

Continuing Disclosure Report of the Consulting Engineer and Rate Consultant

Introduction

This 2020 Continuing Disclosure Report, prepared in September 2020 (the “2020 CDR” or the “2020 Report”), provides information to supplement and update information presented in the Feasibility Report of the Consulting Engineer and Rate Consultant, prepared in August 2005 (the “2005 Report”), included in the Official Statement for the 2005 Authority Bonds, the Feasibility Report prepared in June 2013, included in the Official Statement for the 2013 Bonds (the “2013 Report”), the Feasibility Report prepared in November 2016, included in the Official Statement for the 2016 Bonds (the “2016 Report”), the 2007 Continuing Disclosure Report prepared in June 2007, the 2008 Continuing Disclosure Report prepared in June 2008, the 2009 Continuing Disclosure Report prepared in July 2009, the 2010 Continuing Disclosure Report prepared in July 2010, the 2011 Continuing Disclosure Report prepared in June 2011, the 2012 Continuing Disclosure Report prepared in June 2012, the 2014 Continuing Disclosure Report prepared in July 2014, the 2015 Continuing Disclosure Report prepared in July 2015, the 2016 Continuing Disclosure Report prepared in July 2016, the 2017 Continuing Disclosure Report prepared in September 2017, the 2018 Continuing Disclosure Report prepared in September 2018, and the 2019 Continuing Disclosure Report prepared in September 2019 collectively referred to as the “Prior Reports”. Except where noted, the table numbers and titles used in the 2020 CDR correspond to the table numbers and titles in the Prior Reports. In matters presented in the Prior Reports where we have been advised by the Board that no material change has occurred since the preparation of the Prior Reports, no additional information is presented in this 2020 CDR. Throughout the 2020 CDR, references are made to the Water, Wastewater and Stormwater System of the Board (the “System”) which serves the City of Niagara Falls, NY (the “City”) and provides water service to small portions of adjacent communities.

Board and Authority Members

Mr. Patrick D. Brown became the Chairman of the Board in 2020. Other members of the Board include Ms. Colleen Larkin, Ms. Gretchen Leffler, Ms. Renae Kimble and Mr. Nicholas Forster.

Mr. Jason Murgia is the Chairperson of the Authority (having previously been a member of the Authority). Mr. Sanquin Starks is the Vice Chairman of the Authority and Mr. Daniel Weiss is the Treasurer of the Authority.

Organization and Staff of the Board

Mr. Patrick A. Fama was appointed Acting Executive Director of the Niagara Falls Water Board in February 2019 and later as Executive Director in March 2019. He holds a Bachelor of Science degree in Biology from Syracuse University and an Associates of Science degree from Niagara County Community College. Mr. Fama is a New York State certified water treatment plant and distribution system operator with a IA-SW/GUI Filtration Plant designation. Prior to his appointment as Executive Director, he served as the Director and Microbiologist of the Water Board’s Water Treatment Plant Laboratory. He has more than 25 years of water treatment system experience with the City of Niagara Falls and the Niagara Falls Water Board.

The table presented below illustrates the staffing levels for the System as of June 30, 2020.

Table 1 – System Staffing

| | <u>Staff Positions *</u> |
|--------------------------------|--------------------------|
| Water Facilities Division | 39.5 |
| Wastewater Facilities Division | <u>53.0</u> |
| Total System | <u><u>92.5</u></u> |

* Denotes filled positions. Authority and Board members, as well as, personnel providing support services are not included in the above figures. The above totals also do not include staff members that are currently on unpaid leave.

The City provided certain support services to the System in the form of engineering, legal, billing and collection, accounting and fleet maintenance services during the initial years of the Board’s operations. Under the terms of the Operations Agreement between the City and the Board, the Board notified the City that it wished to assume direct responsibility for the support services provided by the City. For example, the Board installed a new financial management system and began billing customer accounts during 2008. The City continues to work with the Board in providing collection services for accounts and tax collection services. Under the terms of the agreement, the Board will pay the City approximately \$90,000 per year for the services it receives.

Water Treatment

The average daily output from the Board’s water treatment plant for 2016 through 2019 is shown in the following table.

Table 2 – Average Daily Production of Treated Water

| Year | 2016 | 2017 | 2018 | 2019 |
|-------------|-------------|-------------|-------------|-------------|
| Flow (MGD) | 20.33 | 20.06 | 21.35 | 21.53 |

Water Distribution System

The distribution system consists of approximately 260 miles of various diameter water mains, 2,287 fire hydrants, over 5,000 valves, two elevated water storage tanks and over 19,000 metered services. The distribution system is a single pressure system. The Water System services the City and several “out-of-town” customers adjoining the City. The Water System also has two major inter-municipal interconnections with the Niagara County Water District that allow for the purchase/sale of water in either direction for emergency or shut down maintenance events.

Treated water is pumped from the water treatment plant to the Water System’s 260 miles of pipe and also to the 56th Street elevated water storage tank that has a capacity of 2 million gallons (“mg”). The elevated tank provides added reliability to the Water System, as it will transparently pick up full system demand if the high-lift pump station is shutdown. A second 2 mg elevated storage tank at Beech Avenue is currently shut down and isolated from the Water System. Demolition and replacement of the Beech Avenue water tank is included in the CIP for 2018 and 2019. The Beech Avenue water tank is being used to generate revenues through the lease of space for cellular antennas. The water distribution system utilizes various materials of construction including lined and unlined cast or ductile iron, polyvinyl chloride (PVC), reinforced concrete pressure pipe (RCPP), and high density polyethylene (HDPE) varying in size from 6 inch to 30 inch.

The following tables provide information on the water mains and the approximate age of the pipes comprising the water distribution system:

Table 3 – Water Distribution System Piping

| <u>Water Main</u> | <u>Material Type</u> | <u>Length (ft)</u> |
|-------------------|----------------------|--------------------|
| 6-inch | PVC | 1,500 |
| 8-inch | PVC | 2,610 |
| 10-inch | PVC | 700 |
| 12-inch | Asbestos Cement | 5,500 |
| 20-inch | Cast/Ductile Iron | 7,800 |
| 24-inch | RCPP | 5,600 |
| 30-inch | RCPP | 13,370 |
| 36-inch | RCPP | 16,810 |
| 42-inch | RCPP | 7,850 |
| 2-inch | Cast/Ductile Iron | 700 |
| 4-inch | Cast/Ductile Iron | 95,030 |
| 6-inch | Cast/Ductile Iron | 596,540 |
| 8-inch | Cast/Ductile Iron | 239,680 |
| 10-inch | Cast/Ductile Iron | 121,455 |
| 12-inch | Cast/Ductile Iron | 102,045 |
| 14-inch | HDPE | 6,540 |
| 16-inch | Cast/Ductile Iron | 59,660 |
| 20-inch | Cast/Ductile Iron | 46,730 |
| 24-inch | Cast/Ductile Iron | 26,230 |
| 30-inch | Cast/Ductile Iron | <u>9,060</u> |
| | Total | 1,365,410 |

Table 4 – Niagara Falls Water Distribution System
Approximate Age of Pipe

| <u>Age</u> | <u>Feet</u> | <u>Percent</u> |
|------------|-------------|----------------|
| 1890-1910 | 65,802 | 5% |
| 1911-1930 | 515,179 | 38% |
| 1931-1950 | 288,940 | 21% |
| 1951-1970 | 251,682 | 18% |
| 1971-1990 | 144,121 | 11% |
| 1991-2016 | 101,772 | 7% |
| Total | 1,367,496 | 100% |

Unbilled Water

In Prior Reports, this section was described as unaccounted-for water. The term unaccounted-for water is redefined below and a definition is provided for unbilled water. The Water Facilities Division calculates the percentage of unbilled water based on the difference in quantity between the treated water pumped into the Water System and the number of billed units provided to customers, divided by the treated water pumped. Unbilled water includes both known uses that are not measured or billed (e.g., water used in firefighting and hydrant flushing) and unaccounted-for water such as losses due to leaks in the System. Unbilled water has been 68% percent or more of treated water for the last five years, a percentage that is significantly higher than typical industry averages. This percentage has been relatively the same since 2016. The table presented below shows the average percentages of unbilled water by year.

Table 5 – Unbilled Water

| Year | Percent of Treated Water |
|-------------|---------------------------------|
| 2016 | 69% |
| 2017 | 68% |
| 2018 | 68% |
| 2019 | 71% |

The marginal cost to the Board of treating and pumping water that is not sold is relatively low. Notwithstanding the absence of a significant cost incentive, the CIP for the Water System is focused primarily on improvements to the distribution system that, over time, together with the increased focus on identifying lost water should result in a decline in unaccounted-for water. In 2012, and 2013 through 2015 the Board embarked on an aggressive meter replacement program. In 2012 a pilot study was performed that included replacement of 450 meters. In 2013 through 2015, 16,000 residential and commercial meters have been replaced. The new meters are auto-read (drive by), which will reduce labor necessary to obtain meter readings and free up personnel for more

important tasks. The objective of the meter replacement program is to improve the accuracy of the water meters as metered water use is the means by which revenue is generated. Based on the experiences of other water utilities in similar situations, the implementation of these programs should lead to a reduction in unaccounted-for water.

To improve the water distribution system, the NFWB has undertaken a program to map and hydraulically model the existing water distribution system. The hydraulic model is being used to identify areas where water pressure is insufficient and to plan for future upgrades to the distribution system. Additionally, an aggressive program has been undertaken by the NFWB to repair or replace all out-of-service fire hydrants. The objective is to return all fire hydrants to a fully functional status. Many of these hydrants that are being replaced were also a source of water leakage. During 2017 and 2018, 75 fire hydrants have been replaced or repaired. This number has increased to approximately 100 hydrants in 2019. As of the date of this report there are no known non-functional fire hydrants.

Water System Staffing

The following table illustrates the number of personnel in each of the seven (7) sections of the Water System as of June 30, 2020.

Table 6 – Water System Staffing

| Section | Staff Positions |
|---------------------------|------------------------|
| Laboratory | 2.5 |
| Information Technology | 4.0 |
| Engineering | 3.0 |
| Purification Operations | 8.0 |
| Inside Water Maintenance | 5.0 |
| Outside Water Maintenance | 12.0 |
| Meter Shop | <u>5.0</u> |
| Total Water System Staff | <u>39.5</u> |

Based on our review of the Water System, including interviews and discussions with its management and staff, we believe that the Water System is adequately staffed and key management personnel have the qualifications and experience commensurate with their responsibilities.

Wastewater Treatment

The table on the following page identifies the historical flows through the wastewater treatment plant (“WWTP”).

Table 7 – Average Daily Wastewater Volume Treated

| Year | 2016 | 2017 | 2018 | 2019 |
|-------------|-------------|-------------|-------------|-------------|
| Flow (MGD) | 27.15 | 29.28 | 26.30 | 26.78 |

Wastewater Facilities

The facilities of the Wastewater System include a wastewater treatment plant (“WWTP”), 8 pumping stations, over 255 miles of combined and separate sanitary sewer lines and 6 combined sewer overflow points. The Wastewater System uses a collection system of lateral, collection and trunk sewers that convey wastewater to the WWTP. The majority of the service area utilizes combined sewers that carry both wastewater and storm water in one pipe. Pipe sizes range from 8 inches to 72 inches in diameter. The Wastewater System also includes approximately 15 miles of large conveyance structures ranging in size from 36 inches to 32 feet in diameter (tunnels).

The eastern portion of the City has a separated sanitary system and storm sewer system. This portion of the Wastewater System uses pumps to alleviate sanitary sewer overflows that occur during certain wet weather events. This procedure complies with the terms of the Board’s permit from the DEC. The pumping stations of the Board are listed in the table presented below.

Table 8 – Pump Station and Bypass Station Capacities

| <u>Lift Station</u> | <u>Location</u> | <u>Approximate Capacity (MGD)</u> |
|----------------------------|------------------------------------|--|
| Gorge | Gorge Pump Station Site | 19.5 |
| LS-1 | Stephenson & 81st Streets | 4.3 |
| LS-2 | Griffon Avenue | 1.0 |
| LS-3 | Buffalo Avenue & 56th Street | 1.7 |
| LS-4 | 91st Street & Luick Avenue | 1.7 |
| LS-6 | 81st Street & Frontier Avenue | 4.3 |
| LS-7 | Boiler Avenue & Military Road | 0.8 |
| LS-8 | 101st Street | 1.0 |
| BPS-1 | Cayuga Drive & South Military Road | 2.9 |
| BPS-2 | West Rivershore Drive | 1.0 |

Like most urban systems of its age with combined storm water and sanitary sewer systems, the Wastewater System has incurred problems with infiltration whereby storm water and ground water enter the pipes devoted to wastewater. This has resulted in added treatment expense.

Like the Water System, the Wastewater System obtains low-cost hydropower from National Grid, which is made available through NYPA. In the case of the Wastewater System, this amounts to approximately 1.6 megawatts per year.

Wastewater System Staffing

The table presented below illustrates the number of personnel in each of the six (6) sections of the Wastewater System as of June 30, 2020:

Table 9 – Wastewater System Staffing

| Section | Staff Positions |
|---|------------------------|
| Monitoring and Compliance | 4.0 |
| Analytical Services | 2.0 |
| Sewer Collection System Maintenance (1) | 10.0 |
| Administrative / Technical | 2.0 |
| Plant Operations | 17.0 |
| Plant Maintenance | <u>18.0</u> |
| Total Wastewater System Staff | <u>53.0</u> |

- 1) Includes sanitary sewers, combined sewers and storm sewers. Positions for stormwater maintenance were paid for through the City’s General Fund, prior to acquisition of the System by the Board.

In the recent past the Wastewater System was understaffed and resulted in extensive overtime. In 2018, a concerted effort was made to increase staffing to necessary levels. At present operations and maintenance are fully staffed. Key management personnel have the qualifications and experience commensurate with their responsibilities.

Wastewater System Customer Base

The Wastewater System serves the City and, through a mutual services agreement, limited portions of the Town of Niagara. The Wastewater System serves a population of approximately 48,460 according to the 2017 U.S. Census. The table on the following page shows consumption and revenue information by category of customer.

Table 10 – Wastewater Demand, Revenue and Account Information by Customer Class

| <u>Class of Customer</u> | <u>2015</u> | <u>2016</u> | <u>2017</u> | <u>2018</u> | <u>2019</u> |
|---|----------------------|-------------------|-------------------|-------------------|-------------------|
| Residential/Commercial | | | | | |
| Consumption (CCF) | 1,315,516 | 1,343,375 | 1,272,267 | 1,299,934 | 1,252,451 |
| Number of Accounts | 18,401 | 17,954 | 17,835 | 17,917 | 17,918 |
| Revenues | \$ 6,290,567 | \$ 6,646,141 | \$ 6,406,907 | \$ 6,693,730 | \$ 6,613,490 |
| Industrial | | | | | |
| Consumption (CCF) | 741,580 | 804,241 | 852,457 | 926,684 | 912,621 |
| Number of Accounts | 258 | 248 | 261 | 245 | 244 |
| Revenues | \$ 3,827,590 | \$ 3,963,845 | \$ 3,487,388 | \$ 4,197,516 | \$ 3,879,443 |
| Significant Industrial Users (SIU) | | | | | |
| Consumption (CCF) | 1,209,147 | 1,065,322 | 971,721 | 876,822 | 890,139 |
| Number of Accounts | 24 | 23 | 23 | 24 | 23 |
| Revenues | \$ 9,496,590 | \$ 7,915,420 | \$ 8,680,470 | \$ 8,379,467 | \$ 7,917,883 |
| Non-Resident Users* | | | | | |
| Consumption (CCF) | - | - | - | - | - |
| Number of Accounts | - | - | - | - | - |
| Revenues | \$ - | \$ - | \$ - | \$ - | \$ - |
| Total | | | | | |
| Consumption (CCF) | 3,266,243 | 3,212,938 | 3,096,445 | 3,103,440 | 3,055,211 |
| Number of Accounts | 18,683 | 18,225 | 18,119 | 18,186 | 18,185 |
| Revenues | \$ 19,614,747 | \$ 18,525,406 | \$ 18,574,765 | \$ 19,270,713 | \$ 18,410,816 |
| Plus: Other Departmental Revenues | 1,498,021 | 622,505 | 1,036,764 | 1,188,385 | 1,374,123 |
| Less: Adjustments | (296,620) | (331,546) | (169,020) | (44,948) | - |
| Total Departmental Revenue | <u>\$ 20,816,148</u> | <u>18,816,365</u> | <u>19,442,509</u> | <u>20,414,150</u> | <u>19,784,939</u> |

*Non-Resident Users are only water supplied, no wastewater activity was recorded in the year listed above.

Preliminary Capital Improvement Program (CIP)

The Board and the Authority have the responsibility to adopt and implement the CIP for the System. Table 11 presents the CIP for the System for 2020 through 2024. The CIP is updated periodically. The updated CIP as presented herein was most recently updated by the executive staff as of September 2, 2020.

Table 11 – Capital Improvement Plan (“CIP”)

| Description | 2020 | 2021 | 2022 | 2023 | 2024 | Total |
|--|-----------|-----------|-----------|-----------|-----------|------------|
| COMBINED PROJECTS (WATER AND WASTEWATER) | | | | | | |
| IT Plan Implementation | \$ 30,000 | \$ 30,000 | \$ 30,000 | \$ 30,000 | \$ 30,000 | \$ 150,000 |
| Meter Replacement & Upgrades | 70,000 | 70,000 | 70,000 | 70,000 | 70,000 | 350,000 |
| Fleet Replacement | 80,000 | 80,000 | 80,000 | 80,000 | 80,000 | 400,000 |
| Water/sewer GIS/GPS Mapping | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 | 25,000 |
| Combined Projects - Miscellaneous | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | 500,000 |
| WASTEWATER INFRASTRUCTURE PROJECTS | | | | | | |
| WWTP Rehab Phase 4A | 1,030,000 | 4,120,000 | 2,575,000 | 2,575,000 | - | 10,300,000 |
| WWTP Rehab Phase 4B | 803,158 | 2,409,473 | - | - | - | 3,212,631 |
| WWTP Rehab Phase 4C | 480,000 | 1,440,000 | - | - | - | 1,920,000 |
| WWTP Rehab Phase 4D | 2,000,000 | - | - | - | - | 2,000,000 |
| WWTP Rehab Phase 4E | 500,998 | 2,003,991 | - | - | - | 2,504,989 |
| WWTP Rehab Phase 4F | 2,064,000 | - | - | - | - | 2,064,000 |
| WWTP Rehab Phase 4G | 116,000 | 1,044,000 | - | - | - | 1,160,000 |
| WWTP Rehab Phase 4I | 64,000 | 576,000 | - | - | - | 640,000 |
| WWTP SCADA Improvements | 124,663 | 124,663 | 124,663 | 124,663 | - | 498,652 |
| WWTP Phase II Protective Measures, Contract 68 | 773,312 | 6,959,808 | - | - | - | 7,733,120 |
| WWTP Phase II Relocate Outfall 003 | - | 1,700,000 | - | - | - | 1,700,000 |
| WWTP Phase II Upgrades to the Sewer Line | - | 225,000 | - | - | - | 225,000 |
| WWTP Phase II Replacement of Sludge and Hypochlorite Pipelines | - | 975,000 | - | - | - | 975,000 |
| WWTP Chemical Bulk Storage | - | - | - | 50,000 | - | 50,000 |
| WWTP Infrastructure Projects - Miscellaneous | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | 500,000 |
| SEWER INFRASTRUCTURE PROJECTS | | | | | | |
| GPS Elevator | 447,500 | - | - | - | - | 447,500 |
| Lasalle Area Sewer Improvements (SSO) | 126,000 | 180,000 | - | - | - | 306,000 |
| Sewer /GPA Infrastructure Projects - Miscellaneous | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | 500,000 |
| WATER TREATMENT PLANT INFRASTRUCTURE PROJECTS | | | | | | |
| WTP Pump Replacements | 30,000 | 30,000 | 30,000 | 30,000 | 30,000 | 150,000 |
| WTP Caulking | 50,000 | - | - | - | - | 50,000 |
| WTP Building Improvements and Roofing Work | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 | 250,000 |
| WTP Infrastructure Projects | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | 500,000 |

(continued)

2020 Continuing Disclosure Report

Niagara Falls Water Board

(concluded)

| Description | 2020 | 2021 | 2022 | 2023 | 2024 | Total |
|---|----------------------|----------------------|---------------------|---------------------|---------------------|----------------------|
| WATER INFRASTRUCTURE PROJECTS | | | | | | |
| 10th Street and Michigan Avenue Mains | - | 750,000 | - | - | - | 750,000 |
| 18th Street Main - Ontario Avenue to Whitney Avenue | - | 1,100,000 | - | - | - | 1,100,000 |
| 77th Street Main - Stephenson Ave to Niagara Falls | - | 1,100,000 | - | - | - | 1,100,000 |
| 80th Street - Niagara Falls Blvd. to Rick Manning Drive | - | - | - | - | 300,000 | 300,000 |
| Bollier Avenue Main - 82nd Street to Military Road | 534,810 | - | - | - | - | 534,810 |
| College Terrace - Madison to College Avenue | - | - | - | - | 155,000 | 155,000 |
| Laughlin Drive Main - 82nd Street to Bollier Ave | - | - | - | 630,000 | - | 630,000 |
| McKoon Avenue Main - DeVeaux Ave to James Ave | - | - | - | - | 880,000 | 880,000 |
| Military Road Main - Jacob Place to Bollier Avenue | - | 200,000 | - | - | - | 200,000 |
| Ontario Avenue Main - 13th Street to Main Street | - | - | - | - | 800,000 | 800,000 |
| Van Rensselaer Ave - 900 Block | - | - | - | 150,000 | - | 150,000 |
| Whitney Avenue Main - 11th Street to Hyde Park Blvd. | - | 1,850,000 | - | - | - | 1,850,000 |
| Large Valve Replacement | 250,000 | 250,000 | 250,000 | 250,000 | 250,000 | 1,250,000 |
| Hydrant Replacement | 215,635 | 150,000 | 150,000 | 150,000 | 150,000 | 815,635 |
| 20 inch main from Beach Ave. Storage Tank to Ontario St | - | - | 1,000,000 | - | - | 1,000,000 |
| Leak Detection/Distribution Modeling | - | 50,000 | - | - | - | 50,000 |
| Loop "D" Street Main | 7,000 | - | - | - | - | 7,000 |
| Loop Niagara Ave. Main to Parkview Drive | 7,000 | - | - | - | - | 7,000 |
| Witkop Avenue and 85th Street Loop (all 8") | - | - | - | 720,000 | - | 720,000 |
| Water Infrastructure Projects - Miscellaneous | 120,000 | 120,000 | 120,000 | 120,000 | 120,000 | 600,000 |
| Total | \$ 10,379,875 | \$ 27,992,934 | \$ 4,884,663 | \$ 5,434,663 | \$ 3,320,000 | \$ 52,012,135 |

On a System-wide basis, the CIP includes provisions for the implementation of new technology which is primarily focused on the monitoring and control of water and wastewater facilities. Such technology will enable Board personnel to continue to attempt to operate more efficiently and effectively. The past improvements have allowed for some significant reductions in personnel. Funds are also included each year for the replacement of Board vehicles.

The CIP for the Water System is focused primarily on distribution system improvements to enhance overall water quality, system reliability and reduce water loss, including a water main, hydrant and large valve replacement programs. In addition, the meter replacement program has become an important part of reducing the cost of reading meters and replacement of older faulty meters. The remainder of the 72nd Street water main was replaced in late 2015 and a portion of the Bollier Avenue water main was replaced in 2017. The City of Niagara Falls has/is providing design, contract administration and inspection services on both projects. The WWTP Rehab Phase 4 and the 2017 Discharge incident represent significant capital expenditures added to the CIP this year.

With \$52 million of planned CIP spending through 2024, there will be a significant focus on the Wastewater System and Water Infrastructure Projects. The CIP includes \$23.8 million over the five year period for WWTP Phase 4 discussed above to comply with the consent order. The CIP also includes funds to address the LaSalle area Sewer Improvements (“SSO”) and projects related to the Flood Hazard Mitigation Grant. Completion of Phase 4 is mostly expected in 2021, with the exception of Phase 4A and 4J expected in 2023, while completion of the CIP related to the flood hazard mitigation grant, the CSO outfall structural repairs, and the SSO are expected in 2021 and 2022.

The Phase III WWTP upgrades (\$5.4 million) also were completed in 2017. Phase III work included:

- Continued replacement of carbon filtration mechanical equipment,
- Sedimentation Basin 1 replacement of traveling bridge with chain and flight scraper system (expected to be a prototype for eventual conversion of all basins to chain and flight scraper system),
- Polymer feed and transfer pumps replacement for polymer feed to both the sedimentation basins and the belt filter presses.
- Plant water pumps, motors, and VFD replacement.
- Sludge blanket detectors in the gravity thickeners to improve thickener operation.
- Miscellaneous heating and ventilation system improvements in the Sludge and Pump Buildings.
- Minor grit piping improvements.
- Exterior door replacement.
- Additional process monitoring instrumentation.

During 2017 the WWTP constructed its Energy Efficiency Project that was funded by low cost grants from the New York Power Authority. The \$2.4 million project included:

- Remove inoperable paddle flocculators in all five (5) sedimentation basins and replace with curtain baffles that promote flocculation with no required energy input.
 - Relocate/replace polymer addition piping in the five (5) sedimentation basins.
 - Replace heating and ventilation equipment utilizing electric heat with new units fired with natural gas.
 - Install new gas fired infrared heaters in the outside sewer garage.
 - Rebuild the primary sedimentation basin sludge and grit pump motor controls (17 pumps) to enable SCADA control of this equipment.
 - Rebuild the primary sedimentation basin sludge screws motor controls to enable SCADA control of this equipment.
 - Miscellaneous lighting upgrades to reduce electricity consumption and improve lighting.
-

The improvements in the Wastewater System represent the larger share of the budgeted funds for 2019 through 2023, with a recent emphasis placed upon quickly catching up with needed capital improvements at the WWTP in order to stabilize plant operations. Projects have been identified for the following plant areas:

- Sedimentation basin upgrades including scum removal.
- Gorge Pumping Station Improvements.
- Screenings and grit conveyance systems.
- Carbon filter media and underdrain gravel replacement.
- Electrical System Improvements.
- Chemical Treatment System Optimization.
- Heating and Ventilation System Upgrades.
- Replacement of Air Scour Blower.
- Plant Waterline and Process Piping Replacement.

In addition the NFWB has recently embarked on a number of new initiatives including the following:

- The NFWB has recently leased 10 new vehicles. The vehicles are more energy efficient and include two hybrids. As a result, the age of the fleet went from an average age of 12 years old to 7 years old. Over the five-year lease the NFWB is projected to save \$300,000.
- The NFWB has established a hydrant truck which routinely tests fire flow's and performs hydrant maintenance. The initiative will improve the reliability of the NFWB's hydrant system.
- The NFWB has implemented a 3-D scanning project to scan existing facilities at the wastewater treatment plants. The initiative will save money in engineering design projects, provide accurate measurements for existing facilities, will be used in employee training programs.
- The wastewater treatment plant replaced entrance gates for improved security.
- A professional development program has been financed which will include leadership training, state certified operator license training, and provide access to up-to-date training materials.

In the Water Distribution System, the CIP includes funds for five (5) specific water distribution main replacement projects, continued replacement of large valves, continued leak detection & distribution system modeling to reduce leakage rates, and funding for unplanned system repairs. The specific areas identified for replacement have been prioritized based on factors such as the history of main breaks, known areas of leakage, the need to upgrade the size or materials of the main and other factors. The continued implementation of a water main replacement program should, over time, reduce the level of unaccounted-for water in the Water System.

In the opinion of AECOM, the CIP is reasonable and will help ensure that quality water and wastewater services are provided to customers in a reliable manner. There continue to be unanswered questions regarding the potential outcome of the 2015 Turbidity Study and the related 2017 Consent Order studies pertaining to alternative wastewater treatment processes. The outcome of these will likely be mandated wastewater treatment plant capital improvements. The NFWB will seek external grants to undertake any major expenditure for changing the treatment technology at the WWTP.

Sources and Uses of Funds

Table 12 shown below presents the anticipated sources and uses of funds for the CIP. The amounts shown are preliminary, pending policy decisions of the Board.

Table 12 – Sources and Use of Funds for the CIP

| | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|
| Opening balance, January 1: | | | | | |
| Remaining funds restricted for capital projects** | \$ 12,672,427 | \$ 8,200,605 | \$ 9,955,838 | \$ 8,046,006 | \$ 5,936,174 |
| Sources of CIP funds: | | | | | |
| Prior year coverage | 1,296,500 | 835,000 | 785,000 | 835,000 | 785,000 |
| Bonded | - | 13,500,000 | - | - | - |
| Grants | 4,610,754 | 15,413,167 | 2,189,831 | 2,489,831 | 630,000 |
| Use of CIP funds: | | | | | |
| CIP spending (per Table 11) | <u>(10,379,076)</u> | <u>(27,992,934)</u> | <u>(4,884,663)</u> | <u>(5,434,663)</u> | <u>(3,320,000)</u> |
| Ending balance, December 31 | <u>\$ 8,200,605</u> | <u>\$ 9,955,838</u> | <u>\$ 8,046,006</u> | <u>\$ 5,936,174</u> | <u>\$ 4,031,174</u> |

It is anticipated that the cash requirements of the CIP for the 2020-2024 period will be met through 1) remaining funds currently on hand with the Board received from the New York Power Authority; 2) remaining funds on hand from cash surpluses from operations of the preceding years; 3) interest on funds on hand whose use is restricted to capital improvements; and, 4) the proceeds of bonded debt to be issued by the Authority. Table 12 assumes that the Board will utilize bond proceeds beginning in 2021 to continue with the projects designated in the 2021, 2022, 2023 and 2024 CIP.

Outstanding Debt

The table on the following page summarizes the outstanding bond issues and remaining principal amounts attributable to the System as of December 31, 2019.

Table 13 – Outstanding Debt

| Debt Instrument | Principal Balance December 31, 2019 |
|---|--|
| Niagara Falls Public Water Authority Bonds: | |
| Series 2013A Bonds | \$ 34,575,000 |
| Series 2013B Bonds | 3,915,000 |
| Series 2016A Bonds | 20,130,000 |
| NYSEFC Water Revolving Funds Revenue Bonds: | |
| Series 2013B - Clean Water | 10,695,000 |
| Series 2013B - Drinking Water | 5,580,000 |
| Series 2015D - Drinking Water | 3,520,000 |
| Series 2014B - Drinking Water | 3,710,000 |
| Series 2012B - Clean Water | 5,200,000 |
| New York State Power Authority: | |
| Series 2019 Mortgage Loan | 1,975,386 |
| Total Amount | <u>\$ 89,300,386</u> |

The outstanding debt decreased by \$2,079,614 from 2018 to 2019. In 2019, the Board received proceeds of \$2,189,993 from the New York State Power Authority for the Energy Efficiency Program at an interest rate of 2.79% and made scheduled principal payments of \$4,269,607.

Historical Cash Flows and Debt Service Coverage

The Board acquired the System from the City in September 2003. The Board has now completed thirteen full years as the owner and operator of the System. A summary of the financial performance achieved during the years ending December 31, 2017, December 31, 2018, and December 31, 2019 is provided in Table 14 on the following page.

Table 14 – Historical Financial Performance

| Description | 2017 | 2018 | 2019 |
|--|---------------|---------------|---------------|
| Receipts from customers | \$ 30,701,932 | \$ 31,280,867 | \$ 30,427,792 |
| Interest earnings | 459,709 | 647,827 | 1,163,345 |
| Proceeds from sales of assets | 11,039 | 8,783 | 290,485 |
| Total cash receipts | 31,172,680 | 31,937,477 | 31,881,622 |
| Payments to employees | 10,839,241 | 11,592,392 | 11,517,253 |
| Payments to suppliers | 8,686,164 | 9,418,908 | 10,191,194 |
| Total operating expenses | 19,525,405 | 21,011,300 | 21,708,447 |
| Cash available for debt service (line 5 - line 9) | 11,647,275 | 10,926,177 | 10,173,175 |
| Interest payment | 3,170,188 | 3,419,231 | 3,119,649 |
| Principal payment | 3,780,000 | 3,915,000 | 4,269,607 |
| Total debt service | \$ 6,950,188 | \$ 7,334,231 | \$ 7,389,256 |
| Surplus (line 10 - line 13) | \$ 4,697,087 | \$ 3,591,946 | \$ 2,783,919 |
| Debt service coverage (line 10/line 13) | 1.68 | 1.49 | 1.38 |

The preceding table has been prepared based on information presented in the annual financial statements of the Board. The financial statements of the Board for the year ended December 31, 2019 were audited by the firm of EFPR Group, LLP as well as the years ended December 31, 2018 and December 31, 2017.

The results for the year ending December 31, 2017 indicate that the actual debt service coverage achieved by the Board was 168%, exceeding the minimum requirement of 115% of debt service. The results for the year ending December 31, 2018 indicate that the actual debt service coverage achieved by the Board was 149%, also exceeding the minimum requirement of 115% of debt service. The results for the year ending December 31, 2019 indicate that the actual debt service coverage achieved by the Board was 138%, also exceeding the minimum requirement of 115% of debt service.

In April 2017, the Board reached a settlement with the collective bargaining agreements of all four of its labor unions. The new agreements will result in substantial savings in healthcare costs for the Board over the next 7 years while allowing employees and retirees to retain quality and affordable healthcare benefits. Employees share a modest 20% of costs and the Board contributes to employee Health Savings Plans to help offset costs associated with a high deductible health plan. Furthermore, the new agreement allows for an increase of \$1 per hour in starting pay for new hires in 2018, 2019, and 2020 which will allow for a more competitive pay compared to private-sector wages. Without burden to rate payers, other cost-savings measures such as comprehensive training, professional development, and greater utilization of technology in daily operations are also being implemented. The Board will spearhead an aggressive and long term public relations campaign to better educate the public on future initiatives such as its aggressive pursuit of funds through the New York State Clean Water Infrastructure Act.

Billing and Collection

All but a limited number of water and sewer customers are billed quarterly based on actual or estimated meter reads. Significant industrial users are billed monthly based on two estimated months followed by an actual meter read in the third month.

Customers of the Board can pay their water and sewer bills either to a lockbox held by Bank on Buffalo or to the City of Niagara Falls Billing and Collection Department at City Hall. All revenues, including those collected by the City, are put immediately into the Board's depository account of the Local Water Fund. The City collects on delinquent accounts and, in particular, any unpaid balances that remain as of November 1 of each year create a lien on the property and are added to the next year's City tax bill. These liens then become due and payable with the tax collection. The City collects the funds, reconciles the tax roll and water/sewer liens and disburses a check to the Board in July and the following January for the two collection periods. These amounts are reconciled to the Board's records for verification of the receipts.

The Board has made meter replacement a major priority, since it last replaced meters in 1990 and the life expectancy of the old style meters averages just 10 years. In 2012, the Board tested a pilot program for electronic meter reading. Based on successful results, the Board has converted all water and sewer meters to electronic read only devices. The advantages of electronic meter reading include having a real-time measure of actual use, taking a fraction of the time, eliminating the need to access a customer's property, minimizing worker's compensation injuries from weather conditions or animals, and detecting continuous water leaks. The use of electronic meters during the pilot program resulted in a 5-7% increase in revenues, and the Board expects similar results for the recently completed meter replacement program.

Table 15 – Water and Sewer Billings and Cash Collections – Historical

| FYE 12/31 | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|------------------|------------------|------------------|------------------|------------------|
| Service Billings | \$ 30,223,999 | \$ 30,811,823 | \$ 29,702,412 | \$ 30,512,619 | \$ 29,973,753 |
| Penalties | 832,278 | 687,806 | 360,222 | 331,107 | 405,651 |
| Invoice Adjustments | <u>1,050,440</u> | <u>1,494,512</u> | <u>473,046</u> | <u>18,045</u> | <u>(67,164)</u> |
| Total Billed | \$ 32,106,717 | \$ 32,994,141 | \$ 30,535,680 | \$ 30,861,771 | \$ 30,312,240 |
| | | | | | |
| Total Cash Collections - Billings | 30,237,090 | 31,535,662 | 29,208,181 | 29,531,100 | 28,481,104 |
| Total Cash Collections - Property Tax Bill | <u>1,253,582</u> | <u>1,194,643</u> | <u>1,118,498</u> | <u>1,281,664</u> | <u>1,530,987</u> |
| Total Collections | \$ 31,490,672 | \$ 32,730,305 | \$ 30,326,679 | \$ 30,812,764 | \$ 30,012,091 |
| | | | | | |
| % of Total Cash Collections to Total Billed | 98.1% | 99.2% | 99.3% | 99.8% | 99.0% |

Compliance with Reserve Fund Requirements

Under the terms of the Financing Agreement between the Board and the Authority, the Board is required to maintain minimum balances in reserve funds relating to its operating expenses and debt service. The amounts on deposit in the Operation and Maintenance Reserve Fund must equal or exceed two months' of the anticipated operation and maintenance expenses in the upcoming year. The amounts on deposit in the Debt Service Reserve Fund must equal or exceed the maximum annual debt service in any future year. The amounts on deposit in the Board's Operation and Maintenance Reserve Fund and Debt Service Reserve Fund as of December 31, 2019 are in compliance with the requirements of the Financing Agreement. The Board expects to continue to be in compliance with these requirements during 2020.

Projected Cash Flows and Rates

The preliminary projection of cash flows of the System is presented in Table 16. These projections are preliminary and subject to change. The future cash flows of the Board are dependent upon many factors, including economic conditions and Board policy decisions regarding the size, scope and timing of the CIP; the use of the remaining monies from the NYPA settlement and potential reductions in annual operation and maintenance expenses. Future increases in rates and revenues are also dependent upon actual experience and assumptions for regarding customer demand as well as other factors. The achievement of any projection of future conditions is dependent upon the occurrence of other future events and circumstances such as changes in the local and national economy, demographic changes, variations in interest rates and inflation, new regulatory agency initiatives and other factors that cannot be predicted. Therefore, the actual financial requirements

and performance of the System may vary from the estimates presented herein, and such variations could be material.

The projected cash flows in 2020 through 2024 assume that the Board will enact increases in water and wastewater rates and charges of an average of 4% in 2021 and 2022, and 2% in 2023 and 2024. The projection indicates that under the conditions reflected herein, the System will generate operating revenues of approximately \$30.7 million in 2020, and approximately \$34.5 million in 2024.

Taking into consideration non-operating revenues, total revenues available for debt service and expenses are projected to be \$9.0 million in 2020, increasing to \$10.4 million in 2024. These projections are preliminary and subject to change. The projected user payments reflect the assumption that water consumption by customers will remain stable throughout the projection period. If such projections in water sales are not achieved, then the Board will have to increase water and sewer rates at a pace that is greater than assumed and/or decrease expenses in order to achieve the debt service coverage requirement.

On a preliminary basis, operating expenses are projected to increase from approximately \$21.8 million in 2020 to \$24.1 million in 2024. Operating expenses in 2020 through 2024 are expected to increase with inflation, with the exception of employee benefits which are projected using historical increases (and which have increased at rates significantly higher than inflation).

The projected debt service includes principal and interest payments on outstanding bonds as well as anticipated future bonds of the Authority. It is presently anticipated that the Authority will issue \$13,500,000 in additional debt in 2021, with the first interest payment due on such debt occurring in 2021, while the first principal payment is expected in 2022. These amounts and the timing of the potential issuance of debt are subject to change based on policy decisions by the Board. The proceeds of such bonds or notes will be used to pay a portion of the costs associated with the CIP.

In 2012, pursuant to its agreement with the City, the Board is obligated to make annual payments in lieu of taxes to the City. The projected amount to be paid from 2020 through 2024 is \$700,000 per year.

The debt service coverage ratios in Table 16 are based on total revenues available for expenses and debt service minus Operating Expenses divided by Total Debt Service. It is projected that debt service coverage will be equal to, or greater than, the minimum requirement of 1.15 throughout the Projection Period. All projections are presented on a preliminary basis and are subject to change. This conclusion assumes the following: the Board adopts the projected rate increases described above, expenses are maintained at or below projected levels, and the future changes in customer usage are consistent with the assumed rate of change. As noted earlier, the actual financial requirements and performance of the System may vary from the estimates presented herein, and such variations could be material. With regard to the figures presented in Table 16, the preliminary projections show that debt service coverage is maintained at approximately the minimum levels required by the Bond Resolution. Drescher & Malecki LLP recommends that the Board consider taking the actions necessary such that the debt service coverage and surplus exceed the minimum requirement of 1.15 throughout the Projection Period so that if adverse changes occur (e.g., a greater than assumed decline in customer usage), the Board will have some flexibility to address such changes.

Table 16 – Preliminary Projections of Cash Flows and Rates

Estimated

| Line | | 2020 | 2021 | 2022 | 2023 | 2024 |
|------|---|------------|------------|------------|------------|------------|
| | Revenues | | | | | |
| 1 | Operating revenues | 30,747,581 | 31,966,084 | 33,211,078 | 33,860,387 | 34,522,721 |
| 2 | Total | 30,747,581 | 31,966,084 | 33,211,078 | 33,860,387 | 34,522,721 |
| | Operations and Maintenance Expenses | | | | | |
| 3 | Salaries and benefits | 11,697,312 | 12,338,973 | 12,766,358 | 13,211,322 | 13,541,922 |
| 4 | Chemicals/sludge | 4,211,682 | 4,256,948 | 4,302,666 | 4,395,017 | 4,442,116 |
| 5 | Insurance/safety | 469,992 | 475,043 | 480,145 | 490,450 | 495,706 |
| 6 | Maintenance | 1,170,575 | 1,183,156 | 1,195,863 | 1,221,530 | 1,234,621 |
| 7 | Utilities | 1,213,735 | 1,226,780 | 1,239,955 | 1,266,569 | 1,280,143 |
| 8 | Other expenses | 1,480,643 | 1,496,556 | 1,512,629 | 1,545,095 | 1,561,653 |
| 9 | Authority/Board expenses | 816,129 | 824,900 | 833,760 | 851,655 | 860,782 |
| 10 | PILOT payment to City | 700,000 | 700,000 | 700,000 | 700,000 | 700,000 |
| 11 | Total | 21,760,068 | 22,502,356 | 23,031,376 | 23,681,640 | 24,116,943 |
| 12 | Revenues available for debt service | 8,987,513 | 9,463,728 | 10,179,702 | 10,178,747 | 10,405,778 |
| | Debt Service | | | | | |
| 13 | Debt service on outstanding bonds | 7,593,334 | 7,272,030 | 7,620,131 | 7,353,480 | 7,966,182 |
| 14 | Debt service on future Authority bonds | - | 235,000 | 720,000 | 720,000 | 720,000 |
| 15 | Total | 7,593,334 | 7,507,030 | 8,340,131 | 8,073,480 | 8,686,182 |
| 16 | Surplus (line 12 - line 15) | 1,394,179 | 1,956,698 | 1,839,571 | 2,105,267 | 1,719,596 |
| 17 | Debt Service Coverage (minimum 1.15) | 1.18 | 1.26 | 1.22 | 1.26 | 1.20 |
| 18 | Actual/Proposed Rate Increase | 0.0% | 4.0% | 4.0% | 3.0% | 3.0% |

Notes:

- 1) Projected cash flow and rates above are subject to change.

Water Sales by Customer Class

Table 17 below illustrates the water consumption by customer class for each of the last four years.

*Table 17 – Water Consumption by Customer Class
(Units in ccf (100 cubic feet))*

| District 1 - Residential | 2016 | 2017 | 2018 | 2019 |
|---------------------------------|------------------|----------------|----------------|----------------|
| 1st billing | 108,049 | 100,240 | 102,819 | 100,028 |
| 2nd billing | 104,043 | 108,303 | 107,658 | 102,006 |
| 3rd billing | 108,287 | 103,770 | 107,252 | 100,227 |
| 4th billing | <u>123,009</u> | <u>112,236</u> | <u>116,702</u> | <u>107,348</u> |
| Total | <u>443,388</u> | <u>424,549</u> | <u>434,431</u> | <u>409,609</u> |
| District 2 - Residential | | | | |
| 1st billing | 121,583 | 119,963 | 116,861 | 115,362 |
| 2nd billing | 115,628 | 112,910 | 113,431 | 119,916 |
| 3rd billing | 131,530 | 127,364 | 139,490 | 122,680 |
| 4th billing | <u>147,075</u> | <u>122,452</u> | <u>122,469</u> | <u>128,268</u> |
| Total | <u>515,816</u> | <u>482,689</u> | <u>492,251</u> | <u>486,226</u> |
| District 3 - Residential | | | | |
| 1st billing | 90,166 | 91,737 | 91,913 | 89,117 |
| 2nd billing | 89,949 | 87,527 | 91,425 | 84,898 |
| 3rd billing | 103,073 | 93,276 | 99,438 | 91,686 |
| 4th billing | <u>96,107</u> | <u>92,489</u> | <u>90,476</u> | <u>90,915</u> |
| Total | <u>379,295</u> | <u>365,029</u> | <u>373,252</u> | <u>356,616</u> |
| District - Industrial | | | | |
| 1st billing | 189,903 | 238,737 | 207,453 | 220,964 |
| 2nd billing | 156,463 | 175,828 | 187,882 | 187,131 |
| 3rd billing | 183,471 | 188,136 | 209,908 | 211,761 |
| 4th billing | <u>274,404</u> | <u>249,756</u> | <u>321,441</u> | <u>292,765</u> |
| Total | <u>804,241</u> | <u>852,457</u> | <u>926,684</u> | <u>912,621</u> |
| District - SIU | | | | |
| 1st billing | 295,779 | 215,093 | 153,939 | 236,512 |
| 2nd billing | 297,740 | 242,358 | 263,402 | 213,396 |
| 3rd billing | 232,313 | 233,796 | 214,401 | 210,400 |
| 4th billing | <u>239,490</u> | <u>280,474</u> | <u>245,080</u> | <u>229,831</u> |
| Total | <u>1,065,322</u> | <u>971,721</u> | <u>876,822</u> | <u>890,139</u> |
| District - NR | | | | |
| 1st billing | 1,015 | 1,205 | 569 | 527 |
| 2nd billing | 1,211 | 950 | 659 | 391 |
| 3rd billing | 1,337 | 790 | 637 | 406 |
| 4th billing | <u>1,313</u> | <u>641</u> | <u>740</u> | <u>423</u> |
| Total | <u>4,876</u> | <u>3,586</u> | <u>2,605</u> | <u>1,747</u> |
| Grand Total ccf | 3,212,938 | 3,100,031 | 3,106,045 | 3,056,958 |
| % Change from Prior Year | -1.75% | -3.51% | 0.19% | -1.58% |

As illustrated by Table 17, water consumption in 2015 decreased 1.75% due to loss of a major customer in the Significant Industrial Users (SIU) category. This loss caused additional losses reflected during the full year in 2017, resulting in a decrease in consumption of 3.51 %. As the customer base stabilized in 2018, water consumption increased 0.19%, before decreasing once again in 2019 at a rate of 1.58%, mainly from residential use.

The ten largest water customers and wastewater customers are listed in Table 17A below.

Table 17A – Ten Largest Water and Wastewater Customers

| | <u>Name</u> | <u>12/31/2019</u> | <u>% of</u> | <u>6/30/2020</u> |
|----|----------------------------|----------------------|--------------|---------------------|
| | | <u>Revenue</u> | <u>Total</u> | <u>YTD</u> |
| 1 | Norampac Industries #50 | \$ 6,934,423 | 42.41% | \$ 3,883,919 |
| 2 | Covanta Niagara, LP #32 | 1,579,565 | 9.66% | 693,841 |
| 3 | Niacet Corporation #17 | 1,346,121 | 8.23% | 710,737 |
| 4 | Occidental Chemical #22 | 1,316,784 | 8.05% | 664,050 |
| 5 | Olin Corp #23 | 1,286,814 | 7.87% | 493,706 |
| 6 | Olin Corp | 1,027,783 | 6.29% | 572,594 |
| 7 | Seneca NF Gaming - Hotel | 891,088 | 5.45% | 419,599 |
| 8 | Goodyear Tire & Rubber Co. | 677,573 | 4.14% | 363,424 |
| 9 | Town of Niagara | 674,623 | 4.13% | 385,651 |
| 10 | Durez Corporation | 616,506 | 3.77% | 308,032 |
| | | <u>\$ 16,351,280</u> | <u>100%</u> | <u>\$ 8,495,553</u> |

The following table illustrates the historical trends in water consumption as well as the distribution of water sales by customer class:

Table 17B – Water Demand, Revenue and Account Information by Customer Class

| Class of Customer | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Residential/Commercial | | | | | | | | | | |
| Consumption (CCF) | 1,423,330 | 1,329,279 | 1,344,810 | 1,331,527 | 1,346,029 | 1,315,516 | 1,338,499 | 1,272,267 | 1,299,934 | 1,252,451 |
| Number of Accounts | 18,558 | 18,484 | 18,509 | 18,470 | 18,249 | 18,379 | 17,954 | 17,835 | 17,917 | 17,944 |
| Revenues | \$ 4,453,643 | \$ 4,221,051 | \$ 4,402,971 | \$ 4,674,230 | \$ 4,765,290 | \$ 4,728,578 | \$ 4,982,389 | \$ 4,822,853 | \$ 5,120,518 | \$ 4,985,808 |
| Industrial | | | | | | | | | | |
| Consumption (CCF) | 680,170 | 725,931 | 780,293 | 849,504 | 745,073 | 741,580 | 804,241 | 852,457 | 926,684 | 912,621 |
| Number of Accounts | 280 | 339 | 250 | 253 | 255 | 256 | 248 | 261 | 245 | 245 |
| Revenues | \$ 1,695,393 | \$ 1,860,892 | \$ 1,875,335 | \$ 2,033,097 | \$ 1,975,744 | \$ 2,399,858 | \$ 2,956,785 | \$ 2,327,816 | \$ 2,722,250 | \$ 2,597,846 |
| Significant Industrial Users (SIU) | | | | | | | | | | |
| Consumption (CCF) | 686,179 | 820,292 | 868,945 | 1,123,975 | 1,362,443 | 1,209,147 | 1,065,322 | 971,721 | 876,822 | 890,139 |
| Number of Accounts | 27 | 23 | 23 | 24 | 24 | 24 | 23 | 23 | 24 | 22 |
| Revenues | \$ 1,335,904 | \$ 1,456,938 | \$ 1,868,321 | \$ 2,402,154 | \$ 2,858,019 | \$ 2,553,174 | \$ 2,334,010 | \$ 2,166,094 | \$ 2,238,898 | \$ 2,067,362 |
| Non-Resident Users* | | | | | | | | | | |
| Consumption (CCF) | 5,478 | 6,724 | 8,499 | 11,452 | 3,467 | 3,862 | 4,876 | 3,586 | 2,605 | 1,747 |
| Number of Accounts | 28 | 27 | 28 | 27 | 27 | 27 | 27 | 27 | 27 | 26 |
| Revenues | \$ 59,957 | \$ 102,362 | \$ 291,683 | \$ 289,239 | \$ 22,750 | \$ 35,981 | \$ 46,376 | \$ 30,912 | \$ 22,467 | \$ 22,232 |
| Total | | | | | | | | | | |
| Consumption (CCF) | 2,795,157 | 2,882,226 | 3,002,547 | 3,316,458 | 3,457,012 | 3,270,105 | 3,212,938 | 3,100,031 | 3,106,045 | 3,056,958 |
| Number of Accounts | 18,893 | 18,873 | 18,810 | 18,774 | 18,555 | 18,686 | 18,252 | 18,146 | 18,213 | 18,237 |
| Revenues | \$ 7,544,897 | \$ 7,641,243 | \$ 8,438,310 | \$ 7,544,897 | \$ 7,641,243 | \$ 8,438,310 | 10,319,560 | 9,347,675 | 10,104,133 | 9,673,248 |
| Plus: Other Departmental Revenues | 1,864,175 | 1,423,258 | 2,091,531 | 4,016,732 | 3,981,869 | 3,466,847 | 1,137,966 | 1,497,008 | 1,450,379 | 1,921,647 |
| Less: Adjustments | (319,574) | (140,271) | (121,154) | (149,000) | (100,245) | (82,143) | (311,134) | (304,026) | (25,013) | (10,629) |
| Total Departmental Revenue | \$ 9,089,498 | \$ 8,924,230 | \$ 10,408,687 | \$ 11,412,629 | \$ 11,522,867 | \$ 11,823,014 | \$ 11,146,392 | \$ 10,540,657 | \$ 11,529,499 | \$ 11,584,266 |

Rates for Water Service and Wastewater Service

The rates for water service and wastewater service in 2020 remained the same for both customers within and outside the City. The Board provides wastewater service to Town of Niagara customers outside of the City. The Board reached an agreement with the Town of Niagara in 2015 that includes the use of wastewater flow meters for measuring actual wastewater volumes discharged to the NFWB collection system. These two changes should result in increased revenues from these Out of District users. In addition, the Board is aggressively pursuing water theft and the potential under-recording of water use to ensure that every customer pays their fair share. This includes timely investigation of low or zero meter readings and the recently completed meter replacement program. Water and wastewater rates for 2020 and 2019 are provided in the financial statements of the Board for the year ended December 31, 2019 and are not repeated here. The consumption-related water rates of the Board for 2019-20 are shown in Table 17C below. Historical rate increases for water and wastewater customers are presented in Table 18 that follows.

Table 17C – 2020 Rates for Water Customers

| | Inside City (\$/ccf) | Outside City (\$/ccf) |
|-----------------|-------------------------------------|--------------------------------------|
| First 20,000 CF | 3.42 | 9.13 |
| Next 60,000 CF | 2.96 | 7.97 |
| Next 120,000 CF | 2.51 | 6.64 |
| > 200,000 CF | 2.08 | 5.59 |

Table 18 –Historical Percentage Increases in Rates for Water and Wastewater Customers

| 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 6.0% | 2.6% | 0.0% | 4.4% | 0.0% | 2.4% | 2.0% | 0.0% |

The rate structure for sewer service consolidates all consumers into two classes: Significant Industrial Users (SIU), and Commercial, Small Industrial, and Residential Users (CSIRU). The user charge system includes ten Substance of Concern charges that are assessed exclusively within the SIU class.

The 2020 wastewater user charges for the CSIRU class of customers are summarized in Table 19.

Table 19 – 2020 Wastewater Rates for CSIRU Customers

| <u>Minimum Charge</u> | <u>Volume Charge</u> |
|---|---|
| All meter sizes and flow up to 1,300 cf \$58.79 | Usage in excess of 1,300 cf per quarter (per 100 cf) \$7.97 |

Three of the wastewater user charges for the SIU class of customers in 2020 are summarized in Table 20.

Table 20 – 2020 Wastewater Rates & Charges for SIU Customers

| Flow Charge (\$/MG) | Solids Charge (\$/lb) | SOC Charge (\$/lb) |
|------------------------------------|--------------------------------------|-----------------------------------|
| 3,180 | 1.02 | 1.76 |

Interest Earnings

The System will earn interest on the funds maintained by the Board and the Authority. Based on the anticipated balances in each fund and the current investment rates, Table 21 presents the estimated interest earnings for 2020.

Table 21 – Estimated Interest Earnings - 2020

| Fund | Average End of Month Balance | Interest Earnings Rate | Estimated Annual Earnings |
|---------------------------------|---|---------------------------------------|--|
| Debt Service restricted cash | \$ 19,373,057 | Varies | \$ 550,000 |
| Capital Project restricted cash | 6,786,581 | 0.25% | 16,966 |
| Operating cash | 24,000,000 | 0.15% | 36,000 |
| | | | <u>\$ 602,966</u> |

Interest earnings rates have been decreasing in 2020. This situation is affecting the revenue of water utilities across the country.

System Operating Expenses

The System's expenses include the costs associated with the operation, maintenance and administration of the water treatment facilities and distribution system, as well as the costs associated with the operations of the wastewater collection and treatment facilities and stormwater facilities. The principal components of operating expenses other than labor as projected for 2020 are shown in Table 22

Table 22 – Major Components of Expenses Other Than Labor - 2020

| Item | Amount |
|---|---------------|
| Chemicals | \$ 4,211,682 |
| Utilities | 1,213,735 |
| Maintenance | 1,170,575 |
| Computer Service Contracts / Supplies / Professional Services | 1,480,643 |
| Insurance | 469,992 |

Chemicals are used in both the water treatment and the wastewater treatment processes although the majority of the cost of chemicals is wastewater related. The System receives low cost hydroelectric power from the New York Power Authority which significantly reduces its electrical costs relative to market rates. The Board will be proactively seeking opportunities to further reduce such costs. Other expenses are assumed to be affected by inflation as well as the results of cost saving initiatives of the Board during the projection period.

The total operating expenses of the Board in 2017, 2018 and 2019 were approximately \$29.2 million, \$29.2 million and \$30.0 million respectively.

ECONOMIC AND DEMOGRAPHIC DATA

The following information was provided by other sources and provides updated information regarding the Board’s Service Area. Since the Service Area consists primarily of the City of Niagara Falls, the information is limited to that portion of the Service Area that is within the boundaries of the City.

Major Employers in Niagara Falls Area

| City / County | Employer | Employees |
|----------------------|---|------------------|
| County | Niagara Falls Air Reserve Station | 2787 |
| City | Seneca Niagara Casino and Hotel | 2715 |
| County | Niagara County | 1554 |
| City | Fashion Outlets of Niagara | 1434 |
| County | General Motors Components Holdings, LLC | 1400 |
| City | Niagara Falls City School District | 1263 |
| County | Praxair Inc. | 1200 |
| City | Niagara Falls Memorial Medical Center | 1004 |
| County | St. Gobain Ceramics & Plastics | 884 |
| County | Niagara County Community College | 713 |

Source: Niagara County Center for Economic Development

Population

Changes in the City’s population compared to changes in the population of the County, the State and the United States are as follows:

| | <u>1990</u> | <u>2000</u> | <u>2010</u> | <u>% of Change 1990-2000</u> | <u>% of Change 2000-2010</u> |
|---------------|--------------------|--------------------|--------------------|---|---|
| City | 61,840 | 55,593 | 50,193 | -10.10% | -9.71% |
| County | 220,756 | 219,846 | 216,469 | -0.41% | -1.54% |
| State | 17,990,455 | 18,876,457 | 19,378,102 | 4.92% | 2.66% |
| United States | 248,709,873 | 281,421,906 | 308,745,338 | 13.15% | 9.71% |

Source: United States Bureau of the Census

Civilian Labor Force – Annual Average (thousands)

| | 2015 | 2016 | 2017 | 2018 | 2019 |
|--------|-------------|-------------|-------------|-------------|-------------|
| City | 21.5 | 21.3 | 21.1 | 20.9 | 20.8 |
| County | 101.1 | 100.2 | 99.4 | 99.0 | 98.8 |
| State | 9,558.8 | 9,551.9 | 9,549.1 | 9,521.9 | 9,514.4 |

Source: New York State Department of Economic Development: Bureau of Economic and Demographic Information (note that "City" refers to Niagara Falls city, NY Statistical Area).

Yearly Average Unemployment Rates

| Year | City | County | State |
|-------------|-------------|---------------|--------------|
| 2015 | 7.6% | 6.2% | 5.3% |
| 2016 | 7.2% | 5.8% | 4.8% |
| 2017 | 7.9% | 6.2% | 4.7% |
| 2018 | 6.7% | 5.2% | 4.1% |
| 2019 | 6.2% | 5.0% | 4.0% |

Source: New York State Department of Labor, Bureau of Labor Statistics, Information not seasonally adjusted (note that "City" refers to Niagara Falls city, NY Statistical Area)

Monthly Unemployment Rates

| Month | City | County | State |
|---------------|-------------|---------------|--------------|
| January, 2020 | 7.3% | 6.0% | 4.1% |
| February | 6.9% | 5.8% | 3.9% |
| March | 7.7% | 6.1% | 4.2% |

Source: New York State Department of Labor, Bureau of Labor Statistics, Information not seasonally adjusted (note that "City" refers to Niagara Falls city, NY Statistical Area).

*Note that figures in this section are historical and do not speak as to current or projected employment rates. Unemployment has drastically increased since mid-March due to COVID-19 global pandemic.

Comparative Housing, Income and Population Data (as of December 2013)

| | City | State | U.S. |
|-------------------------------------|-------------|--------------|-------------|
| Age Distribution: | | | |
| % under 5 years | 5.6 | 6.0 | 6.4 |
| % 20 to 64 | 61.0 | 80.0 | 80.2 |
| % 65 and over | 15.0 | 13.8 | 13.4 |
| Median age | 39.4 | 38.1 | 37.3 |
| Person / Household | 2.28 | 2.61 | 2.63 |
| Housing: | | | |
| % owner occupied housing units | 55.8% | 54.2% | 64.9 |
| Median value housing (\$) | 66,600 | 288,200 | 176,700 |
| Median gross rent (\$) | 718 | 1,109 | 962 |
| % housing built 1990 - 2000 | 7.0 | 6.0 | 13.9 |
| % housing built before 1939 | 33.2 | 33.1 | 13.7 |
| % with 5 or more units in structure | 14.1 | 34.9 | 24.5 |
| Income: | | | |
| Per capita income (\$) | 20,549 | 32,382 | 28,155 |
| Median family income (\$) | 32,326 | 58,003 | 53,046 |
| % below poverty level | 24.9 | 15.3 | 15.4 |

Source: Census of Population and Housing, U.S. Department of Commerce, Bureau of Census (note that "City" refers only to Niagara Falls)