Permit Expiration: 5-year permit duration, consistent with the Lower Santa Fe and Ichetucknee River MFL regulatory strategy

ACTION REQUESTED: Renewal of an existing permit.

PROJECT DESCRIPTION:
The Nutrien - White Springs Mine is an approximately 99,588-acre site in located in Hamilton County, Florida, approximately eight miles north of White Springs. The project site is located to the west and north of the Suwannee River, along both the east and west sides of Interstate 75, and south of the Georgia border. The mine includes 13 named streams and five unnamed surface water conveyances. Among the named streams are Swift Creek, Bell Creek, Cat Creek, Ratliff Creek, Sugar Creek, Upper Camp Branch, Jerry Branch, Long Branch, Four Mile Branch, Sal Marie Branch, Hunter Creek, Roaring Creek, and Rocky Creek. The majority of the total water used in the mining project is recirculated and reused. Water use at the site is broken into three categories: material transport, mine dewatering, and material processing.

MATERIAL TRANSPORT: Mined earth material is excavated from several active mining pits and mixed with a combination of collected stormwater, surface water, groundwater, and recirculated water to create a slurry of sand, rock, and ore to the processing facilities through a series of piping. Once materials are removed from the slurry, the water used for transport is recirculated back to the mined area. The surface water sources consist of captured stormwater in a network of canals, ditches, active mine pits, pits awaiting reclamation, settling areas, and artificial lakes. Other sources to the recirculatory transport system include clean stormwater from the chemical plants and mill, treated process wastewater, and blowdown from Upper Floridan Aquifer wells used in plant and mill production. The recirculatory transport system is augmented with groundwater from up to 62 wells and ten surface water pumps with several pumping locations, and two surface water pumps from Eagle Lake. No natural waterbodies are used for surface water supply.

MINE DEWATERING: Mining pits are excavated in wet conditions using draglines, however, limited dewatering using up to ten pumps is required to maintain operational mining conditions. Surface water removed from the pits and perimeter collection ditches is primarily pumped into the mine's recirculation system. Dewatering discharge not used in the recirculatory transport system, is discharged offsite primarily at Swift Creek, with lesser amounts to Hunter Creek, Roaring Creek, and Camp Branch. These streams ultimately discharge to the Suwannee River. Discharges are authorized through National Pollutant Discharge Elimination System (NPDES) permit number 0000655.

MINE PROCESSING: Mined material is physically and chemically sorted using individual water streams at the processing facilities. Physical separation does not involve the use of chemicals. Groundwater from two Upper Floridan Aquifer wells is used in the mill as a source of clean water for physical separation of the mined materials and as make-up water; and this water is recycled into the recirculatory system. Groundwater from two Upper Floridan Aquifer wells is used in the chemical processing facilities for air scrubbing, condensers, and cooling tower supply. Much of the blowdown from these processes comes in contact with chemical processes and becomes wastewater. The process wastewater is used to transport phosphogypsum to a disposal area "gypstack" and is reused in a separate recirculatory process system.

WATER USE CALCULATIONS:
The permittee provided water use for the last five years. Based on these records, a portion of the recommended allocation would be appropriate as a back-up supply to surface water. As the