

Town of Owego

Water Fund Operations

APRIL 2022



OFFICE OF THE NEW YORK STATE COMPTROLLER
Thomas P. DiNapoli, State Comptroller

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Report Highlights

Town of Owego

Audit Objective

Determine whether Town of Owego (Town) officials provided adequate oversight of water fund operations.

Key Findings

Town officials did not provide adequate oversight of water fund operations. Specifically:

- 104 of 1,380 water bills tested were not calculated correctly resulting in approximately \$70,000 of lost revenue for the Town.
- All 51 water bill adjustments reviewed, totaling \$233,400, were not approved by the Board; of those, 28 adjustments totaling approximately \$70,100 were also not appropriate.
- The consolidated water district had operating surpluses of over \$465,000 in 2019 and \$395,000 in 2020.
- 28 percent of the water produced, or 138.6 million gallons, is considered unauthorized non-revenue (lost) water, 12 percentage points above the national average.

Key Recommendations

- Ensure that water bills are calculated correctly using Board-approved rates.
- Review and approve all adjustments prior to implementation by the utility department in accordance with the local ordinance.
- Review water accountabilities performed, determine where significant deficiencies exist and correct any issues noted.

Town officials agreed with our recommendations and have initiated or indicated they planned to initiate corrective action.

Background

The Town, located in Tioga County (County), is governed by an elected five-member Town Board (Board), composed of the Town Supervisor (Supervisor) and four Board members.

The Board is responsible for the general oversight of the Town's operations and finances. The Supervisor, as chief fiscal officer, is responsible for disbursing and receiving money, maintaining accounting records and providing financial reports to the Board.

The water and sewer committee (Committee) is composed of two Board members and communicates information concerning the Town's water and sewer operations to the rest of the Board. The Board-appointed utility director (Director) oversees the day-to-day water operations with the help of the utility department clerk (clerk) and communicates issues or needs to the committee.

Quick Facts

Population	18,777
Water Customers	2,763
2021 Water Fund Appropriations	\$1.5 million

Audit Period

January 1, 2019 – July 31, 2021

Water Fund Operations

The Town has two water districts (districts):

- A consolidated water district with five service areas throughout the Town, and the Route 38 water district encompassing an area north of the Village of Owego on Route 38.
- The consolidated water district meter readings are done three times a year for each of the five service areas and are billed the following month. The Route 38 water district meters are read four times a year and billed the following month.

The clerk uses the water meter readings to prepare the bills. There is an established formula and process used to calculate capital units, which is based off a prior year's usage for single dwelling units and businesses, or a fixed number for multiple dwelling units. Only customers that have water usage are charged a billing fee. However, all customers connected to the water system, whether or not they have water usage, pay a capital charge based upon a capital dwelling unit in the consolidated water district or a flat fee in the Route 38 water district.

How Should Officials Provide Adequate Oversight of Water Operations?

A board is responsible for establishing water rates for all charges. A director is responsible for presenting accurate bills to all water customers based on their water usage and the board-approved water rate charges. A director should ensure that accurate information is maintained on each property, such as the number of dwelling units, as this information is used to determine water billings.

A board and town officials should develop and adopt written policies and procedures on how adjustments to bills are determined and approved. A board should adopt structurally balanced budgets based on expected results of operation. Officials should closely monitor the progress of actual revenues and expenditures throughout the year and identify any variances that might cause the town to end the year with a significant operating surplus (revenues exceed expenditures more than anticipated) or operating deficit (expenditures exceed revenues more than anticipated). Although officials may appropriate a portion of fund balance to help finance the next year's budget, this appropriation of fund balance should result in a planned operating deficit and a reduction in fund balance. A board also may retain a reasonable portion of unrestricted fund balance as a financial cushion for unforeseen circumstances.

Finally, the Board has established a local ordinance that adequately governs how adjustments are made to water bills. If a customer suspects an issue with their water bill, they should contact the Director who will investigate. If the water bill

A board and town officials should develop and adopt written policies and procedures on how adjustments to bills are determined and approved.

is determined to be incorrect, the Director should present an adjustment to the Committee, who will bring it before the Board for its review and approval. Board approval is required before adjustments are made.

Water Bills Were Inaccurate

The Town issued 4,982 bills for both water districts for the months selected, of which we reviewed a sample of 1,380 bills to determine if they were calculated using Board-approved rates and found 104 bills (8 percent) were inaccurate (Figure 1).¹ Of those 104 bills, 71 had inaccurate capital units, 23 with incorrect rates or fees, three where the billing system did not calculate the amount based off actual usage, two with inaccurate capital units and an incorrect rate or fee, and five with inaccurate capital units and the billing system did not correctly calculate off of actual usage.

Figure 1: Inaccurate Water Bills Summary

Exception	Overcharged		Undercharged		Total	
	Bills	Amount	Bills	Amount	Bills	Amount
Capital Unit Errors	50	\$3,102	21	\$(5,373)	71	\$(2,271)
Incorrect Rates or Fees	4	58	19	(344)	23	(286)
Billing System Errors	0	0	3	(180)	3	(180)
Capital Unit & Incorrect Rate or Fee	0	0	2	(9,244)	2	(9,244)
Capital Unit & System Error	1	196	4	(58,223)	5	(58,027)
Total	55	\$3,356	49	\$(73,364)	104	\$(70,008)

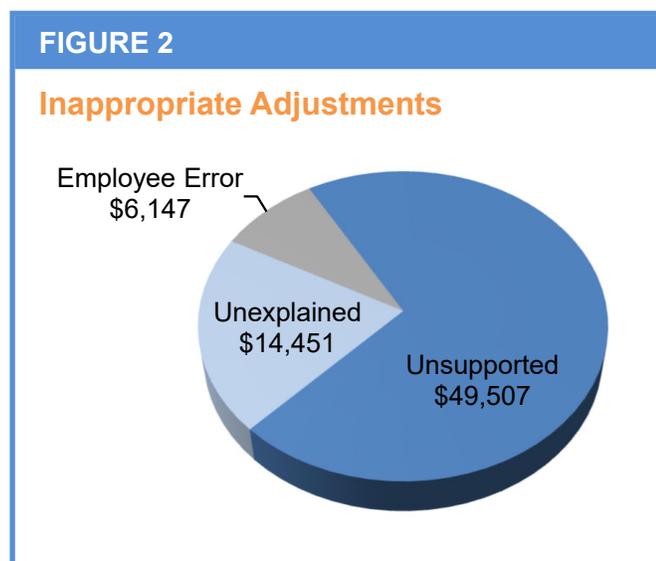
The capital unit errors occurred because the Director was unaware of the process to calculate capital units prior to 2021. However, the errors continued in 2021 due to the Director not updating internal tracking documents or applying the process consistently which allowed properties to be assessed the incorrect capital unit. Incorrect rates or fees were because utility department employees inputted the wrong water or capital unit rates into the billing system. The billing system errors were because the system was not calculating the bill based upon actual meter readings.

Because these errors went undetected, the water department undercharged customers a total of \$73,364 and overcharged a total of \$3,356. We discussed these issues with Town officials, but they did not indicate what, if any, action they would take. Without adequate procedures to calculate bills, officials cannot be sure that all bills are being charged in accordance with the Board-approved rates.

Adjustments Were Not Approved or Appropriate

During the audit period, utility department employees made 219 adjustments to bills, reducing the total billings by \$238,354. We selected a sample of 36 accounts with a total of 51 adjustments that reduced billings by \$233,391 to determine if adjustments were approved by the Board and were warranted.¹ None of the adjustments had received Board approval.

In addition, 28 adjustments (55 percent) totaling \$70,105 were not for appropriate purposes, either because there were no supporting work orders, the Director did not know why adjustments were made, or an employee incorrectly adjusted billing amounts without the Director's review (Figure 2). We determined that Town employees who collected water rents and penalties were unable to adjust the bills in the financial records system. In addition, those employees who could make adjustments did not have any adjustments associated with their accounts.

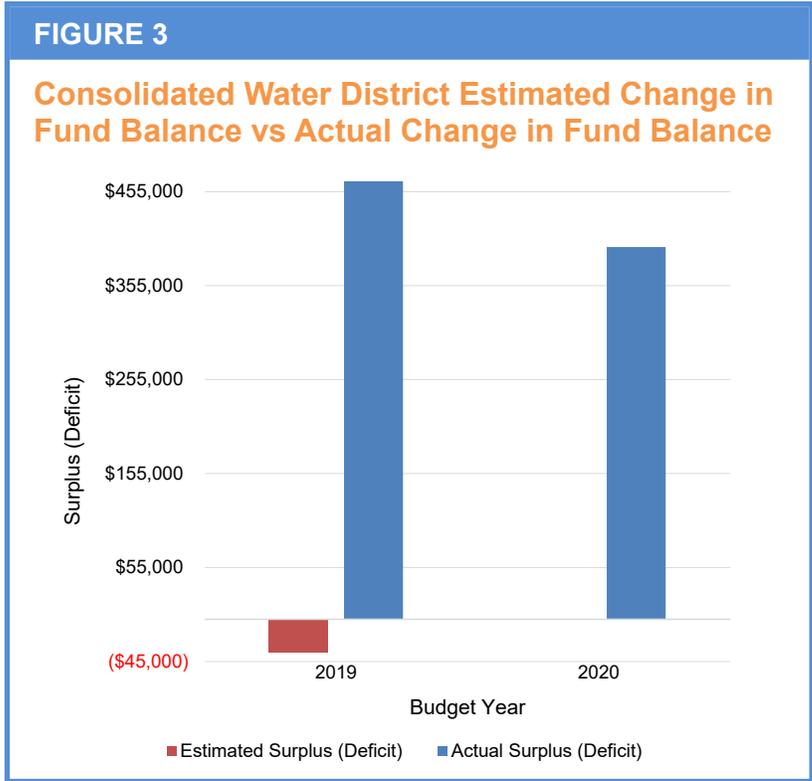


The Board did not provide clear guidance on when the Director could adjust water bills. For example, the Supervisor told us the Director could make adjustments of nominal value without the approval of the Board; however, two Board members told us the Board needed to approve all adjustments. These 28 adjustments resulted in lost revenue to the Town totaling \$70,105.

The Board Did Not Adopt Realistic Budgets

During the audit period, the Board adopted budgets that planned for an operating deficit of \$35,000 in 2019 and to break-even in 2020 for the consolidated water district, however, instead there were operating surpluses of approximately \$466,000 in 2019 and \$396,000 in 2020 (Figure 3). Except for minor budget variances, the Route 38 water district budgets were reasonable.

¹ Refer to Appendix B for our sampling methodology.



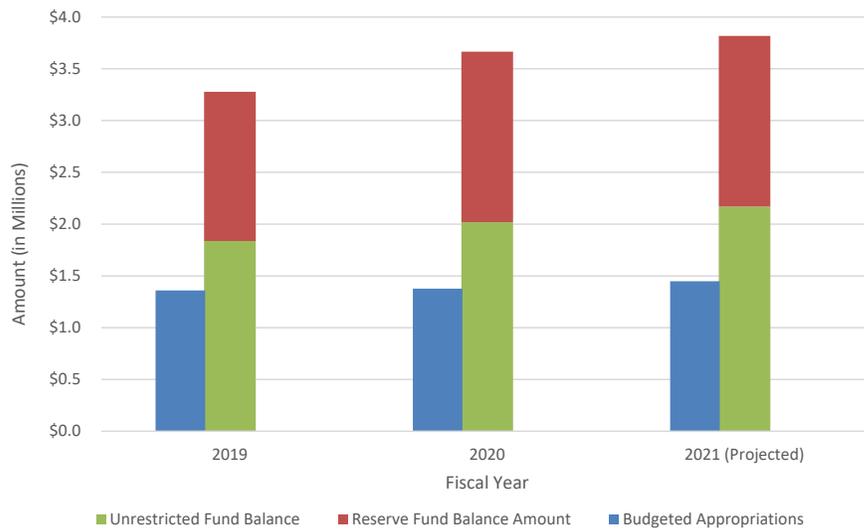
Both the 2019 and 2020 consolidated water district budgets were unrealistic. For example, in 2019 water rents were underestimated by \$264,741; the Supervisor told us that they underestimated revenues in case of unforeseen expenditures. However, both personnel services and employee health insurance were overbudgeted by \$33,002 and \$51,696, respectively.

The Supervisor told us that the personnel services were overestimated because they were expecting to pay for additional staff that did not materialize and the health insurance costs were due to officials still adjusting the budget after the Town changed its health insurance plan. The issue with personnel services continued into the 2020 budget as it was overestimated by \$26,083, and the employee health insurance cost estimate did improve but was still overestimated by \$11,975.

As a result, the consolidated water district’s fund balance grew from \$2.8 million on December 31, 2018 to \$3.67 million on December 31, 2020. We estimate that it will grow further to approximately \$3.8 million on December 31, 2021 with \$1.7 million of that balance set aside in reserves (Figure 4).

FIGURE 4

Consolidated Water District Fund Growth vs Budgeted Appropriations by Year



While maintaining a reasonable amount of unrestricted fund balance within the operating fund provides a cushion for unforeseen expenditures or revenue shortfalls, it should be planned and accounted for. This allows the Board to make accurate and informed management decisions and provide transparency for the taxpayers. Establishing a written multiyear capital plan and funding appropriate reserves provide a more transparent mechanism for legally saving money to finance future infrastructure, equipment or other improvements. Further, it helps to clearly demonstrate to the Town’s residents and taxpayers the Board’s plan for accumulated fund balance. Without adequate capital and financial plans, the Board could be charging higher rates than what is needed to fund operations.

How Should Officials Monitor for Water Loss?

A board is responsible for controlling the cost of operating a town’s water system by ensuring the director tracks water use through the system, compares water pumped or purchased to water sold or used for authorized purposes such as highway paving, and determines whether there is a large volume of water loss that is unauthorized. This tracking of sold or authorized use water and unauthorized water loss is often determined through a reconciliation referred to as a water accountability and is a useful tool when tracking water loss. A large volume of water loss could be a warning sign of significant infrastructure problems, such as a broken meter or leaking pipes. Significant water loss should be investigated and remedied. Procedures should be in place to monitor and

identify the causes of water loss as well as procedures for reactively fixing broken infrastructure and proactively replacing aging infrastructure. The United States Environmental Protection Agency and the American Water Works Association have established that all water produced in a water system should be accounted for. They define any water consumption that is lost, or unbilled, as non-revenue water (NRW) and determined that average NRW is approximately 16 percent.

Officials Did Not Adequately Monitor Water Loss

The Director performed water accountability reconciliations at the end of every billing cycle. By monitoring the amount of water pumped daily, and periodically comparing water produced (pumped or bought) to water sold, used for authorized purposes, or lost to known leaks the director determined “accounted for water.” Remaining water loss due to unknown leaks was determined to be “unaccounted for water,” and the Director settled on 20 percent as an acceptable loss, instead of calculating NRW. This process did not give an accurate representation of NRW because the Director included known leaks as accounted for water in the calculation.

We reviewed the Director’s water accountabilities and calculated NRW. During the audit period, the Town produced or bought 501 million gallons and had a total unauthorized NRW of 139 million (28 percent) gallons, which is 12 percentage points above the national average. This NRW exceeded the amount calculated by the Director by 26 million gallons.

The Director stated he was aware of some undetected water loss caused by leaks in the system and the Town had recently acquired equipment to help locate leaks; however, there is not a unified plan to address the aging infrastructure that could be causing the leaks to develop. The Board does not have a replacement schedule for its infrastructure, instead allowing the Director to repair or replace water lines when leaks are detected. Additionally, some of the NRW may be due to aging water meters. The Director has a plan to replace residential meters and included the replacement meters as part of the yearly budget; however, there is no plan to replace meters at businesses which tend to have higher water usage.

Due to the aging infrastructure of the system, the Town had lost water equivalent to the average yearly use of 1,180 additional residential users or 42 percent of the Town’s existing water customers.

What Do We Recommend?

The Board should:

1. Review and approve all adjustments prior to implementation by the utility department in accordance with the local ordinance.
2. Consult with legal counsel on the Town's ability to refund and recover money from incorrect water bills and adjustments.
3. Develop realistic estimates for revenues and expenditures based on historical trends or other known factors.
4. Develop written multiyear capital and financial plans to address the aging infrastructure and the water districts' financial operations.
5. Review water accountabilities performed, determine where significant deficiencies exist and ensure that any identified issues are corrected.

The Director should:

6. Ensure that water bills are calculated correctly using Board-approved rates.
7. Review and update capital units on an annual basis.
8. Ensure that all adjustments are presented to the Board for review and approval prior to implementation.
9. Perform water accountabilities that identify and present all NRW, not just unaccounted for water.

Appendix A: Response From Town Officials



TOWN OF OWEGO SUPERVISOR

2354 State Route 434 ~ Apalachin, NY 13732

Office: 607-687-0123
Dept No: 7
Fax: 607-687-5191
DD: 607-689-0101

Donald Castellucci, Jr.

March 14, 2022

Ann C. Singer., Chief Examiner
Office of the New York State Comptroller
Binghamton Regional Office
State Office Building
44 Hawley Street, Suite 1702
Binghamton, NY 13901-4417

RE: Town of Owego response to audit #2021M-205

Dear Chief Examiner Singer,

We reviewed the Water Fund Operations audit report draft prepared by your office. While we agree that you raise some good points, we disagree with your opinion that the Board has not provided adequate oversight of the water fund operations. We have an informal capital plan for water maintenance and repairs which is the foundation of the reserves in the water fund. In our response, we will address each of your specific recommendations with our audit response and corrective action plan.

OSC Recommendation 1

Audit response: The Town does review and approve water adjustments and has recorded meetings to support those reviews. We acknowledge that the review of adjustments should be presented with more frequency and in a manner outlined in the local ordinance.

Corrective Action: The Town will implement a policy regarding billing adjustments requiring Town Board approval by the June 2022 billing cycle.

OSC Recommendation 2

Audit response: We agree with the audit findings related to errors in billing.

Corrective Action: The Town will consult with legal counsel on the Town's ability to refund and recover money from incorrect water bills and adjustments and solidify in writing the guidelines to be followed to implement said actions by June 30, 2022.

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OSC Recommendation 3

Audit response: We would like to note that the Town sustained extensive damage during the floods of 2006 and 2011 and navigated its way through a worldwide pandemic from 2019-2020 (the audit period) . To this date the Town is still completing projects to correct the damage. Through these catastrophes we have learned the importance of budgeting for unforeseen emergencies.

Corrective action: We will use more conservative figures in budgeting for fixed operating costs and will continue to fund reserves to address unforeseen expenditures.

OSC Recommendation 4

Audit response: The Town developed a plan for reserving funds for future maintenance and repairs totaling over \$4,125,000 several years ago with its former water director. The balance in those reserves at the end of 2020 were \$1,647,282 which is 42% of the fund balance. The Town will be transferring an additional \$450,000 into those reserves once the financials for 2022 are completed.

Corrective action: The Town will formalize in writing the objectives and goals of the water reserves schedule to be used for long term planning during the 2023 budget process. The Town will also review the fund balance policy and update it to meet the future needs of the water fund operations.

OSC Recommendation 5

Audit response: We will take this finding under consideration.

Corrective action: The Town will work with the water director to establish a calculation method for tracking all non-revenue water as established by the EPA and American Water Works Association. The Town will continue efforts to detect and repair leaks.

While we do not agree with the basic premise of your audit, we appreciate your review and comments. They help us evaluate the decisions and processes we follow.

Respectfully,

Donald Castellucci, Jr.
Owego Town Supervisor

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Appendix B: Audit Methodology and Standards

We conducted this audit pursuant to Article V, Section 1 of the State Constitution and the State Comptroller's authority as set forth in Article 3 of the New York State General Municipal Law. To achieve the audit objective and obtain valid audit evidence, our audit procedures included the following:

- We interviewed Town officials and reviewed Town policies, local ordinances, Board minutes, water operation reports, and various water financial and billing records to gain an understanding of the Town's procedures related to billing for water charges, the identifying and monitoring of NRW, budget development, and overall water operations.
- We used our professional judgment to select two billing cycles for each service area. For each service area, we selected the two billing cycles with the highest percentages of unauthorized NRW from our testing of NRW. We then selected a sample of bills that had greater than 20,000 gallons or zero gallons of usage determined by the billing software for the billing period or selected an account based on the name of the account holder for a total sample of 1,380 bills from all service areas. Finally, we recalculated the water bill and compared it to the original bill. Months selected for bill testing depended on service area (SA) and were as follows: April 2019 SA4; July 2019 SA3, SA7; October 2019 SA2; April 2020 SA7; June 2020 SA1; August 2020 SA4; October 2020 SA1, SA2, SA5; February 2021 SA5; July 2021 SA3.
- Using our professional judgment, we selected a sample of 36 accounts from the total identified population of 107 accounts with adjustments to water usage. We selected these 36 accounts by identifying all adjustments made during the audit period that had adjustments to water usage (as opposed to sewer usage) where the absolute dollar value of all adjustments made to the account totaled \$150 or greater. We then selected all 51 adjustments made to those accounts of the total population of 129 adjustments for testing. We then recalculated the adjustment and compared it to the original adjustment amount.
- We reviewed and compared all fund codes except for interfund transfers for variances between the original budget and actual operating results for 2019 and 2020. Using our professional judgment, we identified account codes with significant variances in each year. If an account code was identified as a significant variance in either year, the information for the other year was also identified to aid with identifying trends. We also projected the results of operations for 2021 based on the prior year's actual revenues and expenditures and current year revenues and expenditures as of July 31, 2021.

-
- We compared master flow meter readings and bills for water purchased by the Town to the corresponding billed usage to Town customers from January 1, 2019 through July 31, 2021, as well as records from the Town's highway department supporting its authorized water usage, to calculate the amount of unauthorized NRW for all service areas in both water districts. We also determined the average water usage for a residential unit for the audit period, which we used to calculate the number of additional residential users the unauthorized NRW was equivalent to.
 - We compared the Director's water accountability records of unauthorized NRW for January 1, 2019 through July 31, 2021 for all water service areas to our calculated unauthorized NRW to determine variances for each service area. We obtained all Town records of leaks as well as water used for hydrant flushing and fire suppression.

We conducted this performance audit in accordance with generally accepted government auditing standards (GAGAS). Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective.

Unless otherwise indicated in this report, samples for testing were selected based on professional judgment, as it was not the intent to project the results onto the entire population. Where applicable, information is presented concerning the value and/or size of the relevant population and the sample selected for examination.

The Board has the responsibility to initiate corrective action. A written corrective action plan (CAP) that addresses the findings and recommendations in this report should be prepared and provided to our office within 90 days, pursuant to Section 35 of General Municipal Law. For more information on preparing and filing your CAP, please refer to our brochure, *Responding to an OSC Audit Report*, which you received with the draft audit report. We encourage the Board to make the CAP available for public review in the Town Clerk's office.

Appendix C: Resources and Services

Regional Office Directory

www.osc.state.ny.us/files/local-government/pdf/regional-directory.pdf

Cost-Saving Ideas – Resources, advice and assistance on cost-saving ideas

www.osc.state.ny.us/local-government/publications

Fiscal Stress Monitoring – Resources for local government officials experiencing fiscal problems

www.osc.state.ny.us/local-government/fiscal-monitoring

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www.osc.state.ny.us/local-government/resources/planning-resources

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www.osc.state.ny.us/files/local-government/publications/pdf/cyber-security-guide.pdf

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BINGHAMTON REGIONAL OFFICE – Ann C. Singer, Chief Examiner

State Office Building, Suite 1702 • 44 Hawley Street • Binghamton, New York 13901-4417

Tel (607) 721-8306 • Fax (607) 721-8313 • Email: Muni-Binghamton@osc.ny.gov

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