

FUND: Water and Sewer Fund

DEPARTMENT: Water and Sewer Plant and Field Operations

Description and Responsibilities

The Public Works and Utilities Department is responsible for the operation of a Water Treatment Plant, the operation and maintenance of the water distribution system, the operation of a Wastewater Treatment Plant, and the operation and maintenance of the wastewater collection system.

Water Plant

The 1.000 million gallons per day (MGD) Water Treatment Plant (expandable to 2.000 MGD) was constructed in 1978 and receives water from the Town's 45-47 million-gallon pond on Brickhouse Creek, with Chetola Lake having the capability to serve as a backup water source during times of drought. In addition, in 2008, the Town executed a water agreement with the Town of Boone for water system interconnection that can be used in emergency situations. The interconnection project was completed in 2011 and allows water to be transferred between Blowing Rock, Boone and Appalachian State University water systems.

The Blowing Rock Water Plant is located along U.S. Highway 321 just south of the Blue Ridge Parkway. The facility is a traditional treatment process including alum addition, flocculation, disinfection, settling and filtration. Corrosion control is also utilized prior to distribution to the residents using orthophosphate.

The Town's service area is predominantly south of the Water Treatment Plant. Finished water is pumped to a high elevation, and then allowed to gravity feed into the service area. The Green Hill tank, capacity 3.000 MGD, is the means of control at the highest point of the system. A number of pressure reducing valves have been placed in the system to control pressures for the residents.

Wastewater Treatment Plant

The Town of Blowing Rock operates a Wastewater Treatment Plant very near the Water Treatment Plant and utilizes a discharge to the Middle Fork of the New River. The plant is rated for capacity of 0.800 MGD, but could be expanded to a service capacity of 1.200 MGD. The original plant was constructed in 1960, expanded in 1989, and refurbished in 2013. The facility is fed by five (5) sewer system lift stations that handle the wastewater generated by the community. The facility is of concrete construction and is set up for extended aeration treatment. The plant operators sample the water discharge everyday and also send samples out three times per week to an independent testing lab to ensure environmental compliance.

Water & Sewer Field Operations Division

The Field Operations division is responsible for all water and sewer taps, leak repair and water line installation. This department is also responsible for all water meter reading in the town on a bi-monthly basis. In addition, this department maintains the water distribution system and the wastewater collection system.

There are approximately 2,186 water meters and 1,745 sewer taps in the system. The water distribution system consists of approximately 22.02 miles of lines. The wastewater collection system consists of approximately 16.07 miles of gravity sewer lines and 3.59 miles of pressure sewer. There are five (5) wastewater lift-stations: Mayview, Chetola, Grandfather, Chestnut Ridge and Quail Hollow.

Staffing and Schedules

A Utility Plant Supervisor and four Utility Plant Operators are assigned to the Water Plant and Wastewater Plant Divisions. The personnel work a varied schedule to meet the service demands of the utility.

A Heavy Equipment Operator, a Light Equipment Operator and two (2) Equipment Operator II's are assigned to the Water & Sewer - Field Operations Division. The division uses other employees, as needed, for the reading of water meters. The personnel work a standard 40-hour week schedule and are on call for emergency repairs.

Measures of Activity

2017-2018 Wastewater Plant – Average Daily Flow

2017-2018 Water Plant - Total Water Treated

Month	2017 Average Daily Water Treated (Million Gallons)	2018 Average Daily Water Treated (Million Gallons)	Month	2017 Average Daily (.800 MGD capacity)	2018 Average Daily (.800 MGD capacity)
January	.391	.439	January	.200	.259
February	.349	.397	February	.173	.312
March	.327	.371	March	.147	.200
April	.365	.428	April	.331	.357
May	.360	.482	May	.504	.509
June	.431	.472	June	.271	.424
July	.510	.418	July	.284	.284
August	.479	.462	August	.270	.342
September	.440	.442	September	.247	.434
October	.416	.453	October	.419	.475
November	.404	.402	November	.323	.308
December	.392	.443	December	.186	.513
Total Year	119,217 MG	158,410 MG	Total Year	104.91 MG	134.92
Daily Avg.	.405	.434	Daily Avg.	.288	.368

WATER AND SEWER FUND					
DESCRIPTION: WATER AND SEWER EXPENDITURES					
CODE: 30-91-7120					
ACCOUNT NUMBER	DESCRIPTION	2016-17 Actual	2017-18 Actual	2018-19 Adopted	2019-20 Adopted
Plant Operations 7120					
002	Salaries	217,277	229,473	233,700	242,369
003	Overtime	22,750	19,863	15,000	13,000
005	FICA Expense	24,531	16,863	19,026	19,536
006	Group Insurance	34,019	29,329	33,500	37,470
007	401K	16,523	11,822	12,435	12,768
008	Retirement	44,825	33,082	34,420	38,995
	Personnel Subtotal	359,925	340,432	348,081	364,138
011	Telephone	3,579	2,707	700	3,500
013	Utilities	134,528	127,311	145,000	127,527
014	Employee Development	2,899	647	3,500	2,500
016	Maintenance/Repair-Equip	17,885	32,354	30,000	24,000
	Maintenance/Repair-Equip- Service Contracts	-	-	-	6,000
031	Gasoline	3,094	4,155	3,500	5,000
033	Materials and Supplies	29,629	40,651	25,000	22,500
034	Sludge Processing	70,425	70,913	49,000	44,143
036	Uniforms	2,356	2,100	3,000	2,500
053	Permits & Dues	3,155	1,650	4,250	3,500
057	Miscellaneous	388	1,099	500	5,500
104	Lab Contract	20,484	23,459	24,000	23,000
333	Chemicals	33,873	27,655	40,000	33,000
	Operating & Maint. Subtotal	322,295	334,700	328,450	302,670
500	Capital Outlay	-	33,964	255,000	70,000 *
505	Transfer to Capital Projects	-	-	-	-
	Capital Subtotal	-	33,964	255,000	70,000
900	Debt Service	2,051	3,529	11,765	77,694
	SUBTOTAL - PLANT OPERATIONS	684,271	712,625	943,296	814,502
* Capital Outlay Includes:					
	\$ 25,000	Basin Wall Maint./Repair- Water Plant			
	\$ 45,000	Finished Water Flow Meter			
	\$ 70,000	Total			
Field Operations 7120					
202	Salaries	124,576	129,811	137,900	151,886
203	Overtime	2,706	5,129	8,000	4,000
	On Call/Standby Pay	-	-	20,800	10,000
205	FICA Expense	1,316	10,436	12,753	12,690
206	Group Insurance	25,871	23,477	27,500	30,525
207	401K	867	7,014	8,335	8,294
208	Retirement	2,345	19,065	23,071	25,331
	Personnel Subtotal	157,681	194,932	238,359	242,727
211	Telephone	-	-	-	-
213	Utilities	-	-	-	-
214	Employee Development	7,320	2,628	3,000	3,000
216	Maintenance/Repair-Equip	9,347	3,607	10,000	7,000
217	Maintenance/Repair-Lift Station	2,875	-	15,000	13,000
231	Diesel/Gasoline	5,239	8,248	7,500	9,000
233	Materials and Supplies	84,868	85,335	80,000	70,000
235	Safety Supplies	2,300	506	3,000	1,800
236	Uniforms	2,672	7,664	3,500	2,500
257	Miscellaneous	807	6,810	3,000	2,000
	Operating & Maint. Subtotal	115,428	114,797	125,000	108,300
502	Capital Outlay	-	-	-	56,000 **
503	Water Line Replacements/Repairs- Reserve	-	-	-	20,000 \$
504	Sewer Line I&I Replacements/Repairs- Reser	-	-	-	20,000 \$
505	Transfer to Capital Projects	-	-	-	-
	Capital Subtotal	-	-	-	96,000
950	Debt Service	1,192	57,246	29,815	30,569
	SUBTOTAL - FIELD OPERATIONS	274,301	366,975	393,174	477,596
** Capital Outlay Includes:					
	14,000	Replaces Air Compressor with Stanly Hydraulic Power Pack			
	42,000	Replace 2006 Ford E350: Sewer Camera Van			
	56,000	Total			
\$ Funds remaining at the end of the year in these areas to be transferred to capital reserves.					
	TOTAL EXPENDITURES	958,572	1,079,600	1,336,470	1,292,098