

# Crosby Utilities – Baywood Forest (Drinking Water)

## Facility Information:

Water System: PWS# NC0392218

~~Ashe County, NC~~ Wake County, NC (7/5/2022)

~210 Service connections

Assets: 3 Wells at 3 well sites (2 wells in active operation), Chlorine Disinfection at 2 Well Sites, anion/cation exchange system for radium and uranium removal, 2 Hydropneumatic Storage Tanks, Distribution System

## Description of need:

The Crosby Utilities Baywood Forest Water System is a public water system located in Ashe County. The system has two active wells and one inactive well at 3 sites, a three-tank anion/cation exchange system for uranium and radium removal, and 3 hydropneumatic tanks (1,000 and two 10,000 gallon capacity). The out of service well (Well 1) produces about 40 GPM and was primarily removed from service to avoid installing a radionuclide treatment system due to the presence of Uranium in the water during long runtimes. There is well maintained chlorine disinfection equipment in the well house, and a 1,000 gallon hydropneumatic tank. Well 2 produces 50 GPM and the well house has chlorine disinfection systems, as well as a radionuclide treatment system, and two 10,00 gallon hydropneumatic tanks. One of the hydropneumatic tanks was installed recently (2018) and is essentially new but has not yet been connected to the system. The other tank however has significant corrosion inside and will require significant repair. The third well (Well 3) site contains only the wellhead, controls, and a heater and pumps directly to the treatment systems at the Well 2 well house. Well 3 produces approximately 100 GPM and is in good condition.

## Proposed Improvements:

To ensure the longevity and performance of the Crosby Utilities Baywood Forest Water System, Red Bird Water Utility Operating Company plans to make improvements to the system. The deep well pumps at the two functioning wells are aging and should be replaced to ensure continued reliable water production. To ensure that operations can effectively respond to abnormal operating conditions and ensure proper operations, remote monitoring will be installed at each active well site. The control systems for Well 2 and Well 3 will be upgraded to allow for automatic alternation of the two wells rather than the current manually operated system. The new 10,000 gallon hydropneumatic storage tank will be brought into service and the older damaged tank will be repaired to add storage capacity to the system.

Item	Cost
Replace 10 HP pump, install monitoring at Well 2	\$30,000
Replace 15 HP pump, install monitoring at Well 3	\$45,000
Upgrade Well Controls for Automatic Alternation	\$2,000
Clean, repair, and repaint 10,000 Gallon Tank	\$25,000
<b>Total Initial Improvements</b>	<b>\$102,000</b>