

PLANT EXCELLENCE AWARDS

CATEGORY 1: MUNICIPAL, < 1 MGD AWARD OF EXCELLENCE

Jeff Road WWTP – Harvest Monrovia Water & Sewer Authority

The Jeff Road WWTP is a MBR plant designed to treat up to a peak flow rate of 1.0 MGD. The facility was put online in 2006 and uses Kubota flat plates for the solids separation of process water as well as sludge thickening. The facility has had no compliance issues since being placed online. The process is a MLE activated sludge using ultra violet disinfection with effluent discharged into a TMDL portion of Indian Creek. The facility has never had an odor complaint.

AWARD OF RECOGNITION

Warrior WWTP – Jefferson County Commission

The Warrior Wastewater Treatment Plant has a design capacity of 0.1 MGD. The plant is an activated sludge plant that consists of two oxidation ditches, two clarifiers, two traveling bridge sand filters, two aerobic digesters and a Wedeco ultra violet system. The plant consistently has CBOD and TSS removals in the upper 90's with a permit removal of 85%. The NH3 is always zero to trace amounts with monthly limits being 1.2 to 2.1 ppm. E-coli is consistently in the single digits or zero with these limits being 126-548 monthly average. An IDI rag removal system was recently installed at the headworks and three new Gorman Rupp return pumps were installed in the return building. The Warrior plant has had no compliance issues in the past nine years of operation.



(L-R): Mike Sims, AWEA President and Jeremy Creel, Jefferson County Commission

CATEGORY 2: MUNICIPAL, 1 TO < 5 MGD

AWARD OF EXCELLENCE Riverview Water Resource Recovery Facility – Southwest Water Company

The Riverview Water Resource Recovery Facility (WRRF) is located in the highly developed Highway 280 corridor in Shelby County. This 3.0 MGD facility provides service to areas from just south of the Highway 280/Interstate-459 interchange, along Highway 280, to the Highland Lakes development atop Double Oak Mountain. The treatment train consists of bar screens, grit removal, extended aeration basins, secondary clarifiers, fine screens, flocculators for chemical precipitation of phosphorus, tertiary filters, and UV disinfection. Biosolids are processed through digesters and belt filter presses.



(L-R): Mike Sims, AWEA President and Ryan Weldon, Southwest Water Company

AWARD OF RECOGNITION North Shelby Water Resource Recovery Facility – Southwest Water Company

The North Shelby Water Resources Recovery Facility (WRRF) is located in the highly developed Highway 280 corridor in Shelby County. This 3.0 MGD facility provides service to areas from around the Highway 280 at Valleydale to south of Hwy 119 past Lee Branch. Major subdivisions include Greystone, Greystone Farms, Greystone Legacy and Eagle Point. The treatment train consists of extended aeration basins, secondary clarifiers, chemical precipitation for phosphorus removal, tertiary filters, and UV disinfection. Biosolids are processed through a digester and belt filter presses.



(L-R): Mike Sims, AWEA President and Scott Elrod, Southwest Water Company

CATEGORY 3: MUNICIPAL, 5 - 10 MGD

AWARD OF EXCELLENCE Athens WWTP – Athens Utilities

With a design flow of 9 MGD, the Athens Wastewater Treatment plant provides wastewater treatment for Athens, Alabama. Originally constructed in the 1950's and upgraded in the early 1970's to treat 7 MGD, the WWTP has since undergone two major renovation projects to upgrade to the current treatment capacity. The most recent effort was completed in September 2009. The facility has evolved from a trickling filter plant with mechanical bar screening and grit removal, pre-aeration, primary clarification, anaerobic digestion and drying beds to the current conventional activated sludge facility consisting of mechanical screening and grit removal, aeration basins with fine bubble diffused aeration, secondary clarification, UV disinfection, and post-aeration. Waste activated sludge is sent to two lagoons, totaling 20 acres and 10-feet deep, and the supernatant is recycled to the plant effluent stream.



(L-R): Eric Morrell, Virgil White, and Frank Eskridge of Athens Utilities with Mike Sims, AWEA President

PLANT EXCELLENCE AWARDS *continued*

AWARD OF RECOGNITION

Northport WWTP – City of Northport

In 1994, the City of Northport constructed a 3 MGD wastewater Treatment plant consisting of a Schreiber headworks with bar screen, grit and grease removal, and lime addition, Schreiber extended aeration basins with two Eimco Clarifiers, Chlorine Contact basin, sand filters, reaeration and dechlorination system, and eight sand drying beds. A history of improvements, to date, at the Northport WWTP include:

- In 2000, the City added 16 new covered drying beds for additional sludge removal.
- In 2007, the plant was expanded to treat 5 MGD with the addition of a 2 MGD Carousel unit and third clarifier.
- In 2013, the facility was converted from chlorine gas to bleach for disinfection because of the safety concerns of having 2 tons of chlorine gas on site.
- The plant has been operating for 24 years and currently employs 6 people.



(L-R): Chris Prewitt, City of Northport with Mike Sims, AWEA President

AWARD OF RECOGNITION

Leeds WWTP – Jefferson County Commission

The Norman R. Skinner (Leeds) WWTP was constructed in 1995 and has a design treatment capacity of 5 MGD and permitted treatment capacity of 2.0 MGD. This facility has a year-round total phosphorus effluent limit of 1.0 mg/l. There have been no permit violations in the last 2 year, going on 3 years. The Leeds WWTP is a mechanical plant with extended aeration facilities followed by UV disinfection. Solids treatment includes aerobic digestion followed by drying beds. Dried biosolids are then hauled for use on land reclamation.



(L-R): Mike Sims, AWEA President and Jeremy Creel, Jefferson County Commission

CATEGORY 4:

MUNICIPAL, > 10 MGD AWARD OF EXCELLENCE

H.C. Morgan Water Pollution Control Facility – City of Auburn

The City of Auburn's H.C. Morgan Water Pollution Control Facility (WPCF) was originally constructed in 1985 and currently has a permitted design capacity of 11.25 million gallons per day (MGD). The H.C. Morgan WPCF is a conventional activated sludge treatment facility with screening, grit removal, aeration, secondary clarification, sludge processing (thickening, aerobic digestion, belt press dewatering and land application of Class B Biosolids), ultraviolet light disinfection and post reaeration prior to discharging to Parkerson Mill Creek. The facility has permit limits for TSS of 30 mg/l (monthly average) and 45 mg/l (weekly average), Ammonia seasonal limits of 2 mg/l (monthly average) and 3 mg/l (weekly average) in the summer and 3 mg/l (monthly average) and 4.5 mg/l (weekly average) in the winter, *E.Coli* seasonal limits of 126 cfu/100 ml (monthly average) and 298 cfu/100 ml (daily max) in the summer and 548 cfu/100 ml (monthly average) and 2,507 cfu/100 ml (daily max) in the winter, and seasonal BOD limits of 8 mg/l (monthly average) and 12 mg/l (weekly average) in the summer and 20 mg/l (monthly average) and 30 mg/l (weekly average) in the winter. The facility has undergone numerous improvements projects over the past 30 plus years, with the most recent projects including construction of a state-of-the art UV disinfection

system, installation of two new 400 hp turboblowers for aeration, construction of two new aerobic digesters to improve solids handling and installation of a new backup generator to replace the facility's existing generator.



(L-R): David Jones and Ed Fincher, Veolia Water with Mike Sims, AWEA President, and Matt Dunn, City of Auburn

AWARD OF RECOGNITION

Catoma WWTP – Montgomery Water Works and Sanitary Sewer Board

The Catoma WWTP is the largest of the five waste water treatment facilities owned and operated by the Montgomery Water Works and Sanitary Sewer Board. The plant consists of two activated sludge treatment trains. Train 1, with a capacity of 20 MGD, is the original portion of the plant constructed in the mid 1970's. Train 2 is a 15 MGD addition completed in the late 1990's. The plant has a total treatment capacity of 35 MGD with a peak wet weather capacity of 84 MGD. Major components included at the plant are as follows:

- Screening
- Grit removal
- Pre-Aeration
- Primary Clarification
- Aeration
- Secondary Clarification
- Chlorination
- Dechlorination

Solids-handling facilities include a gravity thickener for primary sludge, a centrifuge for waste activated sludge waste (WAS), and two primary and secondary anaerobic digesters. Digested solids are pumped from the secondary digester to the Board's Agrarian Center where it is used to grow feed hay.



(L-R): Tim Logiotatos, Montgomery WW&SSB with Mike Sims, AWEA President

**AWARD OF RECOGNITION
Cahaba River WWTP –
Jefferson County Commission**

The Cahaba River WWTP is a 12 MGD plant located in south Jefferson County that primarily serves the Hoover area. It is an activated sludge plant with a 5-stage biological nutrient removal (BNR) system. Cahaba River WWTP is required to monitor effluent DO, pH, TSS, and ammonia. The plant also has very stringent limits on nutrients and currently has a 0.2 mg/l seasonal TP limit. The plant had zero violations in the year 2017. CDM Smith and Brasfield and Gorrie just recently completed a construction project at the plant that included a new headworks, new chemical feed tanks, and a new SCADA system.



(L-R): Mike Sims, AWEA President with Jeremy Creel, Jefferson County Commission

**CATEGORY 6:
TRICKLING FILTER, ANY SIZE
AWARD OF EXCELLENCE
Wright Smith, Jr. WWTP – Mobile
Area Water & Sewer System**

The Wright Smith, Jr., WWTP was built in 1947 and was originally known as the Three Mile creek Sewage Treatment Plant. The original plant consisted of

an Influent lift station, primary and secondary clarification, chlorination, and one anaerobic digester. The plant was upgraded in 1964 to add two trickling filters and a second anaerobic digester. In 1987, the plant had a major upgrade. The upgrade consisted of constructing a new headworks, two denitrification filters, two final clarifiers, a new chlorine contact chamber and a primary anaerobic digester. In 2013, a new effluent lift station was constructed and a new outfall line was constructed to convey the flow to Mobile River. The Wright Smith, Jr. WWTP has a designed flow of 12.8 MGD and treats about 30 percent of the wastewater in the City of Mobile.



(L-R): Gavin Butler, MAWSS and Mike Sims, AWEA President

**AWARD OF RECOGNITION
Towassa Water Pollution Control
Facility – Montgomery Water
Works & Sanitary Sewer Board**

The Towassa Water Pollution Control Facility (WPCF) is a trickling filter treatment facility originally constructed in 1968 designed to reduce BOD to 30 mg/l at flows up to 3 MGD. In the early 1990's, the facility was upgraded for enhanced ammonia removal by the addition of an additional fixed-film process (or stage) placed in series with the existing trickling filter train. In 2002, the facility was upgraded again to increase the ability to treat peak wet weather flows from 7 MGD to 12 MGD by the addition of new influent and effluent splitter structures and new primary clarifier unit.



(L-R): Tim Logiotatos, Montgomery WW&SSB with Mike Sims, AWEA President

**INDUSTRIAL AWARD OF
EXCELLENCE
Holcim (U.S.), Inc.**

The Holcim (U.S.), Inc. – Theodore, Alabama Plant is located approximately ten miles southwest of Mobile, Alabama. Holcim operates a modern and energy efficient pre-calciner cement manufacturing facility. The Theodore Plant employs approximately 100 people. The plant sits on 175 acres within the Theodore Industrial Park, which is adjacent to Mobile Bay. Actual plant operations are confined to about a third of the total acreage with the remainder of the property dedicated to wetlands and greenbelt.

All the storm water at the 50-acre plant site is collected for physical treatment in a system of three settling basins at the north end of the production site. Storm water ditches are strategically located at the site to quickly collect run-off water for conveyance to the basins for treatment. All the storm water ditches are sloped to convey water from south to north and the ditches that surround the plant act as barriers preventing water from leaving the site. The concrete lined ditches that make up the collection system feed two primary settling basins. Most of the solids transported by the storm water settle in these initial basins. When the water levels in these basins rise to a set elevation, the clarified water flows to the third settling basin for additional clarification. The third or secondary basin has a storm water recirculation ditch-cleaning system equipped with two 2,500 gal/min pumps. After the solids have settled, the pumps also

PLANT EXCELLENCE AWARDS *continued*

discharge water to the two final settling basins located near the shipping silos at the southwest corner of the property. The final two settling basins hold approximately 3.5 million gallons. Final settling typically occurs over a period of one week.

A storm water management program was initiated in 1999 to eliminate storm water discharges into the canal. The plant utilizes the storm water collected as cooling/conditioning water in its production process, which significantly reduces reliance on local municipality water used in the process and the volume of water discharged to the ship canal.

In prior years, as many as 88 million gallons of water were discharged annually into the ship canal. Presently, the only time a discharge is made is when a tropical storm or hurricane is approaching or when maintenance work is performed on the basins. It

is standard procedure to empty the settling basins before a tropical storm or hurricane hits or passes close by the Alabama or Mississippi coastline. The amount of rainfall during these types of storms will exceed the holding capacity of the plants storm water collection system. By proactively discharging the water prior to a tropical storm or hurricane, it allows the plant to make a controlled discharge instead of having an uncontrolled discharge of water during the storm. Since the storm water management program began, there has now been a five-year time period during which no discharges were made at all. In fact, if no hurricanes or tropical storms threaten the Alabama or Mississippi coastline and no pond maintenance activity is being performed, no discharges are made at all. Therefore, during these times, all captured storm water is used as conditioning water in the cement manufacturing process.

When Hurricane Nate hit Mobile, Alabama in 2017, the water in the settling ponds were already low enough that no water had to be discharged to the Theodore Industrial Canal.

The plant crossed another milestone in 2017 by achieving over 18 years without any warning letters or notices of violations (NOV). Not violating their water discharge (NPDES) permit during this period of time is a team effort.



(L-R): Travis Osborne, Holcim (U.S.), Inc. with Mike Sims, AWEA President

Thank you to our water quality professionals who clean water and return it safely to the environment, protecting public health and serving our local communities.

Congratulations Winners