

## Industrial

**Date Completed:**

2017

**Construction Cost:**

\$45 Million

**Client or Owner's Rep:**

Mr. Stephen Warner, PE  
Project Engineering Supervisor

**Highlights:**

- ✓ **From Concept through Start-Up**
- ✓ **Process Selection, Innovation and Cost Savings**
- ✓ **OSHA Required Standard Operating Procedures**
- ✓ **Operator Training**
- ✓ **Owner's Representative**

**Photo:** Dissolved Nitrogen Flotation (DNF) Units

## Refinery Wastewater Treatment Plant Ergon | Vicksburg, Mississippi

**Project Description |** Upgrade of existing Wastewater/Storm Water Collection, Handling and Treatment Systems.

**Services Provided |** Ergon Refining, Inc. hired KGI to evaluate the existing wastewater treatment plant, propose improvements and assist Ergon in preparing Appropriation Requests (A/R), develop front-end loading (FEL) Engineering and Design packages, provide detailed design supervision and construction support, prepare standard operating procedures and provide OSHA required operator training.

KGI performed detailed hydraulic and process evaluations of the existing storm water and process wastewater sewer systems, existing wastewater treatment and sludge handling systems. The study proposed improvements to alleviate hydraulic and process bottlenecks in the system. Due to constructability and budgetary constraints, the project was divided into three distinct phases. Phase 1 included Influent Lift Station improvements, Storm Water Surge Tanks with Jet Mixing, Oil/Water Separator modifications, Dissolved Nitrogen Flotation (DNF) units, Equalization Tank with Jet Mixing, DNF Float Tank and Oily Water Solids Thickeners. Phases 2 and 3 included Biological Treatment and Dewatering System for bio-solids.

KGI was responsible for FEL2 and FEL3 portions of the project. KGI was also responsible for preparation of material requisition packages for all the major process equipment. Detailed engineering was performed by Burns & McDonnell. P&IDs were controlled and maintained by KGI till the Issue for Construction. KGI provided technical review of all the documents produced during the detailed engineering phase. KGI was responsible for preparing Standard Operating Procedures (SOPs) as required by OSHA for plant commissioning and start-up. KGI provided operator training for all the Ergon WWT employees.

