



Staff Report

Report To: Council Meeting
From: Magda Badura, Manager of Corporate Services/Treasurer
Date: 2025-06-26
Subject: West Elgin Water Consumption Adjustments

Recommendation:

That West Elgin Council hereby receives the report from M. Badura, Manager of Corporate Services – Treasurer re: West Elgin Water Consumption Adjustments for information:

And that West Elgin Council directs staff to draft a report to the Tri-County Water Board for the approval to proceed.

Purpose:

The purpose of this report is to update the Council on the financial impact of water costs paid to the Tri-County Water Board from 2021 to 2024 and to outline the adjustments implemented following the findings of the recent water modeling study.

Background:

In response to concerns regarding the accuracy of water consumption reporting, Dillon Consulting Limited (Dillon) was retained to conduct an assessment of the Municipality of West Elgin's water consumption calculation methodology. The purpose of the assessment was to document both historical and current methods used to calculate water consumption; and to provide recommendations for a more representative and accurate methodology.

West Elgin is part of the Tri-County Water System, which also includes the Municipality of Southwest Middlesex, the Village of Newbury, the Municipality of Chatham-Kent, and the Municipality of Dutton/Dunwich. West Elgin is located at the upstream end of the water supply network, with treated water conveyed from a Lake Erie shoreline Water Treatment Plant (WTP) through approximately 12 km of trunk watermain. This infrastructure is owned and operated by the Tri-County Water Board, with meter chambers located at the connection points to other member municipalities.

Historically, until 2021, West Elgin's water consumption was calculated using the sum of metered flows for Rodney and customer meter readings for West Lorne. However, this method was found to likely underestimate actual consumption, as it excluded system losses such as leakage and flushing and relied on older, potentially inaccurate customer meters.

In 2022, a revised calculation method was adopted. Rather than using localized readings, West Elgin's consumption was calculated by subtracting the metered flows to the other four Tri-County members from the total flow supplied by the WTP. This method resulted in significantly higher consumption values for West Elgin because it attributed any unmeasured flow in the Tri-County system—such as water losses, inaccuracies in flow measurement and unaccounted leaks and flushing.

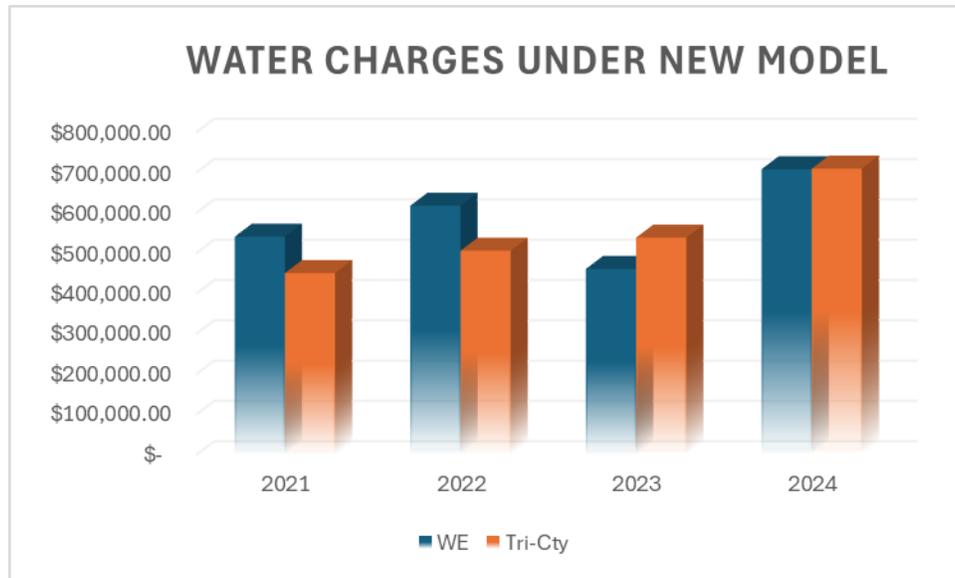
Dillon's review highlighted that the revised methodology likely overstates West Elgin's water usage. An annual flow deficit—averaging 17% of the total flow from the WTP—was identified when comparing the total water supplied to the sum of all measured consumption by Tri-County members. The causes of this discrepancy may have been related to measurement inaccuracies at Tri-County meter chambers, leakage from the trunk watermains, undetected losses in West Lorne's distribution system not captured by the previous method, under-readings from aging customer meters, and water used during system flushing operations.

Given the magnitude of the flow deficit, Dillon concluded that it is unlikely the discrepancy can be attributed solely to West Elgin's system. A significant portion of the unmeasured flow is likely due to losses or measurement issues within the Tri-County water network itself.

The method used for calculating West Elgin's water consumption significantly overestimated actual usage by assigning all unaccounted-for flow within the Tri-County Water System to West Elgin alone. Dillon Consulting recommended adopting a revised calculation method (Equation 4 attached to this report on pg. 5) that more accurately reflects West Elgin's true consumption, although some uncertainties remain—particularly with data from the West Lorne area.

Based on the revised methodology (Equation 4), West Elgin's water consumption for the years 2021 to 2024 was recalculated, with the results summarized in the table below. The updated figures indicate that West Elgin overpaid for water in 2021 and 2022 and underpaid in 2023 and 2024. Following consultation with the auditors, it was confirmed that there is no need to reopen the financial records for 2021 to 2023. Instead, the net adjustment can be processed in the 2024 fiscal year.

	West Elgin	Tri-County	Difference
2021	\$ 539,668.18	\$ 449,462.57	\$ 90,205.61
2022	\$ 616,572.39	\$ 504,969.98	\$ 111,602.41
2023	\$ 459,795.91	\$ 537,429.33	\$ (77,633.42)
2024	\$707,107.15	\$ 708,585.27	\$ (1,478.12)
Total			\$ 122,696.47



To improve accuracy, Dillon suggests further investigation, including reviewing flushing assumptions, auditing water billing records, and analyzing the distribution system’s infrastructure. Additionally, the Tri-County Water Board is encouraged to investigate the system-wide flow discrepancies by verifying flow meter accuracy and conducting leak detection on the trunk water mains.

Financial Implications:

As the administering body for the Tri-County Water Board, the Municipality of West Elgin maintains and records all related financial transactions. It is recommended that this report proceed to the Tri-County Water Board so that the identified overpayment may be recorded through an adjusting journal entry in the 2024 fiscal year. This entry will reduce the water department’s accumulated deficit by \$122,696.47, ensuring the financial statements accurately reflect the revised water consumption calculations and related costs.

Alignment with Strategic Priorities:

Infrastructure Improvement	Recreation	Economic Development	Community Engagement
<input checked="" type="checkbox"/> To improve West Elgin’s infrastructure to support long-term growth.	<input type="checkbox"/> To provide recreation and leisure activities to attract and retain residents.	<input checked="" type="checkbox"/> To ensure a strong economy that supports growth and maintains a lower cost of living.	<input checked="" type="checkbox"/> To enhance communication with residents.

Respectfully submitted by,

Magda Badura
Manager of Corporate Services – Treasurer

Report Approval Details

Document Title:	West Elgin Water Consumption Adjustments - 2025-12-Corporate Services Finance.docx
Attachments:	- Bardura_West Elgin Water Consumption Calculations_January 2025.pdf
Final Approval Date:	Jun 19, 2025

This report and all of its attachments were approved and signed as outlined below:

Robin Greenall