

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 four (4) 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 four (4) wastewater lift-stations: Mayview, Chetola, Chestnut 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

2014-2015 Wastewater Plant – Average Daily Flow

Month	2014 Average Daily (.800 MGD capacity)	2015 Average Daily (.800 MGD capacity)
January	.322	.215
February	.250	.162
March	.239	.156
April	.283	.278
May	.278	.196
June	.264	.203
July	.315	.247
August	.305	.272
September	.306	.253
October	.322	.449
November	.197	.477
December	.274	.492
Monthly Avg	.274	.283
Total Year	100.010 MG	104.550 MG
Daily Avg	.279	.286

2014-2015 Water Plant - Total Water Treated

Month	2014 Total Water Treated (Million Gallons)	2015 Total Water Treated (Million Gallons)
January	19.8840	13.8900
February	12.7740	13.4380
March	13.6970	10.5850
April	13.2580	7.9920
May	13.2360	9.3250
June	14.2240	12.6570
July	17.1970	14.6380
August	12.1300	12.0710
September	11.4900	12.0870
October	12.0530	11.9970
November	9.2690	11.0760
December	13.2530	11.6350
Total Year	162.4750	141.3910
Monthly Avg	13.5387	11.7830
Daily Avg	.445	.387

WATER AND SEWER FUND								
DESCRIPTION: WATER AND SEWER EXPENDITURES								
CODE: 30-91-7120								
ACCOUNT NUMBER	DESCRIPTION	2010-2011 ACTUAL	2011-2012 ACTUAL	2012-2013 ACTUAL	2013-2014 ACTUAL	2014-2015 ACTUAL	2015-2016 ADOPTED	2016-2017 ADOPTED
Plant Operations 7120								
002	Salaries	158,765	163,587	157,925	144,681	164,406	195,948	210,659
003	Overtime	1,701	5,875	4,006	24,804	21,942	3,000	10,000
005	FICA Expense	11,675	11,610	11,360	11,908	13,035	15,220	16,880
006	Group Insurance	21,483	21,537	22,599	19,654	18,091	31,557	31,369
007	401K	3,288	3,314	3,261	3,397	5,492	7,958	11,033
008	Retirement	18,464	19,836	19,576	21,152	10,135	24,670	29,546
	Personnel Subtotal	215,376	225,759	218,726	225,597	233,101	278,351	309,487
011	Telephone	1,920	2,088	2,050	2,124	2,240	2,250	2,762
013	Utilities	135,895	145,521	156,252	159,422	136,183	140,000	145,000
014	Employee Development	200	420	260	254	773	1,500	2,000
016	Maintenance/Repair-Equip	57,593	35,448	29,046	37,206	24,860	45,000	45,000
031	Gasoline	3,556	3,749	3,099	1,994	2,989	4,000	4,000
033	Materials and Supplies	16,076	20,763	12,285	11,535	19,637	25,000	25,000
034	Sludge Processing	32,400	41,640	39,120	33,842	72,155	80,000	80,000
036	Uniforms	2,992	1,590	1,354	1,542	2,934	2,100	2,500
053	Permits & Dues	3,035	3,035	3,200	2,790	2,710	4,250	4,250
057	Miscellaneous	-	420	716	1,190	220	500	500
104	Lab Contract	23,073	18,179	23,007	21,978	20,292	24,000	24,000
333	Chemicals	33,993	48,642	29,118	50,963	41,937	50,000	50,000
	Operating & Maint. Subtotal	310,732	321,495	299,506	324,839	326,930	378,600	385,012
500	Capital Outlay	2,051	-	15,426	-	-	30,000	-
505	Transfer to Capital Projects	-	-	-	-	65,000	-	-
	Capital Subtotal	2,051	-	15,426	-	65,000	30,000	-
900	Debt Service	-	-	-	-	-	-	2,196
	SUBTOTAL - PLANT OPERATIONS	528,159	547,255	533,658	550,436	625,031	686,951	696,695
Field Operations 7120								
202	Salaries	105,519	108,063	100,096	104,591	108,691	121,858	127,812
203	Overtime	3,386	4,148	3,826	3,400	2,871	5,000	4,000
205	FICA Expense	8,895	8,266	7,721	7,744	8,381	9,705	10,084
206	Group Insurance	21,413	19,342	21,625	23,761	23,742	25,508	25,321
207	401K	2,342	2,175	2,094	2,117	3,432	5,074	6,591
208	Retirement	13,143	13,019	12,575	13,232	6,334	15,730	17,650
	Personnel Subtotal	154,698	155,014	147,936	154,845	153,451	182,876	191,456
211	Telephone	-	-	-	-	-	-	-
213	Utilities	-	-	-	-	-	-	-
214	Employee Development	1,350	2,309	2,200	2,184	2,150	3,400	3,000
216	Maintenance/Repair-Equip	9,322	7,285	13,865	9,927	24,709	12,000	10,000
217	Maintenance/Repair-Lift Station	-	-	-	-	1,141	15,000	15,000
231	Diesel/Gasoline	3,914	4,243	3,752	-	(8)	10,800	-
233	Materials and Supplies	55,910	43,807	62,803	55,951	60,787	75,000	80,000 *
235	Safety Supplies	-	-	-	-	-	-	3,000
236	Uniforms	2,199	1,871	1,541	1,936	2,952	2,000	3,000
257	Miscellaneous	1,419	2,379	3,884	175	4,333	4,000	3,000
	Operating & Maint. Subtotal	74,115	61,893	88,046	70,173	96,064	122,200	117,000
502	Capital Outlay	-	8,350	10,000	8,982	39	155,000	-
505	Transfer to Capital Projects	-	-	-	-	-	-	-
	Capital Subtotal	-	8,350	10,000	8,982	39	155,000	-
950	Debt Service	13,635	-	7,289	23,788	-	28,010	58,579
	SUBTOTAL - FIELD OPERATIONS	242,448	225,257	253,271	257,788	249,554	488,086	367,035
* Includes: 5,000 2 Surface Pro 2 units								
	TOTAL EXPENDITURES	770,607	772,512	786,929	808,224	874,585	1,175,037	1,063,730