

Municipal Wastewater

Date Completed:

2009

Construction Cost:

\$6.0 Million (Estimate)

Client or Owner's Rep:

Mr. Ralph Cox, PE
Vice President, RPS

Highlights:

- ✓ **Electrical, Instrumentation and Controls**
- ✓ **New Electrical Service**
- ✓ **Electrical Studies – Short Circuit, Motor Starting, Grounding and Relay Settings**
- ✓ **1,000 HP Blowers**
- ✓ **Submersible Type RAS Pumps with VFDs**
- ✓ **SCADA Improvements**

Photos: *Electrical Service and Transformers*

Beltway Wastewater Treatment Plant Improvements

City of Houston | Houston, Texas

Project Description | The project included replacement of existing blowers, addition of new switchgears, return activated sludge pumps, chemical metering pumps, modifications to NPW system and other miscellaneous improvements.

Services Provided | As a sub-consultant to RPS (formerly Klotz Associates), KGI was responsible for all of the electrical, instrumentation and SCADA portions of the project during the engineering and construction phases of the project. In addition, KGI performed several electrical studies consisting of short circuit study for the entire plant, device evaluation, motor starting and grounding resistance at the Main Lift Station. Some of the major improvements included:

- Increase electric service capacity to accommodate an additional 1000 HP blower.
- Replace the 4160 volt switchgear at the North Blower Building.
- Add 4160 volt switchgear at the South Blower Building in order to provide dual circuit capacity to all blowers at this location.
- Add SCADA panels and connect the North and South Blower Buildings to the SCADA network.
- Add three (3) variable frequency drives for Return Activated Sludge Pumps (RAS).
- Provide power, instrumentation and controls for the new RAS VFD pumps, new sodium hypochlorite and sodium bisulfite metering pumps.
- Provide power to the NPW system.

