

# Operation and Management of Water, Wastewater, and Public Works



## Innovative Partnership Provides Solutions and Savings

ESG Operations, Inc. is responsible for the operation, maintenance, and management of the City of Vidalia's utility and public works departments. Since we transitioned this project from another contractor in May, 2003, ESG has aggressively addressed a number of operational and performance challenges, including:

- Expansion of the Swift Creek WWTP
- Elimination of solids backlog at the Swift Creek facility
- Fifty percent (50%) reduction in backlogged work orders during the first six months
- Repairing out-of-service pumps at numerous lift stations and at the City's Southeast Land Application System (LAS)
- Reclamation of LAS land which had been lost due to poor maintenance practices

When ESG Operations assumed O&M responsibility the City realized numerous benefits:

**“Zero Defect” Transition.** ESG offered employment to all hourly employees at comparable wages and benefits. ESG conducted an employee dinner meeting with all prospective employees and their spouses to answer questions and alleviate fear. The end result was a “zero defect” transition with no incidents, permit violations or negative publicity as the existing contractor phased out.

**Cost Savings.** Instead of the projected 4% annual increase, the City's O&M costs actually went down by approximately 5%. The City received the benefit of saving nearly \$60,000 in annual O&M costs.

**Risk Reduction.** As ESG transitioned into full contract operations, the City of Vidalia was already involved in litigation due to a previous lift station failure. ESG reduced the City's risk by immediately performing a conditions assessment of all utility system major mechanical and electrical components. A number of problems were identified, including the absence of operable “standby” pumps and alarms. ESG initiated repair of these pumps in a prioritized manner to minimize the potential for future failures.

**Increased public works accountability.** ESG implemented a “critical path method” of scheduling, managing and deploying the public works crews. ESG established a system of metrics to measure, compare and manage individual work team performance. The end result was an enhanced level of accountability and increased overall productivity. Frequently deferred tasks, such as cutting “abandoned” sewer right-of-ways were put into the schedule and addressed in a prioritized manner.

**Evaluated Power Rates & Schedules.** ESG developed computer models of the City's wastewater treatment facilities and linked potential operational practices with various rate schedules. ESG recommended a rate schedule change for the LAS which should result in approximately \$30,000 per year in power savings.

**Solids Buildup at Swift Creek WWTP.** In addition to the above-described “risk issue”, Vidalia had received negative publicity and undue regulatory scrutiny due to a major solids spill from the Swift Creek WWTP. When ESG took over O&M responsibilities, it was noted that the solids inventory at Swift Creek WWTP had again built up to excessive levels. ESG immediately undertook aggressive action to mitigate a potential solids spill. We employed a novel “geo-fabric” membrane tube to rapidly remove and dewater a massive amount of



backlogged solids. Approximately \_\_\_ tons of dewatered solids were removed from the system to get the activated sludge process back within an “industry standard” operating range. This was done while Swift Creek WWTP underwent a major construction project. ESG maintained the facility within permit limits throughout this period.

**Land Application System Challenges.** Similar to Swift Creek WWTP’s backlogged solids, the Land Application System’s (LAS) effluent equalization basin (typically provides 30 days of storage) was filled to nearly 100% of its design capacity when ESG assumed operation. Upon inspection of the 240 acres of spray fields, it was noted that out of approximately 2400 spray headers, only 800 were functional properly. With two-thirds of the spray headers non-functional, there simply wasn’t sufficient discharge capacity to keep up with influent flow. ESG aggressively tackled this challenge by repairing and replacing spray headers and maximizing effluent disposal up to the bounds created by weather and permit limits. In spite of less than favorable weather conditions, ESG had the bulk of the spray headers repaired and the effluent equalization basin down to the target operational level within 90 days.

**Addressed OSHA Violations at Swift Creek & LAS.** ESG identified and mitigated a number of lingering OSHA safety violations at a number of the facilities.

ESG Operations has also maintained a strong commitment to the Vidalia community over the years, working to improve the overall quality of life by providing donations and assistance to meet community needs. Among the community-related activities that we have sponsored and been a part of are:

- **Sweet Onion Classic**—Civic fundraising event where the proceeds go to various charitable functions around the Vidalia and Toombs County community.
- **Youth Sports**—Sponsoring and assisting in coaching children’s soccer and softball teams.
- **Education**—Donating to and sponsoring classes at Pikeville College, and teaching special courses on water treatment at Pike County Schools.
- **Adopt-A-Stream Program**—Financially sponsoring and donating time to work with the local Junior High School to perform bi-annual stream clean ups and perform on-going water quality monitoring on a section of Swift Creek located behind Tripp Junior High School.
- **Community Beautification**—Working with the Chamber of Commerce and Downtown Association on beautification efforts.

*The City of Vidalia is a dynamic, vibrant community, which has faced many utility and public works challenges over the past year. ESG has worked in partnership with Vidalia to address these challenges by providing a comprehensive range of support services and resources. We look forward to fulfilling our 10 year public-private partnership commitment with the City of Vidalia.*

*“ESG replaced our previous contractor and created an immediate, drastic impact on staff productivity, technical competence, and cost effectiveness. Midway into our second contract year, I have been particularly impressed with Mr. Sykes’ and Mr. Groselle’s level of involvement and commitment to Vidalia. They are in town on nearly a weekly basis and take personal interest in resolving our water and wastewater challenges. They have also worked very effectively with our consulting engineer. All of our design projects now incorporate input from ESG to build-in the operations perspective.”*

—BILL TORRANCE, *City Manager*  
VIDALIA, GEORGIA

## FACILITIES

- 1.9-MGD Extended Aeration Wastewater Treatment Plant with surface water discharge
- 1.9-MGD “zero discharge” Land Application System
- Landfill Sludge Disposal
- 18 Wastewater Lift Stations
- Collection System (80 miles)
- 6-MGD groundwater well
- 4 Elevated Water Tanks
- Distribution System (120 miles)
- Operate/Maintain/Manage

## SCOPE OF SERVICES

- Wastewater Collection & Treatment
- Potable Water Pumping, Treatment & Distribution
- TV Truck for Inspection of Underground Piping
- Utility Line Location
- Full Public Works
- Septage Receiving
- Streets & Roads
- Right-of-Way Maintenance
- Parks/Cemetery Maintenance and Landscaping
- Stormwater & Drainage Maintenance

## START DATE

- May 2003

## POPULATION

- 12,000

