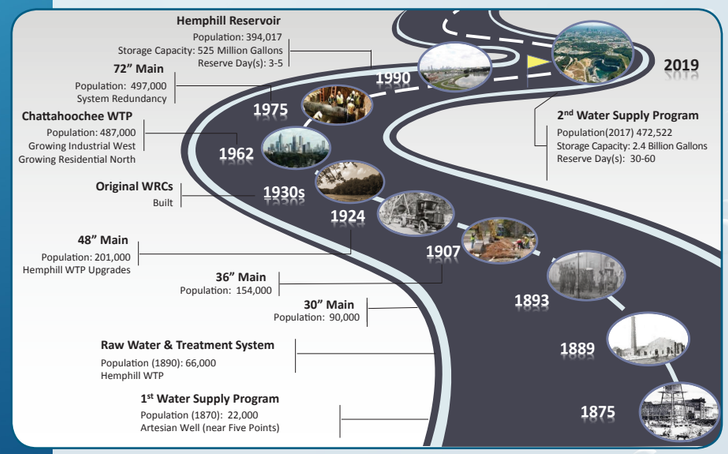
History

The Atlanta water system was established in 1875 after many years to secure a public water works system in the City. The first WTP constructed for Atlanta was located at South River with a capacity of 3 million gallons per day. In 1893, the Hemphill WTP was completed, and the South River site was abandoned. The new Hemphill plant had higher capacity and the ability to handle the increasing demand from a growing city. Atlanta's water system greatly expanded over the following years, including the addition of the Chattahoochee WTP in 1962. Storage and treatment capacity were also added to City's water system by way of large reservoirs and storage tanks.

The City's sewer system dates back to the 19th Century and incorporates both combined and separated sanitary sewer systems. By 1915, three sewage treatment plants were in operation: Intrenchment Creek, Peachtree Creek, and Proctor Creek. In the 1930's, the three existing WRCs that are currently in use to treat the City's wastewater were constructed.

Water Supply:125+ Year Timeline



Fun Facts

- *There are more than **157,000 water account holders** (residential and commercial)*
- *Approximately **6,274** customers receive **senior citizen discounts***
- ***Crews responded** to over **470 water main breaks** in 2018*
- *Over **1,400 employees** work for the Department of Watershed Management*
- *Total **water use** in metro Atlanta **decreased by about 15 percent** between 2006 and 2009, even though the population increased by 6 percent.*
- ***Green Infrastructure** (Environmental Improvement) projects diverted approximately **190 million gallons of stormwater** in 2018*

AWARDS

- ***Chattahoochee and Hemphill WTPs** – Georgia Association of Water Professionals (GAWP) 2007 – 2010*
  ***Water Gold Award** Winner and 2011 – 2016*
  ***Water Platinum Award** Winner*
- ***Hemphill WTP** – 2016 GAWP District 3 Water Top Operator Award Winner*
- ***RM Clayton Headworks Improvements** – 2018 Design-Build Institute of America (DBIA) National Excellence Award Winner*
- ***Georgia's Water Coalition Clean 13 Award** – highlighting extraordinary efforts to protect the water and natural resources of the State of Georgia*

Georgia Association of Water Professionals

DBIA DESIGN-BUILD INSTITUTE OF AMERICA

Georgia's 2018 CLEAN 13

CITY OF ATLANTA DEPARTMENT OF watershed management

www.atlantawatershed.org/

DEPARTMENT OF WATERSHED MANAGEMENT ADMINISTRATIVE OFFICES

72 Marietta Street NW Atlanta, GA 30303 | Mon-Fri – 8:15 am to 5:00 pm

CITY OF ATLANTA DEPARTMENT OF watershed management

WATER & WASTEWATER SYSTEM OVERVIEW "ONE WATER"

CITY OF ATLANTA DEPARTMENT OF watershed management

Welcome to Atlanta's Award-Winning "One Water" System

The City of Atlanta's water and wastewater system, managed by the Department of Watershed Management (DWM), has embraced a "One Water" vision. This reflects a commitment to holistic water resource management, includes attributes of Effectively Managed Utilities, and supports implementation of innovative, sustainable, and resilient solutions. The City's water system serves approximately 1.2 million customers over a 379 square mile area, with water treated from the Chattahoochee River. Atlanta's two water treatment plants (WTPs) combined treat almost 100 million gallons of water daily. With 37 million gallons of storage capacity throughout the Atlanta Water System, the treated water is sent to City of Atlanta customers through 2,790 miles of distribution pipelines.

Atlanta's three water reclamation centers (WRCs) can collect and treat more than 185 million gallons of water per day through 2,150 miles of sewer pipelines.

Water Treatment System

Atlanta's water treatment system treats water from the Chattahoochee River, where water is pumped through the Chattahoochee raw water intake and pumping station to one of two WTPs: the Chattahoochee or Hemphill WTP. Water treated at the Chattahoochee WTP is pumped directly from the Chattahoochee River. Water treated at the Hemphill WTP is pumped from the raw water intake and pumping station into two reservoirs located at the plant. Water is sent from the reservoirs into the plant for treatment. After the intake process, water is treated at both plants through flocculation, sedimentation, filtration, and disinfection processes and stored in underground clearwell tanks at the plant. From the clearwell tanks, high service finished water pumps send the treated water through the extensive network of water distribution pipes to storage tanks throughout the system and to Atlanta water system customers around the City and parts of other counties.

Hemphill WTP

Constructed in 1893, the Hemphill WTP is the larger plant that supplies approximately 65 percent of the drinking water supply for the City of Atlanta's service area. The plant has a treatment capacity of 136.5 million gallons per day, with 17 filters used to treat water pumped from the Chattahoochee River.

Chattahoochee WTP

Constructed in 1962, the Chattahoochee WTP has a treatment capacity of 64.9 million gallons per day, with 13 filters used to remove contaminants from the water. This plant receives water directly from the Chattahoochee raw water intake and pumping station, as there is no raw water supply storage located at the plant.

Storage

There are 12 water storage tanks located throughout the City of Atlanta's water system. Though the tanks vary in size, the City's water storage tanks can hold 37 million gallons of treated water. Some of the tanks are above ground or elevated storage, and some are underground storage.

Future Plans

The City is currently constructing the ***Bellwood Quarry Reservoir,*** which will add 2.4 billion gallons of raw water storage space. This will supply the City of Atlanta with 30-90 days of water service if water could not be pumped from the Chattahoochee River.

Water Distribution

Atlanta has 2,790 miles of water distribution pipes ranging in size from 2 to 72-inches. The City's water distribution pipes are constructed mostly of cast or ductile iron, although some system pipes are also concrete and plastic. The older pipes are cast iron, with ductile iron pipes installed beginning around 1960. Distribution pipes convey the City's treated water from the two WTPs to storage tanks located throughout the City and Atlanta's water system customers.

Raw Water Supply

The City has two reservoirs located within the Hemphill WTP that are currently used to store water pumped from the Chattahoochee River until ready for treatment. The reservoirs have a total of 345 million gallons of storage, which is enough stored water to allow 3-5 days of water service.

Wastewater Treatment System

In the City's center, a combined sewer system conveys sewage and stormwater in a single pipe around a 19 square mile radius. The combined system represents about 15 percent of the total wastewater system area. Beyond the 19-square-mile combined sewer area, Atlanta's sewers are separated. Sanitary wastewater flows in its own pipes to the treatment facility, and stormwater flows in separate pipes to a receiving stream. The sanitary sewer flow is conveyed in Atlanta's 2,150 miles of sewer pipelines (a mixture of gravity flow sewer lines and pressurized forcemains) to various lift stations around the City. From there, the wastewater is sent to one of the WRCs for treatment: RM Clayton, South River or Utoy Creek WRC. At each of the plants, wastewater is treated through bar screens, grit removal, primary and secondary clarification, filtration, disinfection, and aeration processes. All three WRCs discharge water to the Chattahoochee River after treatment.

Wastewater Collection

The City of Atlanta's wastewater is collected through service pipe lines from residents and businesses around the City and sent to larger collection and transmission lines. These sewer collection and transmission pipe lines are either gravity flow sewer lines, which rely only on gravity rather than pumps to move wastewater, or pressurized forcemain lines which use pumping stations to move wastewater through the system and into one of the three WRCs for treatment.

Wastewater Storage

Liddell Storage Tank is a 10-million-gallon equalization tank that is used to capture and store potential sewer overflows in the Peachtree Creek sewer area. During heavy rain events, as water levels in the sanitary sewer pipelines rise, gates within the sewer system open and overflow wastewater is pumped to the Liddell Equalization Tank. When system capacity levels return to near normal, the wastewater is released back into the sewer collection system to be treated at the RM Clayton WRC. The City also uses large diameter tunnels to convey and store wastewater. The tunnels were constructed using tunnel boring machines designed for drilling through metaphoric rock common in the North Georgia Piedmont. If treatment capacity is not available at one of the WRCs, the Nancy Creek Tunnel or South River Tunnel store collected water until capacity is available. The Three Rivers Tunnel is a discharge tunnel that conveys treated water from the South River WRC to the Chattahoochee River.

RM Clayton WRC

Constructed in 1935, RM Clayton WRC is the largest plant that provides treatment for the City of Atlanta, and serves areas north of I-20, Fulton County near Sandy Springs, and most of North DeKalb County. Wastewater enters the WRC from Proctor Creek and Peachtree Creek sewer basins and the WRC is permitted to discharge 100 million gallons per day of treated wastewater to the Chattahoochee River.

South River WRC

Constructed in the 1930's, South River WRC provides treatment for portions of Atlanta, East Point, College Park, Hapeville, Forest Park, DeKalb County, and Clayton County. The plant is permitted to discharge 48 million gallons per day of treated wastewater to the Chattahoochee River

Utoy Creek WRC

Constructed in 1936, Utoy Creek WRC provides treatment for southwest and northwest Atlanta, East Point, and a portion of Fulton County. The plant is permitted to discharge 40 million gallons per day of treated wastewater to the Chattahoochee River.