



Water Commissioners for this report period were Michael Caron, Paul W. Poulin, Lucien F. Langlois, and Paul Ingersoll; Ex-officio member was Mayor Paul R. Grenier.

The Berlin Water Works (BWW) has not increased water rates in nineteen years. The NHDES 2015 Water Rate Survey was published and Berlin Water Works ranks 17th highest in the State for an average of \$615.84/per year per four person household. BWW has been able to maintain water rates because of cross-training employees and elimination of work through planned improvements and the implementation of BWW “force account” construction to offset operating cost by performing capital improvement projects with BWW resources. The 55 Willow Street Office solar system has produced a 50% savings on electric bills. We received a check dated May 16, 2016 in the amount of \$1,216.80 from Revolution Energy LLC for carbon credits. Berlin Water Works signed a contract with First Point Power for one year with a savings of approximately \$7,600 or 15% of the electrical budget. The normal cost for yearly electricity at the Ammonoosuc Treatment Plant was about \$30,000 before the Hydro was installed. The Hydro at the Ammonoosuc Treatment Facility began operation on August 27, 2015; we have since learned that we will not qualify for energy credits because the date to qualify would have been January 1, 2006. However, we have seen a substantial drop in cost for electric power at the Ammonoosuc Treatment Facility. After some review and changes to the original Hydro system, the process is running smoothly and generating electricity for the treatment facility.

The 1995 Bond was paid off on August 4, 2015. The 1993 Bond was paid off in July of 2013. The 1994 Bond was paid off in August 2014. The availability of new low interest system improvement loans and grants has enabled the BWW to perform “Force account” construction work to improve our systems and balance the operation and debt budgets.

BWW has sold one of our original “Force Account” dump trucks this Fiscal Year and we plan to sell more equipment as the work load decreases. The final payment on the magnum hammer was paid in FY 2016.

BWW continues to offer on line bill paying for customers. Customers can pay their bills by going to the City of Berlin Website berlinnh.gov. Invoice Cloud and Northern Data Systems are providing electronic bill presentment and online payment service. The system allows the office clerks to enter credit card payments for customers here at the office or over the phone. The system also allows customers to choose paperless billing. Approximately 688 or 20% of our customers are registered to use the online billing service. Also, the BWW has an auto-pay option for which 176 customers currently participate. The Berlin Water Works updated the server for the business system in the office, through the local company Tech Pro’s.

There are 3405 BWW accounts requiring metering and protective devices. BWW has installed 1903 backflow devices to-date at customer’s homes. BWW has installed 1369 radio read units to-date. BWW is currently upgrading old brass meters by replacing them with poly Sensus iperl meters. FY 2016 BWW replaced 102 meters of the total replaced all were Sensus iperl meters.

BWW celebrated Drinking Water Week from May 1, 2016 to May 7, 2016 with open house at the Ammonoosuc Treatment Plant Monday through Friday. Mayor Grenier signed a proclamation for Drinking Water Week. National Water Week tours included an elementary class and a few other residents visited the plant.

During the mild winter of 2015/2016, we had 0 people running water to prevent service line freeze-up. Efforts continue to reduce the number of running water customers, of which there were 1003 of 3500 customers in the winter of 2000-2001.

The School Department contracted with Berlin Water Works to have the School Dump Truck repaired. Berlin Water Works also contracted with Lancaster Water and Sewer to fuse additional HDPE Pipe. Berlin Water Works assisted the Androscoggin Valley Chamber of Commerce with hydro seeding at Jericho Park and also loam for the ATV Festival. Wade Pelham contacted the Berlin Water Works following his visit to the New Hampshire Department of Corrections on East Milan Road, the correctional facility wants to contract with Berlin Water Works to do the monthly bacteria testing, backflow testing. Berlin Water Works signed a contract with the Northern NH Correctional Facility to do the monthly bacteria testing of the water and the testing of the backflow devices at the facility.

		FISCAL 2015	FISCAL 2016
Total Flow		591,225,440	626,419,382
Difference from previous year		44% increase	6% increase
Gallons per Day		1.62 million gallons	1.72 million gallons
Running Water Customers			0
Running Water Start - early		February 4, 2015	-
Running Water Start - regular		—	-
Running Water Finish		April 24, 2015	-
Frozen Water Calls - outside		230	0
Frozen Water Calls - inside		7	1
Hydrant Flushing		9/2/14 to 10/10/14	8/3/15 to 9/11/15
Number of main line breaks		10	8
Number of service line breaks		6	5

Our lead and copper water sampling program passed the last seven rounds of testing in June of 2006, December of 2006, September 2007, September 2008, September 2009, September 2012 and September 2015. The testing results from September 2015 showed all passed for copper and one failed for lead. The State of NH Department of Environmental Services dropped the number of test sites required from 60 sample sites to thirty sample sites. The overall average lead and copper sample levels have dropped to new low levels. Please note that the water leaving the Water Treatment Plant is free of lead and copper and that the resulting lead and copper are attributed old portions of the distribution system, customer pipe systems, and/or dead end lines. Water sampling will continue to monitor lead and copper levels. The next round of testing is scheduled for 2018. Water Quality Report for calendar year 2015 was distributed to all water customers as a bill stuffer in the May 2016 Billing. Paperless customers received an internet address to view the Water Quality Report.

A Waste oil heater was purchased for the Maintenance Garage to help offset the cost of propane for heat in the garage. The Staff set up a trailer with the steam jenny that BWW purchased from the State Surplus, the process with the steam jenny allows BWW to thaw a frozen valve in about two minutes; it takes only three minutes to get to temperature for thawing the valves. The concrete block wall at the garage, fencing with slats and paving at the entrance gate has been completed for the maintenance Garage. Cedar Trees and rhododendrons from the Union Street Pathway were transplanted to the 55 Willow Street property. The curbing was completed by Tri State Curb at the property on 55 Willow Street, the sidewalks were completed by staff and then the parking lot was

paved by Morency Paving. The office parking lot was painted with lines, handicap sign and parking space marked and stop sign at exit of parking lot were installed.



Berlin Water Works has signed a contract with Androscoggin Valley Hospital for rental of their communication tower for the BWW SCADA system, the previous tower we used was sold to another company. Improvements to the Distribution System included using Blue Earth to clean the filters at the Ammonoosuc Treatment Facility one of the filters was cleaned it had not been cleaned since it was installed in 1995. BWW staff plans to clean the second filter sometimes next year.

The City of Berlin invited Berlin Water Works to begin using the People GIS system. Berlin Water Works has started using People GIS to locate all water lines, valves, hydrants. BWW purchased a Leica Zeno 20 Data Collector it is an android based operating system. Staff has been using the People GIS system work orders to record all work completed during construction as well as day to day activities including reading meters for property sales. All information is available as soon as it is entered in one of the many forms created to be used for the Berlin Water Works and the BWW map on line.

Melanson, Heath & Co PC was accepted by the Board to perform the Water Works financial report for period ending June 30, 2016 (FY2016). Water Works re-signed our Engagement Letter dated May 28, 2015 with Melanson-Heath Accounts & Auditors Firm for services from FY15 – FY17. The FY 2015 was completed and FY 2016 is currently in progress. Our FY 2017 budget of \$3,272,834 was presented by the Board on May 25, 2016 at the budget hearing providing \$2,349,671 for operations and \$923,162 for loan debt payments. The proposed budget was approved June 15, 2016. This budget represents the nineteenth consecutive year with no water rate increase for its customers.

IMPROVEMENT PROJECTS:

BWW 15-1 NHSRL #11 – In FY 2015 Berlin Water Works applied and was approved for a \$2,000,000 State Revolving Loan. Work has been completed on Main Street from Peavey Lane to Eighth Street, Berlin Water Works relocated services, hydrants and valves at intersections from the discontinued 1892 vintage 10” CI water

main to the new 16" HDPE water main. This work was a prerequisite for the City of Berlin Road Rebuild and Paving Project from St. Anne's Church to the Community College. Approximately 2900 feet of old 10" cast iron main was eliminated on Main Street from Peavey Lane to Eighth Street. The six inch cast iron main on Birch Street was slip lined with a 4" hdpe water main. We also eliminated the old cross lot line near Cambridge from School Street to Main Street. Work was started on Cedar Street between Prospect Street and Hillside Avenue to be completed FY 2017.

BWW 12-1 NHSRL #10 –In FY 2016 Berlin Water Works lowered the pavement in all the trenches across Riverside Drive from Twelfth Street to the White Mountain Community College in preparation of the City of Berlin repaving project from Twelfth Street to the College.

BWW 11-3 NHSRL #9 The final pay request was submitted on December 14, 2015.

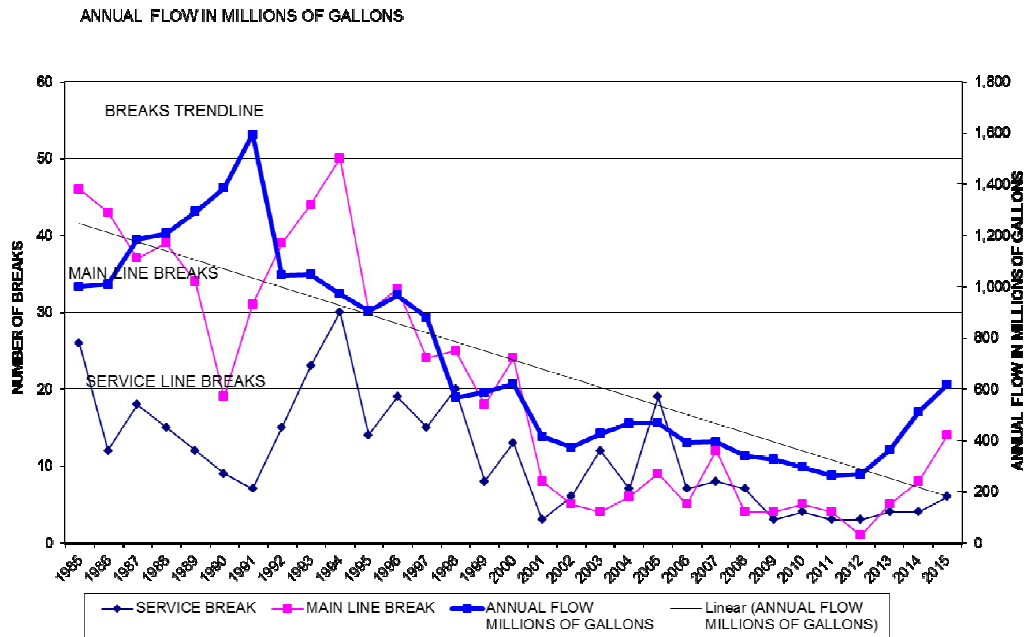
BWW 11-2 NHSRL #8 The final pay request was submitted on November 5, 2015.

BWW 12-2 Rural Development Loan #5 – Godfrey Transmission Line Project-BWW completed work in the amount of \$450,000 on the Godfrey Transmission Line Project. The final payment on the Rural Development Loan was made in April 2016. NHDOT Route 110 Phase II Project – BWW and NHDOT negotiated a contract to perform all water main and water service work on the Route Phase II Road Improvement Project. The contract was increased to \$114,158 to cover several new conflicts on Wight Street. The conflicts were resolved and Coleman paved the project area.

	Total FY2016		FY 2015	FY 2016
Curb-to-curb street paving (includes overlay)	11.17 miles		0	.38
Number of New Meters	3405 total in system		67	102
Number of New hydrants	420 total in system		0	0
Number of Replaced services	3405 total in system		25	20
New water main installed – since 1990	28.35 Miles		.82	.62

The BWW installed 3,265 feet of water main. Improvements to the water distribution in the City of Berlin continue with planned replacement of small diameter galvanized mains (250 feet remaining as of June 2016) and 1890 thru 1920's vintage unlined cast iron mains (28,679 feet remaining as of June 2016) with the highest frequency problems corrected first. As the streets for replacement of water mains are selected for design, improved fire protection flow capabilities are considered. The results of these increased efforts will be a much improved distribution system

WATER LINE BREAK HISTORY CALENDAR YEAR



Berlin Water Works applied for the amount of \$16,666 that was set aside for the Berlin Water Works as a result of the Critical Infrastructure Vulnerable Assessment Study that was completed in August 2015 via the Homeland Security Grant Program. Grant application forms were sent out in November. Staff received a letter on December 3, 2015 stating that Berlin Water Works was awarded \$25,000 based on the grant application. The security upgrades at the Ammonoosuc Treatment facility were completed in June 2016 and included security cameras, fencing and additional lighting.

Richard Skarinka of NHDES suggested that Berlin Water Works apply for an Asset Management Grant through NHDES to assist us with the GIS Mapping System through People GIS. The grant application was submitted in November 2015. On January 21, 2016 Berlin Water Works was notified that the New Hampshire Department of Environmental Services intends to award a 50% grant up to \$15,000, final approval for the grant was issued May 4, 2016. The funds are available until May 31, 2017. Berlin Water Works is in the process of tracking expenses and labor charges for the GIS Mapping System.

Thanks to all BWW employees, Water Works Commissioners, the Honorable Mayor Paul Grenier, the City of Berlin and the NHDES Drinking Water staff for their continued support. The BWW has completed and is continuing work on significant improvements that will improve our water system and reduce our operating cost for many years into the future.

Craig P. Carrigan
Superintendent