

## Crosby Utilities – Baywood Forest/Cottonwood (Wastewater)

### Facility Information:

Wastewater System: NPDES# NC0065706

~~Ashe County, NC~~ Wake County, NC

(7/5/2022)

~290 Service connections

Assets: Extended Aeration Treatment Plant: Single-Train Aeration, Duplex Clarifiers, and Tertiary sand filter, Chlorination and Dechlorination for disinfection

Collection System: 8-inch mains, 2 lift stations

### Description of need:

~~Baywood Forest is a purchase water system located in Yancey County. Water is purchased by Town of Ocean Isle who turns in purchases water from Ashe County. Baywood Forest/Cottonwood system uses a 6" metered connection. Individual connections are not metered, and customers pay a flat monthly rate. The system does not have active telemetry on this site. The collection system~~

The Baywood Forest/Cottonwood wastewater system consists of an extended aeration treatment facility regulated under the NPDES permit NC0065706 and a collection system which consists of gravity collection with two lift stations and force mains conveying wastewater to the treatment facility. There are areas where improvements are needed in both the collection system and wastewater treatment facility. An inspection of the lift stations showed severe rust damage on the pump rails of Lift Station Number 1 (LS1). Additionally, the valve vault at lift station Number 1 had accumulated water indicating a failure in the draining system which could lead to deterioration of the valves and piping. Neither lift station (LS1 and LS2) was outfitted with emergency power despite being over the design capacity where backup power is required per 15ANCAC 02T.0305. The treatment facility was in generally fair condition and primarily in need of basic repairs and replacement of equipment to address previously deferred maintenance. It was noted that the electrical system at the flow equalization tank is in poor condition, portions of the steel tanks coating had failed and were in need of sanding and recoating, and the dop pipes and diffusers exhibited signs of severe rust and likely required replacement. (7/5/2022)

### Proposed Improvements:

~~In order to ensure the longevity and performance of the Baywood Forest Wastewater System, Red Bird Water Utility Operating Company plans to make improvements to the system. In order to ensure that operations can effectively respond to abnormal operating conditions and ensure proper operations, These improvements will ensure the system can provide safe and reliable service to customers and will bring the facilities into a maintainable condition moving forward.~~

In order to ensure the longevity and performance of the Baywood Forest/Cottonwood Wastewater System, Red Bird Water Utility Operating Company plans to make improvements to the system. The damaged equipment at LS1. Backup power will be installed at both LS1 and LS2 to provide power for operation during power interruptions. Repairs will also be implemented at the wastewater treatment facility including replacing the diffusers and drip pipes in the aeration tanks and sludge holding tank, electrical improvements at the flow equalization tank, and rehabilitation and recoating to portions of the main aeration tank. (7/5/2022)

ITEM	DESCRIPTION	QUAN.	UNIT	UNIT PRICE	TOTAL
1	Purchase 30 kW Portable Diesel Generator for Use at Lift Station 2	1	LS	\$ 31,000	\$ 31,000

3	Install 40 kW Standby Generator at Lift Station 1	1	LS	\$ 33,800	\$ 33,800
4	Replace Pump Guide Rails at Lift Station 1	1	LS	\$ 2,000	\$ 2,000
5	Replace Valve Vault Drain at Lift Station 1	1	LS	\$ 2,500	\$ 2,500
6	Install Hoist for Trash Basket Retrieval	2	LS	\$ 3,000	\$ 6,000
7	Replace Aeration and Sludge Holding Tank Diffusers and Drop Pipes	1	LS	\$ 15,000	\$ 15,000
8	Replace Electrical Equipment at Flow Equalization Tank	1	LS	\$ 20,000	\$ 20,000
9	Partial Rehabilitate and Recoat Main Aeration Tank	1	LS	\$ 50,000	\$ 50,000
<b>CONSTRUCTION TOTAL</b>					<b>\$ 160,300</b>