

Bent Tree Water Service

Over the next few months, BTCI will be in the construction phase of the Water Treatment Plant improvements project. For this project to be successful, all Bent Tree residents are encouraged to do their part to insure uninterrupted water supply throughout construction.

Water Supply, Treatment and Distribution

As most of you know, BTCI owns and operates a private water system permitted by the State of Georgia. During the past few years, due to system losses and production limitations, BTCI initiated a project to add a third filter to the existing two-train process. This gives the water department additional flexibility during peak usage periods (usually on weekends and summer months) to produce finished (drinking) water.

The Bent Tree water system is a small but complex system. Our permit allows BTCI to withdraw 0.5 million gallons per day (MGD) from two surface water sources for treatment and distribution. Raw water (directly from the creek or lake) is conveyed to the plant by gravity from the creek via two reservoirs. Raw water is pumped from the lake through a 6" main. The water plant uses a filtration process and disinfection to produce finished water. Finished water is stored in two tanks (clearwells) located at the water plant site.

Due to the extreme topography and expanse of the community, seven different pressure zones are used to provide adequate supply to all customers within Bent Tree and a few others on Bent Tree Drive. Water must be pumped, sometimes several times, from the clearwells to other storage tanks throughout Bent Tree. Strategy to maintain adequate water in each zone is an ongoing challenge for the operators. Some zones are supplied through clearwell no. 1, others via clearwell no. 2. Each zone has limited storage capacity. In normal situations, water production is accomplished during the day, and finished water pumping to distribution is done during overnight hours.

To add further complexity to the situation, controls for the existing system are outdated and require replacement. Before the existing controls can be replaced, the third filter must be operational to insure unimpeded water supply.

The Filter Project

After a lengthy design and permitting phase, construction of the filter project was initiated in November 2017 with the procurement of the new filter and controls equipment. This was a 5-month process. The filter unit is a prefabricated coated steel vessel approximately 7' wide x 10' long x 8.5' tall. The vessel weighs approximately 7000 pounds empty and 35,000 pounds operating. When the filter is set on the foundation, piping will interconnect the new unit to the existing raw water supply and treatment process. Detailed planning is required during these activities, some of which will result in the plant being out of service for periods while these interconnections are being made. Although most shutdowns are planned to be less than 24 hours, it is impossible to ensure that all work will go as planned when dealing with 25+ year old piping. Prior to shutdown, all storage tanks must be full enough to supply water during the work and water production once service is restored.

Announcements will be made during critical periods by BTCI management for all residents to conserve water during these times. To insure adequate necessary water is available, all outside water use for irrigation, cleaning, etc. should be terminated during these periods. Limit inside usage by reducing shower times, flushes and laundry activities. Our staff will be working diligently to minimize these inconveniences, and your cooperation would be greatly appreciated.