



Water Supply System

Administration, Operations, Maintenance, and Repair (OM&R), Debt Service, and Capital Expenditures Rate Study

February 19, 2026

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Susan Dryden-Hogan
Finance Director
Township of Hartland
Hartland Township Hall
2655 Clark Road
Hartland, Michigan 48353

Re: Township of Hartland
Water Supply System Rate Study

Dear Ms. Dryden-Hogan:

Thank you for providing MFCI with the opportunity to work with the Township of Hartland (the “Township”) to perform a rate study analysis of the Township’s Water Supply System (the “System”), specifically to the costs related to administration, operations, maintenance, and repair (OM&R) of the System, plus debt service, and capital expenditure costs. The goal of the rate study is to assist the Township’s decision-makers in ensuring the System is self-supporting and that System rates and charges meet the Township’s current and future operations, maintenance, and capital needs. The Township can use this tool to help set rates and charges in the Water Fund (the “Fund”) for the Township’s fiscal year 2027 and estimate rates and charges for future fiscal years.

The rate study provides a snapshot in time based on current assumptions. Rate studies are inherently subject to estimates, assumptions, and forecasts that may change or be incorrect. While MFCI relied on data and documents provided by the Township to perform its analysis, the Township’s assumptions and expectations of the System and Fund may change or evolve as new data becomes available. The Township should continue to monitor System and Fund performance and adjust its projections as necessary. MFCI does not provide any assurance regarding the actual results of the Fund. The Township should seek legal counsel as to the implementation of any advice provided in this rate study.

MFCI is available to discuss the results of this study at any time in the future with the Township.

Sincerely,

MFCI, LLC



Steven Burke, CFA
President

CC:

Warren M. Creamer, MFCI, LLC
Stacey Mills, MFCI, LLC
Karen J. Attardo, MFCI, LLC

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Executive Summary

Hartland Township (the “Township” or “Hartland”) engaged MFCI, LLC (“MFCI”) to evaluate the rate increases required to support the Township’s upcoming Water Supply System (the “System”) capital improvement program. This summary presents the key findings and analysis from the full rate study in a concise format.

Bottom Line – Key Findings

The Township’s current water rates have not changed since FY 2023 and are not sufficient to fund the System’s future operations, planned capital improvements, and anticipated new debt service. Rate increases beginning in FY 2027 are required to maintain the financial stability of the System.

System at a Glance

Customers Served	2,120 Residential Equivalent Units (REUs) (FY 2026) / 859 meters
System Built	Approximately 2001
Infrastructure	3 wells, treatment plant, 25 miles of mains, 1 storage tank
FY 2026 Operating Budget	\$929,240
FY 2026 Total Budgeted Revenue	\$1,013,890
REU Growth (FY 2025–2026)	9.8% increase in REUs

Why Rates Need to Change

Three factors are driving the need for rate adjustments:

1. Major Capital Investments Are Required

The Township’s water system was built around 2001 and needs reinvestment to remain compliant with Michigan drinking water regulations. Over the next several years, the Township plans to invest approximately \$14.1 million in capital improvements, including plant filter construction and improvements, a new water tower, water main extensions along M-59, a pressure relief valve, and future projects, including a third filter system and a new supply well.

2. Proposed Bond Issuance

To fund these projects, the Township anticipates issuing approximately \$10.5 million in bonds in two bond issuances over the next two years. These bonds will carry estimated annual debt service payments of over \$700,000 by FY 2031.

3. Current Revenue is not Enough to Afford the Required Projects

At current rates, the water system generates approximately \$1,014,000 in total revenue, with about \$929,000 in operating expenses, leaving about \$85,000 in operating income. This is far short of what is needed to service the new debt, fund reserves, and cover future capital costs. Without rate adjustments, the System cannot afford the proposed capital improvement projects.

Rate Context: Hartland’s Rates Are Currently Among the Lowest in the Region

At \$39.89 per month for the average customer (based on 8,000 gallons of usage per month), Hartland’s total water bill is the second lowest among 13 comparable Michigan communities surveyed. Additionally, Hartland’s bill falls below the 25th percentile nationally. The proposed rate adjustments will bring Hartland more in line with regional peers while funding critical infrastructure.

Proposed Rate Changes

The Township’s water bill has two components: a Ready-to-Serve (RTS) charge, a fixed quarterly fee per Residential Equivalent Unit (REU), and a Commodity charge based on actual water usage, measured in 1,000 gallons.

Proposed Five-Year Rate Track

	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
Quarterly RTS Fee	\$86.08	\$88.66	\$91.32	\$94.06	\$96.88
RTS Year-over-Year Change	0%	3%	3%	3%	3%
Commodity Fee (per 1,000 gal.)	\$4.50	\$4.95	\$5.45	\$5.99	\$6.59
Commodity Year-over-Year Change	221%	10%	10%	10%	10%

Why Does the Commodity Fee Increase So Much in Year One?

Hartland’s commodity rate of \$1.40 per 1,000 gallons is at the 3rd percentile nationally, meaning about 97% of water systems charge more per 1,000 gallons. The Township needs about \$700,000 in additional revenue per year over the next five years to service the proposed bonds. The proposed increase to \$4.50 per 1,000 gallons brings the commodity charge closer to national and regional averages while generating the revenue needed for debt service and capital improvements. After FY 2027, increases are a more modest 10% annually.

What This Means for a Typical Customer

The table below shows the impact on quarterly bills across usage levels, comparing current FY 2026 rates with proposed FY 2027 rates.

Quarterly Usage	Current Bill	Proposed Bill	Change
18,000 gallons	\$111.28	\$167.08	+\$55.80 (+50%)
20,000 gallons	\$114.08	\$176.08	+\$62.00 (+54%)
22,000 gallons	\$116.88	\$185.08	+\$68.20 (+58%)
24,000 gallons	\$119.68	\$194.08	+\$74.40 (+62%)

Even after these adjustments, Hartland’s quarterly water bill would remain competitive with most surveyed Michigan communities. For example, at 24,000 gallons per quarter, the proposed \$194.08 bill compares favorably with other local communities, such as Fenton (\$266), Lapeer (\$249), Holly (\$244), and Howell (\$215).

Five-Year Financial Outlook

The table below summarizes the projected financial performance of the water system under the proposed rate structure.

	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
Total Revenue	\$1,369,055	\$1,505,175	\$1,634,828	\$1,759,947	\$1,880,322
Operating Expenses	917,918	945,456	973,819	1,003,034	1,033,125
Debt Service	116,667	459,744	593,175	640,047	733,628
Debt Coverage Ratio	3.87x	1.22x	1.11x	1.18x	1.15x
Estimated Cash Balance	\$3,194,363	\$3,591,179	\$1,844,669	\$647,195	\$818,924

Key Observations

- Revenue is projected to grow from \$1.37 million in FY 2027 to \$1.88 million by FY 2031, driven by rate increases and conservative customer growth estimates.
- The Township's cash balances are projected to decline significantly in FY 2030 as the Township completes capital projects and spends bond proceeds in line with current REU growth projections. The FY 2030 projected balance of \$647,000 falls below the study's minimum reserve of approximately \$1.2 million. However, the Township retains the flexibility to delay some future capital projects based on system needs and the actual number of new REUs sold. The Board should monitor this closely and adjust based on the System's actual results.
- Debt service coverage ratios remain above 1.10x over the study period, which is the minimum target to accommodate annual consumption variations.
- Customer growth has been included based on conservative Township projections and helps offset rate increases. If growth exceeds current projections, future rate increases could be moderated. However, if growth is lower than current projections, the Board may consider delaying the timing of future capital improvement projects.

Next Steps for Hartland Township

1. Consider the Proposed Rate Change for FY 2027

A significant rate increase for FY2027 is the most substantial adjustment and is required to generate enough revenue to service the upcoming debt and capital improvements.

2. Commit to Annual Rate Reviews

The Township should establish a practice of reviewing and adjusting water rates annually based on actual results. The Township's user base is growing, and additional growth may allow for smaller increases going forward. The annual reviews allow the Board to respond to changes in growth, inflation, costs, and project timing.

3. Monitor Cash Reserves and Debt Coverage

The Township should track the System's cash balance against the \$1.2–\$2.0 million target range. The projected decline in the cash balance in FY 2030 is a known concern. The Township should also monitor the debt service coverage ratio annually to ensure coverage of 1.10x to 1.25x, providing a financial cushion for the System. If actual System water sales results track below projections, the Board should be prepared to accelerate rate adjustments or adjust capital project timing.

4. Communicate with Customers

The Township should proactively inform customers about the rate change and look for any users with outlying usage patterns that may indicate a meter problem or water leak. Hartland's rates have been among the lowest in the region, and now infrastructure investments are necessary for continued reliable service.

Hartland Township Water System Rate Study

Important Disclaimer

This rate study provides a snapshot in time based on current assumptions. Projections are subject to estimates, assumptions, and forecasts that may change. The Township should seek legal counsel on implementing rate changes and continue working with financial advisors to finalize specific rate schedules before bond issuance. MFCI does not provide any assurance regarding the Water Fund's actual results.

1. Introduction

MFCI has prepared this Water Rate Study for the Hartland Township Water System to evaluate the financial requirements necessary to support the System's operations, maintenance, capital improvements, and debt service obligations over a five-year planning period from fiscal year 2027 through 2031.

The Township has provided several documents to MFCI to assist with the rate study, including the Township's audited financial statements, budgets, Fiscal Year ("FY") 2025-2028+ Capital Improvements Plan, and operational data of the System. MFCI relied on the data contained in these documents to perform its analysis.

2. Purpose and Objectives

The purpose of this rate study is to determine whether the Township's current water rates are sufficient to support the ongoing operation, maintenance, and capital improvements of the Township's Water Supply System.

This analysis provides a financial framework to guide the Township's rate decision for FY 2027 and projects rates over the next five years.

3. Key Findings

After reviewing the Township's operating model, capital plans, debt obligations, and projected growth, several key conclusions emerged.

3.1 Current Rates Are Not Enough to Support Future Needs

The Township's existing water rates do not generate enough revenue to cover operating costs, upcoming major capital improvements, and future debt service payments. Without adjustments, cash reserves would decline, and the System would not remain financially stable.

Over the next several years, the Township plans to invest about \$14.1 million in System improvements. These projects are necessary to meet the regulatory flow requirements of the State of Michigan Department of Environment, Great Lakes, and Energy (EGLE) and to support the continued operation of the System. A portion of this capital will be funded through bonds, which will require the Township to make significant debt service payments compared to existing System revenues.

3.2 Rate Adjustments Are Necessary Beginning in FY 2027

To meet operating costs, support capital projects, and afford the projected debt service, water rates will need to increase beginning in FY 2027. While the initial adjustment is significant, delaying changes would result in even larger increases later and greater financial risk to the Township.

3.3 Reserves Must Be Maintained for Stability

Cash reserve balances are required to manage emergencies, unexpected repairs, and revenue fluctuations. The proposed rate changes help to maintain reserve levels to protect the System and the Township's financials.

The Township's water system is in good condition and well-managed. However, upcoming capital improvements and increased debt service require updates to the current rate structure to ensure the System remains reliable, financially stable, and self-supporting.

4. Study Methodology

4.1 Principle and Guidelines

This rate study follows the principles and guidelines established in the American Water Works Association (AWWA) M1 Manual, *Principles of Water Rates, Fees, and Charges*. The methodology employed includes:

- Analysis of historical and projected water consumption patterns
- Review of current and projected operating expenses
- Assessment of capital improvement needs and financing strategies
- Evaluation of debt service requirements and coverage ratios
- Determination of appropriate cash reserve levels
- Development of rate structures that ensure financial sustainability

4.2 Planning Period

This study analyzes the financial requirements of the water system for a five-year period from fiscal year 2027 through fiscal year 2031. This planning horizon enables adequate assessment of long-term capital needs, debt service obligations, and rate trajectories, while providing flexibility to respond to changing conditions.

4.3 Data Sources

All data included in this study is sourced from the Township unless otherwise noted.

5. System Overview

5.1 Description

Hartland Township operates a municipal water system that provides safe, reliable drinking water to residential and commercial customers within the service area. The System consists of groundwater wells, treatment facilities, storage infrastructure, and an extensive distribution network. To ensure the continued delivery of high-quality water service, the Township must maintain adequate financial resources to support operations, ongoing maintenance, system improvements, and debt obligations.

5.2 Customer Base

The Hartland Township water system serves a diverse customer base measured in Residential Equivalent Units (“REU”). One REU represents the typical water consumption of a single-family residential customer. Larger meters serving multi-family residential, commercial, and industrial customers are assigned multiple REUs based on an established REU conversion table that reflects the users’ relative demand on the System.

Table 1: Historical Customer Base (REUs)

REU Type	Fiscal Year Ending March 31,							
	2023		2024		2025		2026	
Residential	868.90	45.19%	885.80	45.91%	885.80	45.91%	988.00	46.61%
Commercial	1,053.89	54.81%	1,043.46	54.09%	1,043.46	54.09%	1,131.63	53.39%
Total	1,922.79	100.00%	1,929.26	100.00%	1,929.26	100.00%	2,119.63	100.00%

The System experienced approximately 9.8% growth in total REUs from FY 2025 to FY 2026. This growth reflects ongoing economic development within the Township, primarily driven by residential and multi-family construction.

5.3 REU Growth Projections

The Township provided the REU growth projections below based on an analysis of ongoing and proposed development projects approved by the Township Board. This analysis does not include projects in various planning stages that the Township Board has not yet approved. These proposed projects could total more than 300 additional REUs over the next 5 years, but the timing and scope of these projects have not yet been finalized.

Table 2: REU Projections

	Fiscal Year Ending March 31,				
	2027	2028	2029	2030	2031
REUs - Beginning of FY	2,120	2,223	2,295	2,343	2,368
Net New REU Connections	103	72	48	25	25
REUs - End of FY	2,223	2,295	2,343	2,368	2,393
REU Growth	4.87%	3.26%	2.07%	1.07%	1.06%

Key Observation: Customer growth has been included based on Township projections and helps offset rate increases. If growth exceeds current projections, future rate increases could be moderated. However, if growth is lower than current projections, the Board may consider delaying the timing of future capital improvement projects.

6. Current Rate Structure

6.1 Rate Components

The Hartland Township water system employs a two-part rate structure consisting of:

Ready-to-Serve Charge: A quarterly fixed charge of \$86.08 per REU that recovers costs associated with maintaining the System’s capacity to serve customers, including debt service, fixed operating expenses, and capital reserves. This charge is billed regardless of consumption and ensures that customers contribute to the fixed costs of system operations proportional to their demand on system capacity.

Commodity Charge: A volumetric charge of \$1.40 per 1,000 gallons of water consumed. This charge recovers the variable costs of water production and delivery, including energy for pumping, chemicals for treatment, and other consumption-related expenses.

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6.2 Historical Rates

The Township transitioned to the current REU-based rate structure in fiscal year 2023. Prior to that change, the System charged a quarterly ready-to-serve fee based on meter size rather than REUs. The rate history is summarized below:

Table 3: Historical Water Rates

Charge Type	Fiscal Year Ending March 31,				
	2022	2023	2024	2025	2026
Quarterly Water Usage Charge ⁽¹⁾	N/A ⁽³⁾	\$86.08	\$86.08	\$86.08	\$86.08
Commodity Charge ⁽²⁾	\$2.37	\$1.40	\$1.40	\$1.40	\$1.40

⁽¹⁾ Ready to Serve charge per REU

⁽²⁾ Per 1,000 Gallons

⁽³⁾ Prior to the fiscal year ended March 31, 2023, the Township charged a quarterly ready-to-serve charge by meter size rather than a quarterly water service charge by REU.

6.3 Water Rate Comparison- National and Local

To provide context for Hartland Township's rates, a comparison with national survey data is shown below. Based on a 2025 national survey of water rates, median monthly fees for service based on 8,000 gallons of consumption are as follows:

Table 4: Rate Comparison to National Survey Data

	25%	Median	75%	Max	Average	Hartland
Total Monthly Fees (based on 8,000 gallons)	\$41.36	\$54.32	\$71.84	\$210.58	\$60.77	\$39.89
Monthly RTS Fee	\$11.65	\$16.50	\$26.48	\$107.08	\$20.50	\$28.69
Commodity Fee - per 1,000 gallons	\$2.93	\$4.40	\$6.44	\$18.17	\$5.03	\$1.40

The Township's quarterly RTS fee, expressed as a monthly figure of \$28.69, is slightly above the 75th percentile versus the national levels. However, the Township's Commodity fee of \$1.40 is near the bottom of all communities surveyed. Based on 8,000 gallons of monthly usage, the Township's total monthly water fees of \$39.89, place the Township below the 25th percentile versus the national levels.

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Other selected local unit data as of December 2025 are shown in the table below.

Table 5: Local Michigan Residential Bill Survey Water Rate Comparison as of December 1, 2025

Local Unit	Commodity - Water	RTS - Water	Avg Monthly Water Bill (8,000 Gal.)	Avg Quarterly Water Bill (24,000 Gal.)
Fenton	\$8.20	\$23.20	\$88.80	\$266.40
Lapeer	\$9.35	\$8.08	\$82.88	\$248.64
Holly	\$8.50	\$13.25	\$81.25	\$243.75
Howell	\$6.80	\$17.38	\$71.78	\$215.34
Frankenmuth	\$5.62	\$26.79	\$71.75	\$215.25
Linden	\$7.25	\$9.42	\$67.42	\$202.26
Brighton	\$7.20	\$0.00	\$57.60	\$172.80
Chelsea	\$6.44	\$5.76	\$57.28	\$171.84
Dexter	\$4.89	\$10.86	\$49.98	\$149.94
Milan	\$5.22	\$4.83	\$46.59	\$139.78
Milford	\$4.05	\$13.17	\$45.57	\$136.71
Hartland	\$1.40	\$28.69	\$39.89	\$119.67
South Lyon	\$3.79	\$3.15	\$33.47	\$100.42

7. Operating Budget and Expenses

7.1 Operating Expense Categories

The annual operating budget for the water system covers the full range of costs required to operate and maintain it safely and reliably. Key expense categories include:

- **Personnel Costs:** Salaries, wages, and employee benefits for operations, maintenance, and administrative staff
- **Utilities:** Electricity for pumping and treatment, natural gas for facilities
- **Treatment Chemicals:** Chlorine, fluoride, and other chemicals required for water treatment
- **Maintenance and Repairs:** Routine and preventive maintenance, equipment repairs, vehicle maintenance
- **Professional Services:** Engineering, legal, accounting, consulting services
- **Testing and Monitoring:** Water quality testing, regulatory compliance monitoring
- **Administrative Costs:** Billing, customer service, insurance, office supplies

7.2 Budget and Expense Projections

For FY 2026, the Township has budgeted approximately \$929,240 in operating expenses for the water system. This represents the baseline for operating cost projections over the planning period. Operating expenses are projected to increase at a modest annual rate to account for:

- General inflation affecting labor, materials, and services
- Incremental costs associated with system growth and expanded service area
- Evolving regulatory requirements and compliance costs
- Aging infrastructure requiring increased maintenance attention

Prudent financial management requires that operating revenues consistently exceed operating expenses to maintain financial stability and build reserves for future needs. The rate structure must generate sufficient

revenue to cover these ongoing costs while also supporting capital investment and debt service.

Best Practice: The Township should consider applying a minimum annual rate increase equal to at least the inflationary costs realized by the System.

8. Capital Improvement Program

8.1 Planning Process

The Township’s FY 2026-2028 Capital Improvement Plan (“CIP”) was created by the Township with the help of the Township’s Civil Engineer. The CIP provides estimated capital expenditures and funding sources for the next three fiscal years, along with a projection for the future. The CIP contains a summary of the Township’s currently known capital projects, including capital projects within the Township’s Water Distribution System. However, the CIP does not forecast unexpected or additional capital projects. While the System is generally understood to be in good condition with good annual maintenance practices, unexpected circumstances may arise that require additional capital expenditures not anticipated by the CIP.

8.2 Major Projects

The following table summarizes the CIP as it relates to the System.

Table 6: Capital Improvement Program (FY 2026-2028 and Future)

Project	Funding Source	Fiscal Year Ending March 31,			
		2026	2027	2028	Future
Plant Filter Design	Water Fund	\$155,782			
Filter Construction	Water Fund	\$682,988			
Plant Improvements	2026 Bond		\$2,019,092		
M-59 Water Main Extension	2026 Bond		\$2,013,328		
Pressure Relief Valve	2026 Bond		\$539,000		
Water Tower	2027 Bond			\$3,806,000	
Water Main Ext. to Tower	2027 Bond			\$1,521,622	
Plant Third Filter	TBD				\$1,974,866
New Well	TBD				\$1,372,500
Total Capital Projects		\$838,770	\$4,571,420	\$5,327,622	\$3,347,366
Funding Source - Cash		\$838,770			
Funding Source - Bonds			\$4,571,420	\$5,327,622	
Funding Source - TBD					\$3,347,366

8.3 Financing Strategy

The Township expects to finance the capital improvement program through a balanced approach utilizing both cash reserves and bond financing. Current projects in FY 2026 (\$838,770) will be cash-funded from water system reserves, demonstrating the Township’s commitment to pay-as-you-go financing where feasible.

Larger projects in FY 2027 and FY 2028 will be financed through two bond issuances:

- 2026 Bond Issue: Approximately \$5.0 million to fund FY 2027 and 2028 projects
- 2027 Bond Issue: Approximately \$5.5 million to fund FY 2028 and future projects

This financing strategy spreads the cost of major infrastructure improvements over the useful life of the assets, ensuring customer equity by having future beneficiaries contribute to the cost of long-lived infrastructure they will utilize.

9. Debt Service Analysis

9.1 Proposed Bond Issues

The System is estimated to require approximately \$10,500,000 in bonds to complete the proposed capital projects while maintaining the System’s cash balance above minimum levels (see below). If the budgeted and estimated connection fees differ materially, the Township may need to adjust the debt issuance plans up or down accordingly. The following table is the estimated debt service based on current rates.

Table 7: Estimated debt service on Proposed Bonds

Fiscal Year Ending March 31,	Est. \$5,000,000 2026 Capital Improvement Bonds (Water) †	Est. \$5,500,000 2027 Capital Improvement Bonds (Water) †	Total Debt Service
2026	\$ -	\$ -	\$ -
2027	116,667	-	116,667
2028	327,400	132,344	459,744
2029	366,300	226,875	593,175
2030	369,100	270,947	640,047
2031	366,600	367,028	733,628
2032	368,800	370,841	739,641
2033	365,700	369,344	735,044
2034	367,300	367,641	734,941
2035	368,500	365,731	734,231
2036	364,400	368,513	732,913
2037	365,000	365,984	730,984
2038	365,200	368,147	733,347
2039	365,000	365,000	730,000
2040	364,400	366,544	730,944
2041	363,400	367,675	731,075
2042	366,900	368,394	735,294
2043	364,900	368,700	733,600
2044	362,500	368,594	731,094
2045	364,600	368,075	732,675
2046	366,100	367,144	733,244
2047	362,100	365,800	727,900
2048	-	364,044	364,044
2049	-	366,772	366,772
2050	-	363,984	363,984
2051	-	365,681	365,681
2052	-	366,759	366,759
2053	-	362,322	362,322
Total	\$ 7,390,867	\$ 9,068,883	\$ 16,459,750

† Preliminary, subject to change.

9.2 Debt Service Coverage

Sound financial management practices require that water system revenues provide adequate coverage of debt service obligations. A debt service coverage ratio of 1.10 to 1.25 is commonly targeted, meaning that net revenues (revenues less operating expenses) should equal at least 110% to 125% of annual debt service payments. This coverage provides the System with a financial cushion due to the inherent variation in water usage. See Appendix A for the System's estimated cash flow analysis.

Key Observation: Debt service coverage ratios remain above 1.10x over the study period, which is the minimum target to accommodate consumption variability.

Best Practice: The Township should consider targeting a debt service coverage ratio of 1.10 to 1.25 or at least 110% to 125% of annual debt service payments to provide a financial cushion for the System.

The rate study has been structured to target estimated revenues that will meet or exceed the required debt service coverage ratio throughout the planning period, even as debt service obligations increase with the issuance of the second bond. Meeting coverage requirements while maintaining appropriate cash reserves is a primary driver of the rate analysis presented in this study.

10. Cash Reserve Requirements

10.1 Purpose of Reserves

Maintaining adequate cash reserves is essential for the financial health and operational reliability of the water system. Reserves serve multiple critical functions:

- **Operating Continuity:** Provide working capital to manage cash flow timing differences between revenue collection and expense payments
- **Emergency Response:** Enable rapid response to infrastructure failures, natural disasters, or other unforeseen events without interrupting service
- **Debt Service Security:** Ensure timely payment of debt obligations even during periods of revenue shortfall
- **Rate Stabilization:** Smooth rate increases by buffering against unexpected cost increases or revenue fluctuations
- **Capital Investment:** Fund smaller capital projects on a pay-as-you-go basis, reducing borrowing costs

10.2 Targeted Cash Balance Range

Based on these amounts, the Township's cash balance target would be a low to high-end range based on the buildup for the following components:

Days of Operating Capital: Based on FY 2026 budgeted operating expenses of \$929,240, this component provides 90 to 150 days of cash to cover routine operating needs. This range (\$232,310 to \$387,183) ensures adequate working capital for day-to-day operations.

Annual Debt Service: Based on the average annual debt service from FY 2027 through FY 2034 (\$594,111), this component maintains reserves equal to one to one and one-quarter times annual debt service (\$594,111 to \$742,639). This ensures the ability to meet bond obligations even during revenue disruptions.

Emergency Reserve: Based on the FY 2025 net investment in capital assets (\$7,641,296), this component maintains 2% to 5% of estimated asset value (\$152,826 to \$382,065) for unexpected infrastructure repairs,

equipment failures, or disaster response.

Cash Funded Future Capital Projects: Based on the FY 2026 as a proxy for future capital expenditures, cash-funded capital projects (\$495,470), this component maintains 50% to 100% of near-term capital needs (\$247,735 to \$495,470) to fund smaller projects without borrowing.

Table 8: Targeted Cash Balance

Criteria	Base	Low End		High End	
Days of Operating Capital ⁽¹⁾	\$929,240	90 Days	\$232,310	150 Days	\$387,183
Annual Debt Service ⁽²⁾	\$594,111	100%	\$594,111	125%	\$742,639
Emergency Reserve ⁽³⁾	\$7,641,296	2.00%	\$152,826	5.00%	\$382,065
Cash Funded Future Capital ⁽⁴⁾	\$495,470	50.00%	\$247,735	100.00%	\$495,470
Total Cash on Hand Required:			\$1,226,982		\$2,007,357

⁽¹⁾ FY 2026 budgeted operating expenses.

⁽²⁾ FY 2027-2034 average debt service.

⁽³⁾ FY 2025 net investment in capital assets.

⁽⁴⁾ FY 2026 capital projects.

10.3 Cash Reserve Targets

The study establishes a target cash reserve range of about \$1.20 million to \$2.00 million, based on operating capital needs, debt service, emergency reserves, and near-term pay-go capital. Maintaining reserves within this range protects the System against unexpected costs and ensures the Township can meet its bond obligations under all conditions.

Key Finding: Cash reserve balances are required to manage emergencies, unexpected repairs, and revenue fluctuations. The proposed rate changes help to maintain reserve levels to protect the System and the Township’s financials.

The Township’s water system is in good condition and well-managed. However, upcoming capital improvements and increased debt service require updates to the current rate structure to ensure the System remains reliable, financially stable, and self-supporting.

11. Revenue Requirements and Rate Recommendations

11.1 Revenue Requirement Methodology

The revenue requirement represents the total annual revenue needed from water rates and charges to meet all financial obligations of the System.

This approach ensures that rates generate sufficient revenue to:

- Cover all operation, maintenance, and repair costs
- Meet debt service obligations with debt service coverage
- Maintain sufficient cash reserves
- Fund capital improvements on a pay-as-you-go basis where feasible

11.2 Financial Projections

The five-year financial projections below incorporate the following assumptions:

- Operating expenses increase 3% annually to account for inflation
- New REU connections (new and existing REUs first connection to water service from the System) are estimated based on Township projections.
- Future REU estimates reflect only projects that are under construction or have been approved by the Township. *Note: The Township has other projects in preliminary planning stages that may result in significant REU purchases and future System users. These have not been factored into the analysis as the timing and number of REUs are unknown.*
- Water consumption remains relatively stable on a per-REU basis
- Debt service follows the schedule presented in Table 6
- Cash reserves are built toward the target range over the initial years of the planning period

Key Observation: Revenue is projected to grow from \$1.37 million in FY 2027 to \$1.88 million by FY 2031, driven by rate increases and conservative customer growth estimates.

Key Finding: The Township’s existing water rates do not generate enough revenue to cover operating costs, upcoming major capital improvements, and future debt service payments. Without adjustments, cash reserves would decline, and the System would not remain financially stable.

Over the next several years, the Township plans to invest about \$14.1 million in System improvements. These projects are necessary to meet Michigan EGLE regulatory flow requirements and to support the continued operation of the System. A portion of this capital will be funded through bonds, requiring the Township to make significant debt service payments relative to the System’s existing revenue.

11.3 Proposed Rate Adjustments

The updated System rates will need to fund the proposed debt service, provide at least 1.10x debt service coverage, and continue to fund operations and maintenance on the System.

Key Finding: To cover operating costs, fund capital projects, and afford projected debt service, water rates will need to increase beginning in FY 2027. While the initial adjustment is significant, delaying changes would result in even larger increases later and greater financial risk to the Township.

The following table outlines a proposed RTS and Commodity Fee track to fund the System.

Table 9: Proposed RTS and Commodity Fee Track

	Fiscal Year Ending March 31,				
	2027	2028	2029	2030	2031
Ready to Serve Fee	\$86.08	\$88.66	\$91.32	\$94.06	\$96.88
Commodity Fee (Per 1,000 Gal.)	\$4.50	\$4.95	\$5.45	\$5.99	\$6.59
<i>Fee Increase - Year over Year:</i>					
Ready to Serve Fee	0%	3%	3%	3%	3%
Commodity Fee (Per 1,000 Gal.)	221%	10%	10%	10%	10%

11.4 Customer Impact Analysis

To illustrate the impact of potential rate adjustments, the following analysis examines bills for typical residential customers at various consumption levels. The examples shown use current FY 2026 rates as the baseline:

Table 10: Proposed RTS and Commodity Fee Impact

Quarterly Usage	Current Bill	Proposed Bill	Change
18,000 gallons	\$111.28	\$167.08	+\$55.80 (+50%)
20,000 gallons	\$114.08	\$176.08	+\$62.00 (+54%)
22,000 gallons	\$116.88	\$185.08	+\$68.20 (+58%)
24,000 gallons	\$119.68	\$194.08	+\$74.40 (+62%)

⁽¹⁾ Per 1,000 gallons of water usage.

11.5 Summary Financial Model

The table below summarizes the information contained in Appendix A – Operating Cash Flow and Debt Service Coverage.

Table 11: Estimated Operating Cash Flow and Debt Service Coverage

FY Ending March 31,	Total Revenues	Total Expenses	Operating Income	Debt Service	Debt Coverage Ratio	Capital Projects	Conn. Fees	Bond Issues	Change in Cash	Est. Cash Balance
2026 ⁽¹⁾	\$1,013,890	\$ 929,240	\$ 84,650	\$ -	N/A	\$ 838,770	\$ 34,149	\$ -	\$ (719,971)	\$2,373,153
2027 ⁽²⁾	1,369,055	917,918	451,137	116,667	3.87x	4,571,420	58,160	5,000,000	821,210	3,194,363
2028 ⁽³⁾	1,505,175	945,456	559,720	459,744	1.22x	5,327,622	124,462	5,500,000	396,816	3,591,179
2029 ⁽³⁾	1,634,828	973,819	661,009	593,175	1.11x	1,974,866	160,522	-	(1,746,510)	1,844,669
2030 ⁽³⁾	1,759,947	1,003,034	756,913	640,047	1.18x	1,372,500	58,160	-	(1,197,474)	647,195
2031 ⁽³⁾	1,880,322	1,033,125	847,197	733,628	1.15x	-	58,160	-	171,729	818,924

⁽¹⁾ 2026 Township budget.

⁽²⁾ Township projected total expenses, model projected total revenue, debt service, and connection fees.

⁽³⁾ Model projected data for total expenses, projected total revenue, debt service, and connection fees.

11.6 Annual Adjustments Required

The Township will be required to adjust the Water System Fees annually based on changes in assumptions, expenses, REUs, consumption, and other factors. For example, if new development in the Township continues, and the number of REUs increases beyond the model, the Township may be able to lower the annual increase in fees. However, if REU growth is lower than anticipated or expenses trend higher than estimated, the Township may be required to increase fees above those modeled. The Township may see a change in customer behavior due to rising commodity rates. Customers may use less water as a result of the higher cost. This could require the Township to adjust the RTS and/or the Commodity fee to offset the quarterly loss of water sales.

Best Practice: Establish a practice of regular, smaller annual rate adjustments rather than infrequent large increases. This approach improves predictability for customers and maintains better alignment between revenues and costs.

Appendix A - Operating Cash Flow and Debt Service Coverage

The following is the historical and projected operating cash flow and debt service coverage of the System for the fiscal years ended or ending March 31, 2023, through 2031. In calculating the projected debt service coverage, the Township utilized its budget for the fiscal year ending March 31, 2026, and, other than assumed increases in operating expenditures and interest income to gauge anticipated rate increases, made no attempt to project any change in financial operations from those results.

The following projections and assumptions are subject in all respects to unforeseen forces and events beyond the control of the Township.

Hartland Township, Michigan

Historical and Projected Water Supply System Operating Cash Flow
Fiscal Years Ended or Ending March 31, 2023 Through 2031



	<u>2023</u>	(1)	<u>2024</u>	(1)	<u>2025</u>	(1)	<u>Budgeted</u>	<u>Projected</u>	<u>Projected</u>	<u>Projected</u>	<u>Projected</u>	<u>Projected</u>
							<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>
							(2)	(3)	(3)	(3)	(3)	(3)
Operating Revenues												
User Charges (Audited)	\$	933,402	\$	915,094	\$	937,518	\$	-	\$	-	\$	-
Water Usage Metered							160,357	520,835	598,460	678,017	760,074	844,316
Water Ready to Serve							735,133	729,821	788,315	838,412	881,473	917,606
Fees, Penalties, Meter Sales							28,400	28,400	28,400	28,400	28,400	28,400
Total Operating Revenues	<u>\$</u>	<u>933,402</u>	<u>\$</u>	<u>915,094</u>	<u>\$</u>	<u>937,518</u>	<u>\$</u>	<u>923,890</u>	<u>\$</u>	<u>1,415,175</u>	<u>\$</u>	<u>1,544,828</u>
Operating Expenses (4)												
Expenses		605,057		736,871		857,450	929,240	-	-	-	-	-
Depreciation		247,134		275,196		357,362	-	-	-	-	-	-
Total Operating Expenses	<u>\$</u>	<u>852,191</u>	<u>\$</u>	<u>1,012,067</u>	<u>\$</u>	<u>1,214,812</u>	<u>\$</u>	<u>929,240</u>	<u>\$</u>	<u>917,918</u>	<u>\$</u>	<u>945,456</u>
Operating Income (Loss)	\$	81,211	\$	(96,973)	\$	(277,294)	\$	(5,350)	\$	361,137	\$	469,720
Non-Operating Revenues (Expenses) and Transfers (5)												
Interest Income - Cash and Equivalents		12,176		70,944		67,699	10,000	10,000	10,000	10,000	10,000	10,000
Connection Fees, Net of Refund		-		42,571		-	-	-	-	-	-	-
Other Income (Expense)		201,555		80,021		132,491	80,000	80,000	80,000	80,000	80,000	80,000
Other Federal Grants		1,000,000		-		-	-	-	-	-	-	-
Transfers Out		-		(1,750)		-	-	-	-	-	-	-
Depreciation		247,134		275,196		357,362	-	-	-	-	-	-
Total Non-Operating Revenues (Expenses)	<u>\$</u>	<u>1,460,865</u>	<u>\$</u>	<u>466,982</u>	<u>\$</u>	<u>557,552</u>	<u>\$</u>	<u>90,000</u>	<u>\$</u>	<u>90,000</u>	<u>\$</u>	<u>90,000</u>
AVAILABLE FOR DEBT SERVICE/ REPAIR AND REPLACEMENT/ PAYGO CAPITAL	<u>\$</u>	<u>1,542,076</u>	<u>\$</u>	<u>370,009</u>	<u>\$</u>	<u>280,258</u>	<u>\$</u>	<u>84,650</u>	<u>\$</u>	<u>451,137</u>	<u>\$</u>	<u>559,720</u>
Funding Requirements												
2026 CIB (6)		-		-		-	-	116,667	327,400	366,300	369,100	366,600
2028 CIB (7)		-		-		-	-	-	132,344	226,875	270,947	367,028
Total	<u>\$</u>	<u>-</u>	<u>\$</u>	<u>-</u>	<u>\$</u>	<u>-</u>	<u>\$</u>	<u>-</u>	<u>\$</u>	<u>459,744</u>	<u>\$</u>	<u>593,175</u>
Excess (Shortfall)	<u>\$</u>	<u>1,542,076</u>	<u>\$</u>	<u>370,009</u>	<u>\$</u>	<u>280,258</u>	<u>\$</u>	<u>84,650</u>	<u>\$</u>	<u>334,470</u>	<u>\$</u>	<u>99,976</u>
Coverage Ratio		NA		NA		NA		NA		3.87x		1.22x
Annual Increase in Revenue Necessary for 1.1x Coverage.							\$0	\$0	\$0	\$0	\$0	\$0
Annual Increase Necessary to Produce 1.1x Coverage.							0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Annual Excess with 1.1x Coverage.							\$	84,650	\$	334,470	\$	99,976
Less Budgeted Use of Funds on Hand												
Cumulative Excess with 1.1x Coverage.	<u>\$</u>	<u>84,650</u>	<u>\$</u>	<u>419,120</u>	<u>\$</u>	<u>519,096</u>	<u>\$</u>	<u>586,930</u>	<u>\$</u>	<u>703,796</u>	<u>\$</u>	<u>817,365</u>

- (1) Actual.
- (2) Approved FY 2026 operating budget.
- (3) Revenue assumes the proposed rate track on page 17 is implemented.
- (4) Assumes 3% growth per annum for fiscal years 2027 and thereafter.
- (5) Non-Operating Revenues are not assumed to change.
- (6) Assumes a \$5 million bond issue at current market rates amortized over 20 years.
- (7) Assumes a \$5.5 million bond issue at current market rates amortized over 25 years.

Appendix B – Township of Hartland Water Supply System Profile

Township of Hartland

The Township of Hartland is located in Livingston County, Michigan. The Township had an estimated population of 15,256 as of the 2020 census. The Township operates a water supply system and a sewage disposal system.

The Township’s fiscal year begins on April 1 and ends on March 31.

Water Supply System History and Description

Hartland Township Community Water Supply is a groundwater-based limited treatment system built around 2001. The source water comes from three submersible motor wells tapping into local aquifers. The System includes treatment for iron and manganese removal, as well as chlorine injection, before potable water enters the distribution system. The System included one elevated storage tank, two pressure-reducing valves, and one water pressure booster station.

The water distribution/transmission network comprises roughly 25 miles of water mains, ranging in diameter from 4 inches to 18 inches. Earlier planning reports refer to approximately 4,300 linear feet of 16-inch transmission mains, including raw water transmission lines, plus about 26,000 linear feet of 12-inch transmission mains forming the “backbone” of the System, which includes the dual main along M-59. The water system serves over 800 homes and businesses with an estimated population served of around 3,100 people.

Customer Base

The Township’s customer base consists of residential and commercial accounts. The Township assigns each account a number of Residential Equivalent Units (“REU”) for billing usage. The following table shows the Township’s approximate current and historical REU by type.

**Township of Hartland
Water Supply System
Approximate Number of REU by Type
Fiscal Years Ended or Ending March 31, 2023 – 2026 ⁽¹⁾**

REU Type	Fiscal Year Ending March 31,							
	2023		2024		2025		2026	
Residential	868.90	45.19%	885.80	45.91%	885.80	45.91%	988.00	46.61%
Commercial	1,053.89	54.81%	1,043.46	54.09%	1,043.46	54.09%	1,131.63	53.39%
Total	1,922.79	100.00%	1,929.26	100.00%	1,929.26	100.00%	2,119.63	100.00%

⁽¹⁾ Prior to fiscal year ended March 31, 2023, the Township charged a quarterly ready-to-serve charge by meter size rather than a quarterly water service charge by REU.

Source: Township of Hartland

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The Township also bills quarterly meter replacement charges by meter size. The following tables show the Township’s approximate current and historical number of meters by size and customer type.

**Township of Hartland
Water Supply System
Approximate Number of Water Meters by Size
Fiscal Year Ending March 31, 2026.**

Meter Size	Total	Percentage
3/4"	116	13.50%
1"	588	68.45%
1 1/2"	91	10.59%
2"	55	6.40%
3"	5	0.58%
4"	3	0.35%
6"	1	0.12%
Total	859	100.00%

Source: Township of Hartland

**Township of Hartland
Water Supply System
Approximate Number of Water Meters by Size
Fiscal Years Ended March 31, 2021 – 2025**

Meter Size	Fiscal Year Ended March 31,				
	2021	2022	2023	2024	2025
3/4"	117	117	116	116	116
1"	575	586	589	587	587
1 1/2"	59	58	58	65	91
2"	32	37	44	47	52
3"	5	5	5	5	5
4"	2	2	2	2	3
6"	1	1	1	1	1
Total	791	806	815	823	855

Source: Township of Hartland

Rates and Charges

System revenues consist of quarterly service charges by REU, commodity charges based on metered water usage, and quarterly meter replacement charges by meter size. Usage is measured in 1,000 gallons or fractions thereof. The Township bills quarterly in arrears.

**Township of Hartland
Water Supply System
Quarterly Water Service and Commodity Charges**

Charge Type	Fiscal Year Ending March 31,				
	2022	2023	2024	2025	2026
Quarterly Water Usage Charge ⁽¹⁾	N/A ⁽³⁾	\$86.08	\$86.08	\$86.08	\$86.08
Commodity Charge ⁽²⁾	\$2.37	\$1.40	\$1.40	\$1.40	\$1.40

⁽²⁾ Per REU.

⁽³⁾ Per 1,000 gallons of metered usage.

⁽⁴⁾ Prior to fiscal year ended March 31, 2023, the Township charged a quarterly ready-to-serve charge by meter size rather than a quarterly water service charge by REU.

Source: Township of Hartland

**Township of Hartland
Water Supply System
Quarterly Water Meter Replacement Charge by Meter Size**

Meter Size	Fiscal Year Ended March 31,				
	2022	2023	2024	2025	2026
3/4"	\$ 5.58	\$ 7.75	\$ 7.75	\$ 7.75	\$ 7.75
1"	6.23	10.08	10.08	10.08	10.08
1 1/2"	11.74	21.17	21.17	21.17	21.17
2"	14.64	23.92	23.92	23.92	23.92
3"	22.61	28.33	28.33	28.33	28.33
4"	40.79	49.25	49.25	49.25	49.25
6"	86.73	83.75	83.75	83.75	83.75

Source: Township of Hartland

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Water Volume

The following table sets forth the metered water volume as billed for the fiscal years ended March 31, 2022 through 2025.

**Township of Hartland
Water Supply System
Metered Water Volume as Billed
Fiscal Years Ended March 31, 2022 – 2025**

Water Supply Volume ⁽¹⁾	Fiscal Year Ended March 31,			
	2022	2023	2024	2025
Billed	111.58	112.60	109.37	115.74

⁽¹⁾ Measured in million gallons.

Source: Township of Hartland

Ten Largest Water System Customers

The following tables set forth the principal product or service, the metered water volume, and the billed revenue of the ten largest customers of the System for the fiscal year ended March 31, 2025.

**Township of Hartland
Water Supply System
Ten Largest Water Customers by Metered Volume
Fiscal Year Ended March 31, 2025**

Customer	Principal Product or Service	Metered Volume	% of Total ⁽¹⁾	Billed Revenue	% of Total ⁽²⁾
Woodcliff North/Woodcliff Village	Condominiums	12,778	11.04%	\$ 121,995	13.01%
Village Manor Retirement Center	Retirement Center	10,183	8.80%	77,515	8.27%
Oakbrooke Apartments	Apartments	9,339	8.07%	89,062	9.50%
Mattioli	Apartments	4,144	3.58%	23,978	2.56%
Redwood	Apartment homes	4,118	3.56%	22,498	2.40%
Hartland Plaza	Shopping Plaza	3,743	3.23%	29,042	3.10%
Fountain Square	Shopping Plaza	3,740	3.23%	34,267	3.66%
Foxridge	Condominiums	3,671	3.17%	22,263	2.37%
Hunter's Ridge	Condominiums	3,105	2.68%	30,069	3.21%
Meijer	Grocery/Retail store	2,133	1.84%	23,850	2.54%
Total		56,954	49.21%	\$ 474,539	50.62%

⁽¹⁾ Based on billable Water volume of 115,741 thousand gallons for the fiscal year ended March 31, 2025.

⁽²⁾ Based on billed revenues of \$937,518 for the fiscal year ended March 31, 2025.

Source: Township of Hartland

Debt Service Supported by the System

The following table shows the proposed annual debt service requirements supported by the System.

**Township of Hartland
Water Supply System
Debt Service Supported by the System
Fiscal Years Ending March 31, 2026 through 2050**

Fiscal Year Ending March 31,	Est. \$5,000,000 2026 Capital Improvement Bonds (Water) †	Est. \$5,500,000 2027 Capital Improvement Bonds (Water) †	Total Debt Service
2026	\$ -	\$ -	\$ -
2027	116,667	-	116,667
2028	327,400	132,344	459,744
2029	366,300	226,875	593,175
2030	369,100	270,947	640,047
2031	366,600	367,028	733,628
2032	368,800	370,841	739,641
2033	365,700	369,344	735,044
2034	367,300	367,641	734,941
2035	368,500	365,731	734,231
2036	364,400	368,513	732,913
2037	365,000	365,984	730,984
2038	365,200	368,147	733,347
2039	365,000	365,000	730,000
2040	364,400	366,544	730,944
2041	363,400	367,675	731,075
2042	366,900	368,394	735,294
2043	364,900	368,700	733,600
2044	362,500	368,594	731,094
2045	364,600	368,075	732,675
2046	366,100	367,144	733,244
2047	362,100	365,800	727,900
2048	-	364,044	364,044
2049	-	366,772	366,772
2050	-	363,984	363,984
2051	-	365,681	365,681
2052	-	366,759	366,759
2053	-	362,322	362,322
Total	\$ 7,390,867	\$ 9,068,883	\$ 16,459,750

† Preliminary, subject to change.