

GEORGIA

CONTRACTOR

Volume 15, Issue 1
January | February 2019

GCAA

2019 MANAGEMENT WORKSHOP

EPD & THE AGGREGATE INDUSTRY

CITY OF ATLANTA DEPARTMENT OF WATERSHED MANAGEMENT

TRANSFORMS DORMANT QUARRY INTO MAJOR WATER RESOURCE



City of Atlanta Department of Watershed Management Transforms Dormant Quarry into Major Water Resource

By Ade Abon | Project Director | City of Atlanta

Atlanta - Bellwood Quarry, located in Westside Atlanta, has a history that spans 100 years. In its heyday, the granite mined from the quarry was used for paving city roads and sidewalks, as well as its buildings. Today, the former Bellwood Quarry serves as the focus of Atlanta's \$342 million Water Supply Program (WSP). Funded in the Department of Watershed's five-year \$1.26 billion Capital Improvement Program, this investment in revitalizing the City of Atlanta's aging infrastructure will extend the City's emergency water reserves from three days to 30 days or more.

The increase in raw water reserves will prove crucial if ever the City experiences a day without water from the Chattahoochee River—its only source of water. A study commissioned by City of Atlanta Department of Watershed Management (DWM) discovered that if the Atlanta service area were to experience a day without water, it would cause an economic impact of \$250 million a day, and a week without water would have approximately \$1.2 billion of economic impact.

Work on repurposing the quarry, located in the heart of the city, began in September 2016 when the 400-foot long tunnel





boring machine (TBM) which, after a citywide naming contest, is now called “Driller Mike,” began drilling a five-mile tunnel to connect the Chattahoochee River to the Hemphill and Chattahoochee Water Treatment Plants, and the former Bellwood Quarry. After two years of drilling through granite rock approximately 26,400 feet underground, TBM “Driller Mike” completed the five-mile tunnel on October 4, 2018, which coincided with the nationwide *Imagine A Day Without Water* awareness campaign, led by the US Water Alliance.

The next phase of completing the capital project is now underway. Crews are cleaning and lin-

ing the interior of the tunnel with one-foot thick cast-in-place concrete liner. The concrete liner mix will consist of water, cement, sand and gravel, and the concrete will be placed using both surface and underground concrete pumps. A modified contact grouting program will be conducted to fill the voids behind the permanent concrete lining and reduce the inflow of groundwater into the tunnel.

When completed in December 2019, the Water Supply Program will connect two water treatment plants, two pump stations and the Chattahoochee River to the new reservoir at the quarry. In addition, the four verti-

cal turbine pumps at the Hemphill Water Treatment Plant will withdraw water from the tunnel for treatment. In addition to serving as a major water resource, the land surrounding the reservoir is slated to become Atlanta’s largest public park, complete with hiking trails, baseball fields and an outdoor theatre.

The Water Supply Program serves as a critical component of Atlanta’s sustainable water future, impacting approximately 5,000 jobs and preventing \$250 million dollars per day in economic impact each day the City is without water. ❖



