

CASE STUDY 4 CAULEY CREEK WATER RECLAMATION FACILITY



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PURAFIL ESD PROVIDES SUPERIOR ODOR CONTROL 4 NEW TREATMENT PLANT

ABOUT THE PLANT

The Cauley Creek Water Reclamation Facility is located in the new city of Johns Creek in Fulton County, GA. With more than 50,000 residents, the burgeoning city is approximately 30 miles outside of the state capital's city limits. In 2000, Fulton County's existing North Fulton wastewater treatment could not sustain the capacity the high growth in the area. A moratorium on new sewer taps was initiated by the Georgia Environmental Protection Division (EPD) until additional capacity was built. The Cauley Creek Water Reclamation Facility, currently owned by EFS Cauley Creek, LLC (EFS' partners are GE Energy Financial Services and Cauley Creek Reclamation LLC) was commissioned as a result. A 20-year public-private joint venture agreement initiated in 2001 between Fulton County and EFS Cauley Creek is the operating agreement where EFS Cauley Creek provides wastewater treatment services at a prescribed treatment fee. The initial plant was 2.5 MGD and then expanded to 5.0 MGD (18,930 m³/day) in 2004. In addition, effluent from the plant also provides high-quality urban water reuse to the County's distributed reuse system.



Initially, county officials and Cauley Creek management sought to ensure that the facility was visually appealing to the neighbors and nearly unrecognizable as a wastewater treatment plant to visitors. Therefore, to an unsuspecting newcomer, the Cauley Creek Water Reclamation Facility resembles a dairy barn surrounded by a white picket fence and 130 acres of green pasture.

THE PROBLEM

The Cauley Creek Water Reclamation Facility is nestled in the Johns Creek Basin, which is an affluent community with a zero tolerance for odors. The discreet, yet convincing, plant design blends into the neighborhood as seemingly met the needs of the community and distinguished Cauley Creek as a tour facility for industry professionals. EFS Cauley Creek has a zero odor policy and required a system that could consistently provide an odor free environment.

In 2008, EFS Cauley Creek and the contract operators with JJ&G Services/Jacobs of Norcross, GA, realized that the existing Calgon Carbon Corporation Phoenix 8000 system did not eliminate all of hydrogen sulfide, mercaptans, ammonia, or other gas concentrations from the headworks building. The number of contaminants increased and the Phoenix 8000's functionality decreased further after a new influent fine screening system adjacent to the headworks was added.

PURAFIL ESD PROVIDES THE SOLUTION

EFS Cauley Creek investigated various odor control options and contacted Purafil's Environmental Systems Division (ESD) and Lincoln Associates, its local representative, to assess the situation. The facility's waste water professionals also inquired about an option to retrofit the existing Calgon unit. Purafil gathered gas concentration data from an independent laboratory and used this data to determine the contaminant levels, which are measured in parts per billion by volume (ppbv). High levels of hydrogen sulfide, methanethiol, ethanol, acetone, and ammonia were measured as the odorous gases within the area.

Purafil and Lincoln Associates worked with EFS Cauley Creek and JJ&G Services/Jacobs to determine that a Deep Bed Scrubber 1008 (DBS 1008) was the best clean air solution. The DBS contains a 2-foot bed of Odorcarb™ Ultra, a 1-foot bed of Odorcarb Ultra, a 1-foot bed of Odorkol™, and a 1-foot bed of Odormix™ SP. Odorcarb Ultra is an activated alumina media specially treated with chemicals to remove hydrogen sulfide. Odormix SP is a

polishing media. It is a 50/50 blend of Odorkol and Odoroxidant™ SP media. Odorkol™ is a virgin carbon and Odoroxidant™ is an activated alumina impregnated with sodium permanganate.

CUSTOMER SATISFACTION

EFS Cauley Creek and JJ&G Services/Jacobs are very satisfied with Purafil's customized solution, unit design and development services. The preparation time for the new unit was minimal and Purafil's media and DBS 1008 achieved optimum results. Purafil successfully replaced the Calgon Carbon unit within two business days. In addition, the Purafil dry media system saves approximately \$450 per month in potable water costs over the wet Calgon system. Cauley Creek is open for plant tours with advanced notice. To schedule a tour, contact Tim Equels or Don Dodson at (770) 476-8885.

ABOUT PURAFIL ESD

Purafil Inc. is the premier single-source, gas-phase air filtration manufacturer throughout North America and Europe. As division of Purafil, Inc., Purafil ESD manufactures a spectrum of UL classified dry-chemical media and scrubbers to remove odors, clean toxic gas releases, and prevent electronic corrosion. Call Purafil ESD at 1-800-222-6367 for assistance with your clean air solutions or visit our Web site at www.purafil.com.



PURAFIL® ODORCARB™ ULTRA

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