



Tradeport East Water Reclamation Facility (TEWRF)

Public Information Document

The Liberty County Development Authority (Authority) is pursuing a permit for a new Water Reclamation Facility (WRF) from the Georgia Department of Natural Resources (GA DNR). The proposed advanced treatment facility will utilize membrane bioreactor (MBR) technology and will produce an effluent quality meeting the limits set forth in the GA DNR *Guidelines for Water Reclamation and Urban Water Reuse; Latest Revision dated February 20, 2002*, which are more stringent than the limits set by the State of Georgia in the Authority's waste load allocation.

The WRF will be designed for 3 million gallons per day (mgd) and is scheduled to be constructed in two phases: Phase 1 will provide 2 mgd of capacity, and Phase 1A will increase the capacity to 3 mgd. However, in order to accommodate initial start up flows, only 0.8 mgd of membrane treatment capacity will be installed at this time. The highly treated effluent produced by the WRF will be used for irrigation and other beneficial reuse applications throughout the Authority's service delivery area, which, unlike land application systems (LAS), will significantly reduce the demand on Liberty County's limited potable water supply provided by the Upper Floridan aquifer. To date, the Authority has installed approximately 3 miles of 12-inch reclaimed water main (purple pipe) within the Tradeport East Business Center and will be constructing a 1.5 million gallon reuse water storage tank as part of the WRF. Once the plant is constructed, Target, Tire Rack, IDI, all new developments, and the Tradeport East Business Center entrance road and open space will use reclaimed water for irrigation instead of potable water.

Unfortunately, during prolonged wet weather events and the winter months, the supply of reclaimed water may exceed landscape irrigation demand and the WRF's onsite storage capacity. As a result, the Authority has requested an NPDES permit to allow discharge into the Laurel View River. However, to further reduce the demand on the potable water supply and the need to discharge into the river, the Authority is exploring the use of reclaimed water for other non-potable purposes such as toilet flushing, fire fighting, and process make-up water for clean-green light manufacturing facilities.

In 2004, the Authority requested and received a waste load allocation (WLA) from GA DNR for a 2 mgd discharge into the Laurel View River, which expired in 2005 because the Authority did not pursue the design and permitting of a wastewater treatment facility at that time. In 2006, the Authority requested a new WLA for a discharge into the Laurel View River in the same location as requested in 2004 and received the WLA in 2007. As shown below, the Reuse Limits that the Authority has designed the WRF to meet are more stringent than the 2007 surface water discharge limits, which are also far more stringent than the 2004 limits. Designing the WRF to meet the Reuse Limits and by utilizing UV

disinfection instead of chlorine highlights the Authority's commitment to protect Coastal Georgia's ecosystem during those rare times it must discharge into the river.

Parameters	2004 Limits	2007 Limits	Reuse Limits
Flow (mgd)	2.0	3.0	3.0
5 Day Biochemical Oxygen Demand (BOD ₅), mg/l	30.0	5.0	5.0
Ammonia (NH ₃), mg/l	17.4	2.0	2.0
Dissolved Oxygen (D.O.), mg/l	2.0	5.0	5.0
Total Suspended Solids (TSS), mg/l	30.0	20.0	5.0
Total Residual Chlorine (TRC), mg/l (daily maximum)	0.5	0.28	0.28
Fecal Coliform bacteria (counts)	200/100 ml	200/100 ml	23/100 ml
Total Phosphorus, mg/l	monitor	1.0	1.0
Ortho Phosphorus, mg/l	N/A	monitor	monitor
pH, Standard Units	6.0 -9.0	6.0 -9.0	6.0 -9.0
Turbidity (NTU)	N/A	N/A	3.0

The WRF will be constructed on a 24-acre parcel on the North side of Old Sunbury Road within the Tradeport East Business Center. Buffering will be provided through the use of native vegetation as well as installed landscape berms and plantings. The architecture of the WRF has been designed to blend with the architecture of the existing developments within the Tradeport East Business Center. Pollution controls have been designed into the WRF including stormwater treatment ponds and grass swales, secondary containment for onsite chemical storage, and an odor control facility.

As required by the State of Georgia Environmental Protection Division (GA EPD), an Antidegradation Assessment, an Environmental Information Document (EID), and a Design Development Report (DDR) have completed and approved and are available for review along with the construction drawings for the WRF at the Authority's main office located at 425 W. Oglethorpe Highway, Hinesville, GA 31313-2804. Please contact Carmen Cole, Director of Administration & Finance, at 912-368-3359 to make an appointment.