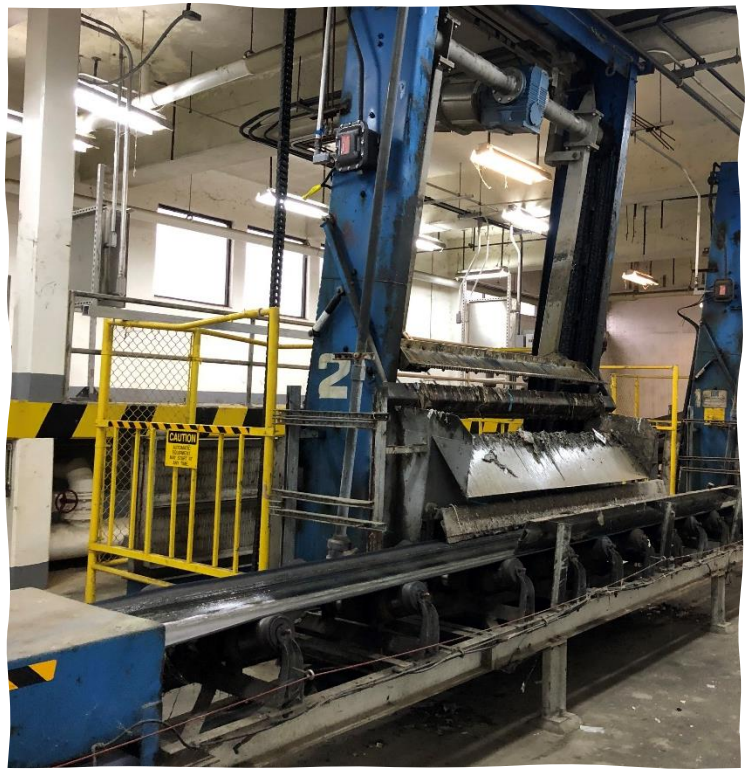
In order to maintain the City of Savannah's sewer infrastructure, the Water Resources department inspects sanitary and storm water systems with CCTV technology. In addition to CCTV technology systems are routinely "Smoke" tested to look for deficiencies.

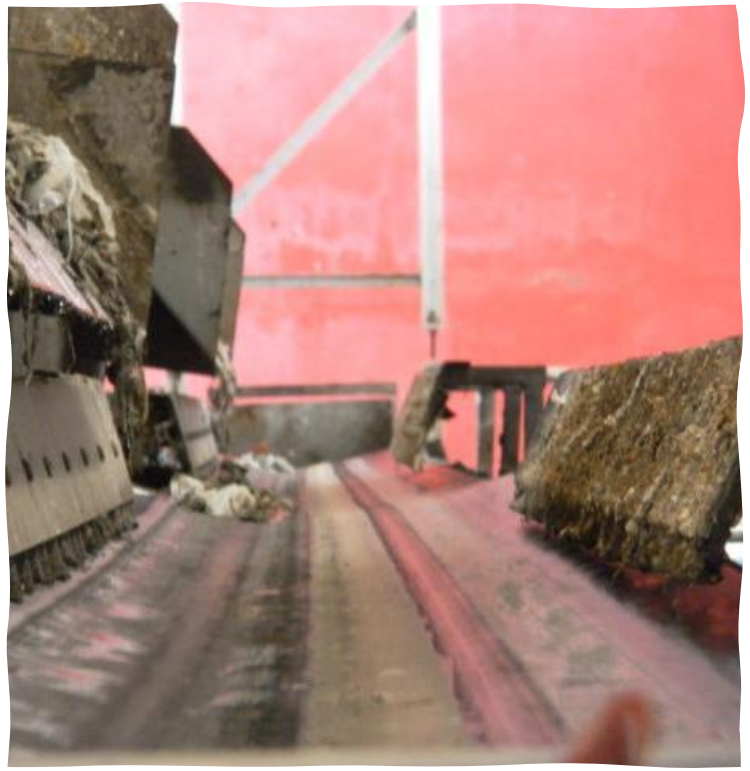
The conveyance infrastructure conveys wastewater to one of four Water Reclamation Facilities for treatment, and one more under construction.

- Georgetown Water Reclamation
- President St. Water Reclamation
- Wilshire Water Reclamation
- Crossroads Water Reclamation
- Travis Water Reclamation (Under Construction)



Anything that can be flushed can be conveyed to the treatment plant. Each plant has processes at its headworks that is designed to remove these items.





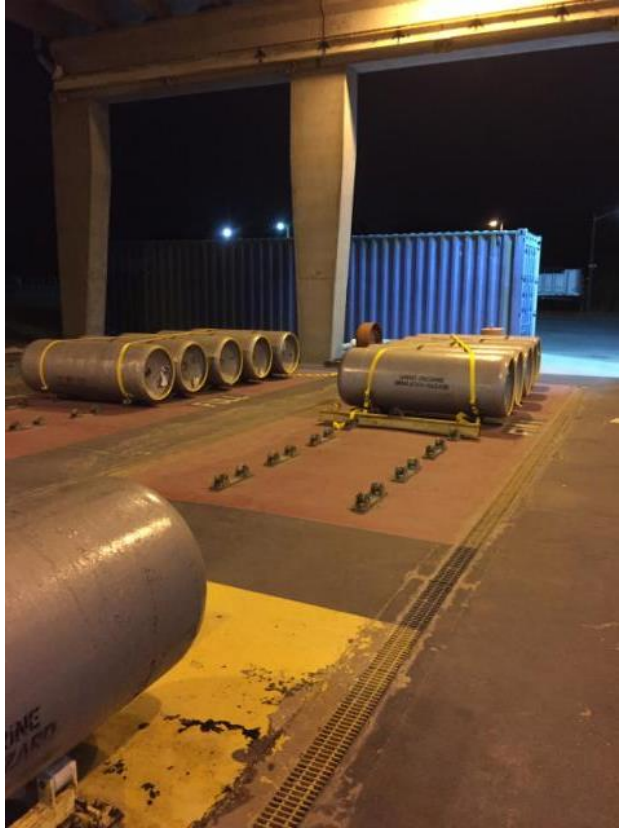
Screens are placed at the beginning of the process to remove large objects from the wastewater flow stream to protect equipment and processes. Toys, Syringes, Plastics, Rags, and Wipes are commonly found at this process stage.

Inorganic material is then removed from the flow stream. This material is removed to protect downstream equipment. It has no value to the biological system and takes up valuable space in the system.

Once the larger material and inorganic material is removed from the flow stream it the enters Primary Sedimentation clarifiers. This process removes readily settled solids and floatable solids. The remaining wastewater is the food source for the bacterium in the biological process (secondary treatment)

The biological system includes tankage where bacterium grow and are allowed sufficient time to eat the incoming waste. Air is supplied to the bacterium through fine bubble diffusers. City of Savannah staff maintains this and other vital equipment to provide exceptional treatment of Savannah's wastewater.

Once the bacterium have been given adequate time to treat the incoming wastewater, they are directed into the secondary settling tanks. Here they can settle and then be returned to the biological treatment system. The remaining water is ready for discharge treatment.



Before treated water (Effluent) can be discharged it must be disinfected to kill pathogenic bacteria that may remain. Two of the four water reclamation facilities achieve disinfection through the addition of chlorine gas. The other two achieve disinfection by Ultraviolet disinfection.

A portion of the President Street's Effluent is diverted to a side stream process that filters the water through traveling bridge sand filters. The filtered water is then pumped to one of three local golf courses for irrigation purposes. Up to five million gallons can be delivered to these golf courses daily.

In order for biosolids to be processed they must first be thickened. Thickening is achieved by wasting the biosolids to a tank (thickener) and allowing them to settle (thicken). Calculations are performed to determine feed and with drawl rates to optimize the process.

Once thickened biosolids are dewatered on belt filter presses that remove up to 25 percent of the remaining water.

At the President Facility biosolids are thermally dried and pelletized. The eventual plan for this material is for it to be categorized as a “Class A” biosolids. Class A biosolids can be used as soil amendments or fertilizers.

The Water Reclamation Department is supported by a State of Georgia certified laboratory. The laboratory is responsible for all analysis for the Water Reclamation Facilities, Spill Monitoring, Watershed analysis, and Industrial monitoring.

The Water Reclamation Department's Industrial Pretreatment staff conducts watershed inspections and field analysis.

Solid Waste Management Services
February 11, 2021

Sanitation Department

Solid Waste

- Solid waste is a by-product of our economy generated by producers and consumers including households, businesses, institutions, and industry.

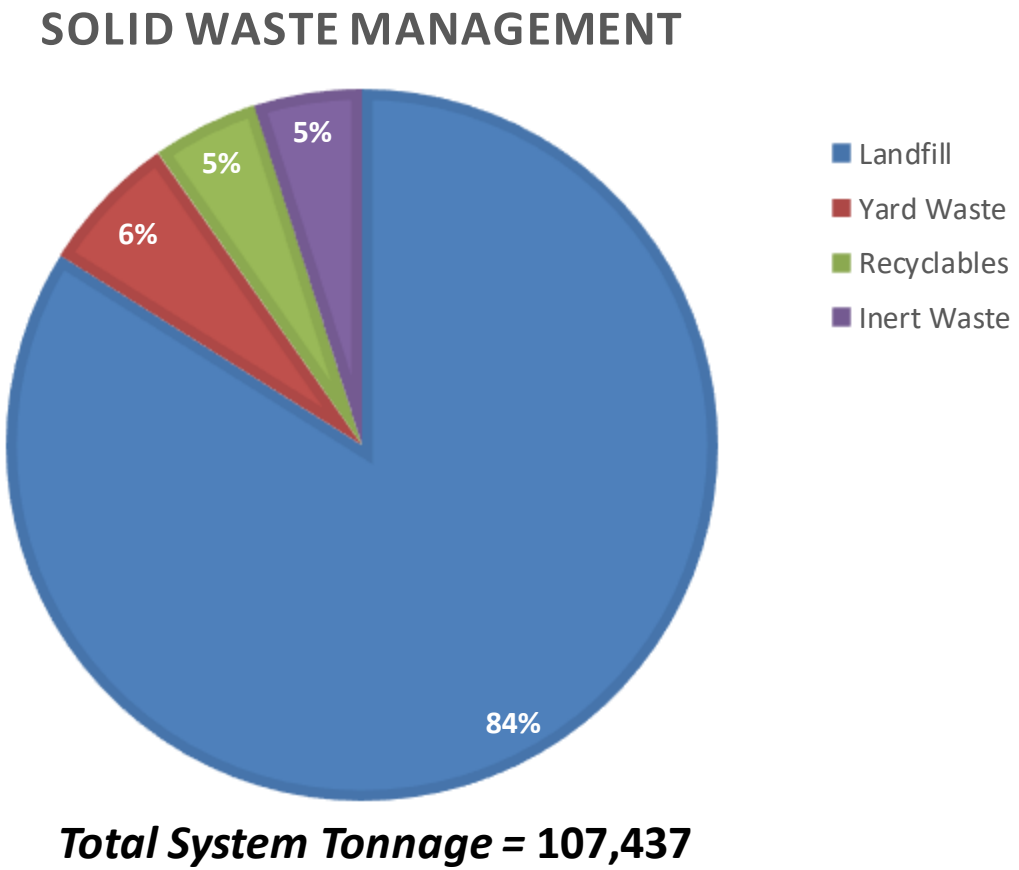
- Solid waste is generated at a rate of 1 ton per capita annually

- Improper solid waste management practices have the potential to harm human health and the environment through:
  - Transmission of disease vectors
  - Ground and surface water contamination
  - Air quality degradation, odors, dust, methane migration
  - Land depletion

- Responsible solid waste management is ultimately a public health imperative.

Legal and Regulatory Context

- Landfill = 90,177
- Yard Waste = 6,828
- Recyclables = 5,200
- Inert Waste = 5,232



***Total System Tonnage* = 107,437**

- Solid waste management is regulated under the federal Resource Conservation and Recovery Act (RCRA).
  - Municipal waste is covered under RCRA Sub-Title D.
- Also covered indirectly under federal Clean Air Act and Clean Water Act
- Georgia Comprehensive Solid Waste Management Act implements all pertinent federal laws and regulations through -
- Georgia Department of Natural Resources/ Environmental Protection Division (EPD)
- Key provisions
  - Sets collection and disposal system limits
  - Requires separate collection and handling of garbage, yard wastes and tires
  - Landfill siting, design, and operations standards

Refuse Collection Systems

- Residential garbage collection
- Residential bulk item pickup
- Residential yard waste collection
- 5,408,000 scheduled collections annually

Refuse Collection Systems

- Residential recycling: semi-monthly 48% participation rate
- Litter collection
  - Baskets annually
  - Right of way collection on major arterials annually

Street Cleaning

- Sweeping
- Median and catch basin cleaning
- 32,000 miles annually

Other

- Illegal dump site abatement
- Neighborhood clean-ups
- Direct haul

Refuse Processing and Disposal

- Yard waste processing and reuse
- Recyclable processing to end markets

Refuse Processing and Disposal

- Inert waste landfill
- Municipal landfill