Michigan Department of Treasury
5720 (03-20)

Protecting Local Government Retirement and Benefits Act
Corrective Action Plan Monitoring: Application for Certification of Compliance

Issued under the authority of Public Act 202 of 2017

LOCAL GOVERNMENT INFORMATION

Local Government Name: Iron County Road Commission Six-Digit Muni Code: 360100

Defined Benefit Retirement System Name: MERS

System Type: (•) Pension ( ) Retirement Health Care (OPEB)

Contact Name (Administrative Officer): Michelle Johnson

Title (if not Administrative Officer): Finance Director Telephone: 906-265-6686

Email (Communication will be sent here): michelle@ironcountyroads.com

Fiscal Year System was Determined to be Underfunded: 2018

I. GENERAL INFORMATION

Corrective Action Plan Monitoring: The Municipal Stability Board (the Board) shall monitor each underfunded local government's compliance with Public Act 202 of 2017 (the Act) and any approved corrective action plan (CAP). The Board shall adopt a schedule, not less than every 2 years, to certify that the underfunded local government is in substantial compliance with the Act.

Due Date: The local government has **90 days from the date the CAP Monitoring Form is sent** to return the form to the Board.

Filing: The submitted monitoring form must demonstrate through distinct supporting documentation that the local government is addressing its underfunded status in accordance with its CAP and the Act. Consistent with the Board's best practices document, supporting documentation utilized should include a projection within their annual valuation that includes, but is not limited to, actuarially determined contributions (ADC), retirement benefit payments, assets, liabilities, and discount rates.

The completed monitoring form must be submitted via email to Treasury at LocalRetirementReporting@michigan.gov for review by the Board. **If you have CAPs for multiple systems, you are required to complete separate monitoring forms and send a separate email for each CAP.** Please attach each plan as a separate PDF document in addition to all applicable supporting documentation.

The subject line of each email should be in the following format: **Corrective Action Plan Monitoring, Local Government Name, Retirement System Name, System Type** (e.g. Corrective Action Plan Monitoring, City of Lansing, Employee Retirement System, Pension). Treasury will send an automatic reply acknowledging receipt of the email. Your individual email settings must allow for receipt of Treasury's automatic reply. This will be the only notification confirming receipt of the form.

Municipal Stability Board: The Board shall certify and vote whether each local government is compliant with their CAP and the Act. If a CAP is certified as compliant, the Board will continue to monitor the CAP and review the local government's compliance with the Act not less than every two years.

Review Process: After receiving your submitted CAP monitoring form, Treasury will provide it to the Board to review and certify the local government for compliance with the Act.

E-MAILED
11-8-23

CAP Monitoring Approval Criteria: A CAP may be certified as compliant by meeting the Board approved CAP monitoring criteria. In general, certification of compliance by the Board will occur if a local government is able to demonstrate through distinct supporting documentation that the CAP addresses:

1) **Underfunded Status:** The local government continues to address underfunded status in a reasonable timeframe (60% funded for pension systems or 40% funded for OPEB systems OR; if the local government is a city, village, township, or county, the ADC as a percentage of governmental fund revenues is less than 10% for pensions or 12% for OPEB);
2) **Substantial Changes:** The actions documented in the CAP remain substantially the same, OR alternative actions have been implemented to address underfunded status;
3) **Sustainability:** The local government and the Board certify that the projected payments remain sustainable and affordable both now and into the future.

Certification of Compliance: Following a review of the monitoring process for each CAP, the Board will certify a local government as one of the following:

- *Compliant:* A local government certified as compliant has met all published criteria from the Board.
- *Complaint with Conditions:* A local government certified as compliant with conditions has met the published criteria, but the Board has determined that the local government's plan(s) may not be sustainable or the Board is unable to reasonably confirm future sustainability. With this certification, the local government will have until the next monitoring period to address the stated concerns regarding the plan(s).
- *Noncompliant:* A local government certified as noncompliant failed to meet one or more of the Board's published criteria for monitoring certification of compliance or failed to file the monitoring form. If voted noncompliant, the Board shall notify the local government within 15 days, detailing the reasons for the determination for noncompliance. The local government has 60 days to address the determination of noncompliance.

2. UNDERFUNDED STATUS CERTIFICATION

Previously, local governments demonstrated that they would be addressing their underfunded status within a reasonable timeframe in accordance with the Board's *Corrective Action Plan Development: Best Practices and Strategies* guide. The purpose of this section is for the local government to certify that their plan is still addressing its underfunded status within this approved timeframe.

Please check the applicable answer:

1. Referencing supporting documentation, is the local government addressing its underfunded status in the same timeframe or less than the CAP?

   ◉ **Yes, we are addressing underfunded status by fiscal year** 2034 **as originally approved.**

   ○ **No, underfunded status will be now be addressed by fiscal year ______, which is within the Board's required timeframe.**
   Required timeframe: As general guidance, a local government with a severely *underfunded pension system (45% funded or less) should reach a funded ratio of 60% within 20 years of the original determination of underfunded status. A local government with a* severely *underfunded retirement health care system (25% funded or less) should reach a funded ratio of 40% within 30 years of the original determination of underfunded status.*
   If no, provide additional explanation:

3. SUBSTANTIAL CHANGES CERTIFICATION

The Board recognizes that as a local government implements the prospective actions in their CAP, specific solutions may need to be adjusted to continue to address its underfunded status. This section asks the local government to certify that the corrective actions documented in the plan to address underfunded status remain substantially the same.

Please check the applicable answer:
Does the CAP remain substantially the same as the originally approved submission?

- ◉ **Yes**
- ○ **No** *(If no, please complete a revised Form 5597 for OPEB or Form 5598 for pension and attach to this form)*

Please check all that apply:

☒ **Actions Implemented from CAP** – What actions included in the CAP has the local government implemented?

Sample Statement: *In **June 2019**, our local government began making additional payments of $100,000 per year above its ADC to the **General Employees' Retirement System**, as stated in our* CAP. *Page **8** of our actuarial valuation (attachment 2a) shows our pension will be **62**% funded by **fiscal year 2028**.*

We made additional payments into the surplus division of $480,000 yearly from 2018-23 and will do so again in 2024. MERS 10 yr. accelerated 100% funding ratio amount has, and will continue to be exceeded for 2024, with a monthly contribution of approx.109,400. (Attachment 2. page 8) Page 12 of our AV (Attachment 2a)and attachment 5b. show our pension will be funded at 62.97% as of 2023. We expect to exceed that as we were awarded $851,132 from the Protecting MI Pension

☐ **Actions Not Implemented from CAP** – What corrective actions has the local government failed to implement since the plan was approved?

Sample Statement: *In the **June 2019** contract negotiations, our local government sought to lower the system's multiplier for current employees from 2.5X to 2X for the **General Employees' Retirement System**. We were able to negotiate to a 2.25X multiplier. On page **8** of our actuarial valuation (attachment 2a), it shows we will be **62**% funded by **fiscal year 2028 instead of 2024**, as outlined in our* CAP. *The revised fiscal year remains within the Board's required timeline.*

☐ **Additional Actions Approved** – What additional actions has the local government implemented or planned to implement to supplement the CAP since the plan was originally approved? **(Provide proof of governing body approval for all additional actions)**

Sample Statement: *Since our local government was unable to lower the multiplier to 2X as outlined in our CAP, we implemented additional actions to address our underfunded status within the Board's required timeframe. Beginning in **fiscal year 2020**, we will begin amortizing the unfunded portion of the pension liability using a **level-dollar amortization method over a closed period of 10 years**. This will allow the retirement system to reach a funded status of **62**% by fiscal year **2028** as shown on page 8 of the actuarial analysis (attachment 2a).*

4. SUSTAINABILITY CERTIFICATION

The local government must certify the plan is still affordable through detailed supporting documentation. This includes documentation that the local government's retirement costs are not increasing at a rate greater than what can be afforded through reasonable revenue growth. Retirement costs also must not have substantially increased above the original projection in the CAP.

The Board recommends that supporting documentation include a projection of all annual retirement payments (Pension ADC(s) + OPEB Benefit Payment(s) + all additional contributions) as a percentage of projected governmental fund revenues over the next five years. A local government should project governmental fund revenues using a reasonable forecast based on historical trends and projected rates of inflation. This analysis may include projected enterprise funds specifically allocated to pay retirement costs.

What is the highest combined annual retirement payment as a percentage of your projected governmental revenues over the next five fiscal years? (Examples and Worksheet)

Fiscal year: 2027

1. Total pension ADC(s): 1,160,000
2. Total OPEB benefit payment(s): 136,500
3. Total additional contributions for pension: 480,000
4. Total additional contributions for OPEB: 0
5. Total governmental fund revenues: 8,588,494
6. Enterprise funds used to pay retirement costs (if applicable): ______

Total percentage [(Payments #1-4)/(Revenues #5-6)]: 2.1

Do the projected annual payments increase by an amount greater than an average of 5% per year over the next five fiscal years?

- ○ **Yes** (Explain and list actions implemented or planned to implement to address increased payments)
- ◉ **No**

Utilizing a projection of all annual retirement payments, do the approved corrective actions listed in this plan allow for the local government to continue to make, at a minimum, the ADC payment for the defined benefit pension system(s) and/or any applicable statutorily required payments for retirement health benefit system(s), according to your long-term budget forecast? Note: For retirement health benefit systems, local governments are required to make all retiree premium payments, as well as any applicable normal cost payments for employees first hired after June 30, 2018 in accordance with Section 4(1) of Public Act 202 of 2017.

- ◉ **Yes**
- ○ **No** (Explain and list actions implemented or planned to implement to address increased payments)

5. REQUIRED DOCUMENTATION

Documentation should be attached as a PDF with this monitoring form. The documentation should detail and confirm the claims made in this document regarding the CAP that is being implemented to adequately address the local government's underfunded status. Please check all documents that are included as part of this form and attach in successive order as provided below. When attaching documents, please use the naming convention below:

Naming Convention	Type of Document
☒ Attachment – 1	**(Required) This CAP monitoring form;**
☒ Attachment – 2a	**(Required) An actuarial projection, an actuarial valuation, or an internally developed analysis (in accordance with GASB and/or actuarial standards of practice), which illustrates how and when the local government will reach the Act's required funded ratio. Or, if the local government is a city, village, township, or county, how and when the ADC as a percentage of governmental revenues will be less than the Act's requirements. The Board recommends that supporting documentation show a projection for the duration of the CAP that includes, but is not limited to, assets, liabilities, funded ratios, normal cost payments (if applicable), actuarial assumptions, and retiree benefit payments, using reasonable calculations;**
☒ Attachment – 2b	**(Required) An actuarial projection, an actuarial valuation, or an internally developed analysis (in accordance with GASB and/or actuarial standards of practice), which projects all annual retirement payments (Pension ADC(s) + OPEB Benefit Payments(s) + all additional contributions) as a percentage of projected governmental fund revenues over the next five fiscal years. A local government should project governmental fund revenues using a reasonable forecast based on historical trends and projected rates of inflation. This analysis *may* include projected enterprise funds specifically allocated to pay retirement costs;**
☐ Attachment – 3	**(Required if applicable)** Documentation from the governing body approving additional corrective actions including documentation of commitment to additional payments or actions not previously included in the CAP (e.g. resolution, ordinance);
☐ Attachment – 4	**(Required if applicable)** In the event that the previous plan is no longer substantially in effect, a separate CAP to address its underfunded status which includes documentation of prior actions, prospective actions, governing body approval, and the positive impact on the system's funded ratio;
☒ Attachment – 5	Other documentation not categorized above.

6. CORRECTIVE ACTION PLAN CRITERIA

Please confirm that each of the CAP monitoring criteria listed below have been satisfied when submitting this document. Specific detail on CAP criteria can be found in the Corrective Action Plan Monitoring: Policy and Procedures document.

CAP Monitoring Criteria	Description
☒ Underfunded Status	The local government certifies that there is adequate supporting documentation showing that the CAP will continue to address the local government's underfunded status in a reasonable timeframe;
☒ Substantial Changes	The local government certifies that the corrective actions documented in the CAP remain substantially the same OR; the local government has implemented or planned to implement additional actions to continue to address their underfunded status;
☒ Sustainability	The CAP continues to allow the local government to make all required annual retirement payments, without increasing to a level that is unsustainable.

7. LOCAL GOVERNMENT'S ADMINISTRATIVE OFFICER APPROVAL OF CORRECTIVE ACTION PLAN MONITORING FORM

I, Michelle Johnson, as the government's administrative officer (Ex. City/Township Manager, Executive Director, Chief Executive Officer, etc.) **(insert title)** Finance Director approve this *Corrective Action Plan Monitoring: Application for Certification of Compliance* and will continue to implement the actions of the CAP.

I confirm to the best of my knowledge that because of the actions referenced within this form, one of the following statements will occur:

☒ The MERS **(insert retirement system name)** will achieve a funded status (60% for pension or 40% for OPEB) by fiscal year 2023 as demonstrated by required supporting documentation listed in Section 5.

OR, if the local government is a city, village, township, or county:

☐ The ADC for all defined benefit pension or retirement health benefit (OPEB) systems as a percentage of governmental fund revenues will be less than the Act's underfunded status threshold (10% for pension or 12% for OPEB) by fiscal year ________ as demonstrated by required supporting documentation listed in Section 5.

Signature: Michelle Johnson Digitally signed by Michelle Johnson Date: 2023.11.08 08:20:36 -06'00' Date: 11-8-23

Attachment 2a.

Municipal Employees' Retirement System of Michigan

Annual Actuarial Valuation Report
December 31, 2022 - Iron CRC (3602)

800.521.0498 | P: 248.799.9000 | www.grsconsulting.com

Spring 2023

Iron CRC

In care of:
Municipal Employees' Retirement System of Michigan
1134 Municipal Way
Lansing, Michigan 48917

This report presents the results of the Annual Actuarial Valuation, prepared for Iron CRC (3602) as of December 31, 2022. The report includes the determination of liabilities and contribution rates resulting from the participation in the Municipal Employees' Retirement System of Michigan ("MERS"). This report contains the minimum actuarially determined contribution requirement, in alignment with the MERS Plan Document, Actuarial Policy, the Michigan Constitution, and governing statutes. Iron CRC is responsible for the employer contributions needed to provide MERS benefits for its employees and former employees.

The purposes of this valuation are to:

- Measure funding progress as of December 31, 2022,
- Establish contribution requirements for the fiscal year beginning January 1, 2024,
- Provide information regarding the identification and assessment of risk,
- Provide actuarial information in connection with applicable Governmental Accounting Standards Board (GASB) statements, and
- Provide information to assist the local unit of government with state reporting requirements.

This valuation assumed the continuing ability of the plan sponsor to make the contributions necessary to fund this plan. A determination regarding whether or not the plan sponsor is actually able to do so is outside our scope of expertise and was not performed.

The findings in this report are based on data and other information through December 31, 2022. The valuation was based upon information furnished by MERS concerning Retirement System benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal reasonability and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by MERS.

One Towne Square | Suite 800 | Southfield, Michigan 48076-3723

The Municipal Employees' Retirement Act, PA 427 of 1984 and the MERS' Plan Document Article VI Sec. 71 (1)(d), provides the MERS Board with the authority to set actuarial assumptions and methods after consultation with the actuary. As the fiduciary of the plan, the MERS Retirement Board sets certain assumptions for funding and GASB purposes. These assumptions are reviewed regularly through a comprehensive study, most recently in the Fall of 2021. The MERS Retirement Board adopted a Dedicated Gains Policy at the February 17, 2022 Board meeting. The Dedicated Gains Policy automatically reduces the assumed rate of investment return in conjunction with recognizing excess investment gains to mitigate the impact on employer contributions the first year. The policy was effective with the December 31, 2021 annual actuarial valuation.

The Michigan Department of Treasury provides required assumptions to be used for purposes of Public Act 202 reporting. These assumptions are for reporting purposes only and do not impact required contributions. Please refer to the State Reporting page found at the end of this report for information for this filing.

For a full list of all the assumptions used, please refer to the division-specific assumptions described in table(s) in this report, and to the Appendix on the MERS website at:
https://www.mersofmich.com/Portals/0/Assets/Resources/AAV-Appendix/MERS-2022AnnualActuarialValuation-Appendix.pdf

The actuarial assumptions used for this valuation, including the assumed rate of investment return, are reasonable for purposes of the measurement.

This report reflects the impact of COVID-19 experience through December 31, 2022. At this time, no future assumptions have been adjusted as a result of COVID-19. Actual future experience will be reflected in each subsequent annual valuation, as experience emerges.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge, the information contained in this report is accurate and fairly presents the actuarial position of Iron CRC as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board, and with applicable statutes.

Rebecca L. Stouffer, Mark Buis, Kurt Dosson, and Shana M. Neeson are members of the American Academy of Actuaries. These actuaries meet the Academy's Qualification Standards to render the actuarial opinions contained herein. The signing actuaries are independent of the plan sponsor. GRS maintains independent consulting agreements with certain local units of government for services unrelated to the actuarial consulting services provided in this report.

The Retirement Board of the Municipal Employees' Retirement System of Michigan confirms that the System provides for payment of the required employer contribution as described in Section 20m of Act No. 314 of 1965 (MCL 38.1140m).

This information is purely actuarial in nature. It is not intended to serve as a substitute for legal, accounting, or investment advice.

This report was prepared at the request of the MERS Retirement Board and may be provided only in its entirety by the municipality to other interested parties (MERS customarily provides the full report on request to associated third parties such as the auditor for the municipality). GRS is not responsible for the consequences of any unauthorized use. This report should not be relied on for any purpose other than the purposes described herein. Determinations of financial results, associated with the benefits described in this report, for purposes other than those identified above may be significantly different.

If you have reason to believe that the plan provisions are incorrectly described, that important plan provisions relevant to this valuation are not described, that conditions have changed since the calculations were made, that the information provided in this report is inaccurate or is in anyway incomplete, or if you need further information in order to make an informed decision on the subject matter in this report, please contact your Regional Manager at 1.800.767.MERS (6377).

Sincerely,
Gabriel, Roeder, Smith & Company

Rebecca L. Stouffer

Rebecca L. Stouffer, ASA, FCA, MAAA

Mark Buis

Mark Buis, FSA, FCA, EA, MAAA

Kurt Dosson, ASA, FCA, MAAA

Shana M Neeson

Shana M. Neeson, ASA, FCA, MAAA

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Executive Summary

Funded Ratio

The funded ratio of a plan is the percentage of the dollar value of the actuarial accrued liability that is covered by the actuarial value of assets. While the funded ratio may be a useful plan measurement, understanding a plan's funding trend may be more important than a particular point in time. Refer to Table 7 to find a history of this information.

	12/31/2022	12/31/2021
Funded Ratio*	63%	59%

* Reflects assets from Surplus divisions, if any.

Throughout this report are references to valuation results generated prior to the 2018 valuation date. Results prior to 2018 were received directly from the prior actuary or extracted from the previous valuation system by MERS's technology service provider.

Required Employer Contributions

Your required employer contributions are shown in the following table. Employee contributions, if any, are in addition to the employer contributions.

Effective with the December 31, 2021 valuation, the MERS Retirement Board adopted a Dedicated Gains Policy which allows for recognition of asset gains in excess of a set threshold in combination with lowering the assumed rate of investment return. Effective with the 2020 and 2019 valuations respectively, the MERS Retirement Board adopted updated demographic and economic assumptions. The combined impact of the prior 2020 and 2019 demographic and economic assumption changes may be phased in. This valuation reflects the last year of phase-in. The combined impact of the past economic and demographic changes will be fully reflected in the 2023 annual actuarial valuation.

By default, MERS will invoice you based on the amount in the "No Phase-in" columns. This amount will be considered the minimum required contribution unless you request to be billed the "Phase-in" rates. If you wish to be billed using the phased-in rates, please contact MERS, at which point the alternate minimum required contribution will be the amount in the "Phase-in" columns.

	Percentage of Payroll				Monthly $ Based on Projected Payroll			
	Phase-in	No Phase-in	Phase-in	No Phase-in	Phase-in	No Phase-in	Phase-in	No Phase-in
Valuation Date:	12/31/2022	12/31/2022	12/31/2021	12/31/2021	12/31/2022	12/31/2022	12/31/2021	12/31/2021
Fiscal Year Beginning:	January 1, 2024	January 1, 2024	January 1, 2023	January 1, 2023	January 1, 2024	January 1, 2024	January 1, 2023	January 1, 2023
Division								
01 - Comm/Sal/ Non-Un	-	-	-	-	$ 7,867	$ 8,042	$ 6,613	$ 6,963
10 - Union	-	-	-	-	33,731	34,403	31,141	32,485
11 - Hourly Non-Union	-	-	-	-	26,891	27,362	23,620	24,562
12 - Non-Un aft 10/14 &Un aft 10/1	8.75%	8.79%	8.70%	8.81%	8,970	9,013	6,606	6,692
Total Municipality - Estimated Monthly Contribution					**$ 77,459**	**$ 78,820**	**$ 67,980**	**$ 70,702**
Total Municipality - Estimated Annual Contribution					**$ 929,508**	**$ 945,840**	**$ 815,760**	**$ 848,424**

Employee contribution rates:

	Employee Contribution Rate	
Valuation Date:	12/31/2022	12/31/2021
Division		
01 - Comm/Sal/ Non-Un	0.00%	0.00%
10 - Union	0.00%	0.00%
11 - Hourly Non-Union	0.00%	0.00%
12 - Non-Un aft 10/14 &Un aft 10/1	0.00%	0.00%

The employer may contribute more than the minimum required contributions, as these additional contributions will earn investment income and may result in lower future contribution requirements. Employers making contributions in excess of the minimum requirements may elect to apply the excess contribution immediately to a particular division, or segregate the excess into one or more "Surplus" divisions. An election in the first case would immediately reduce any unfunded accrued liability and lower the amortization payments throughout the remaining amortization period. An election to set up one or more Surplus divisions would not immediately lower future contributions, however the assets from the Surplus division(s) could be transferred to an unfunded division in the future to reduce the unfunded liability in future years, or to be used to pay all or a portion of the minimum required contribution in a future year. For purposes of this report, the assets in any Surplus division have been included in the municipality's total assets, unfunded accrued liability, and funded status; however, these assets are not used in calculating the minimum required contribution.

MERS strongly encourages employers to contribute more than the minimum contribution shown above. With the implemented Dedicated Gains policy, market gains and losses will continue to be smoothed over five years; however, since excess returns are used to lower the investment assumption, there will be fewer gains to smooth in down markets. Having additional funds in Surplus divisions will assist plans with navigating any market volatility.

Assuming that experience of the plan meets actuarial assumptions:

- To accelerate to a 100% funding ratio in 10 years, estimated monthly employer contributions for the fiscal year beginning in 2024 for the entire employer would be $107,004, instead of $78,820.

How and Why Do These Numbers Change?

In a defined benefit plan, contributions vary from one annual actuarial valuation to the next as a result of the following:

- Changes in benefit provisions (see Table 2),
- Changes in actuarial assumptions and methods (see the Appendix), and
- Experience of the plan (investment experience and demographic experience); this is the difference between actual experience of the plan and the actuarial assumptions.

These impacts are reflected in various tables in the report. For more information, please contact your Regional Manager.

Comments on Investment Rate of Return Assumption

A defined benefit plan is funded by employer contributions, participant contributions, and investment earnings. Investment earnings have historically provided a significant portion of the funding. The larger the share of benefits being provided from investment returns, the smaller the required contributions, and vice versa. Determining the contributions required to prefund the promised retirement benefits requires an assumption of what investment earnings are expected to add to the fund over a long period of time. This is called the **Investment Return Assumption**.

The MERS Investment Return Assumption is **7.00%** per year. This, along with all of our other actuarial assumptions, is reviewed at least every five years in an Experience Study that compares the assumptions used against actual experience and recommends adjustments if necessary. If your municipality would like to explore contributions at lower assumed investment return assumptions, please review the "What If" projection scenarios later in this report.

Assumption and Method Change in 2022

Effective February 17, 2022, the MERS Retirement Board adopted a dedicated gains policy that automatically lowers the assumed rate of investment return by using excess asset gains to mitigate large increases in required contributions to the Plan. Full details of this dedicated gains policy are available in the Actuarial Policy found on the MERS website. Some goals of the dedicated gains policy are to:

- Provide a systematic approach to lower the assumed rate of investment return between experience studies, and
- Use excess gains to cover both the increase in normal cost and any increase in UAL payment the first contribution year after application (i.e., minimize the first-year impact (i.e., increase) in employer contributions).

The dedicated gains policy was implemented with the December 31, 2021 annual actuarial valuation and was reflected in the computed employer contribution amounts beginning in fiscal year 2023.

Investment performance measured for the one-year period ending December 31, 2022 did not result in excess gains for use in lowering the assumed rate of investment return. As a result, this assumption remains at 7.00%.

Furthermore, there were no other assumption or method changes in 2022.

Protecting MI Pension Grant Program

On July 1, 2022, Michigan lawmakers passed the state budget for the 2022-23 fiscal year. As a part of the budget, $750 million was earmarked for underfunded municipal pension plans in counties, cities, townships, villages and road commissions across the state. Known as the ***Protecting MI Pension Grant Program***, the legislation is designed to support municipal plans that are under 60% funded.

As of the valuation date the amount of funds and list of grant recipients is not yet known. Any funds received by municipalities will be considered in a future valuation.

Comments on Asset Smoothing

To avoid dramatic spikes and dips in annual contribution requirements due to short-term fluctuations in asset markets, MERS applies a technique called **asset smoothing**. This spreads out each year's investment gains or losses over the prior year and the following four years. After initial application of asset smoothing, remaining excess market gains are used to buy down the assumed rate of investment return and increase the level of valuation assets, to the extent allowed by the dedicated gains policy. This smoothing method is used to determine your actuarial value of assets (valuation assets), which is then used to determine both your funded ratio and your required contributions. **The (smoothed) actuarial rate of return for 2022 was 3.51%, while the actual market rate of return was (10.61%).** To see historical details of the market rate of return compared to the smoothed actuarial rate of return, refer to this report's Appendix or view the "How Smoothing Works" video on the Defined Benefit resource page of the MERS website.

As of December 31, 2022, the actuarial value of assets is 116% of market value due to asset smoothing. This means that there are deferred investment losses, which will put upward pressure on contributions in the short term.

If the December 31, 2022 valuation results were based on market value instead of actuarial value:

- The funded percent of your entire municipality would be 54% (instead of 63%); and
- Your total employer contribution requirement for the fiscal year starting January 1, 2024 would be $1,016,904 (instead of $945,840).

Alternate Scenarios to Estimate the Potential Volatility of Results ("What If Scenarios")

The calculations in this report are based on assumptions about long-term economic and demographic behavior. These assumptions will never materialize in a given year, except by coincidence. Therefore, the results will vary from one year to the next. The volatility of the results depends upon the characteristics of the plan. For example:

- Open divisions that have substantial assets compared to their active employee payroll will have more volatile employer contribution rates due to investment return fluctuations.
- Open divisions that have substantial accrued liability compared to their active employee payroll will have more volatile employer contribution rates due to demographic experience fluctuations.
- Small divisions will have more volatile contribution patterns than larger divisions because statistical fluctuations are relatively larger among small populations.
- Shorter amortization periods result in more volatile contribution patterns.

Many assumptions are important in determining the required employer contributions. In the following table, we show the impact of varying the Investment Return assumption. Lower investment returns would generally result in higher required employer contributions, and vice versa. The three economic scenarios below provide a quantitative risk assessment for the impact of investment returns on the plan's projected financial condition for funding purposes.

The relative impact of the economic scenarios below will vary from year to year, as the participant demographics change. The impact of each scenario should be analyzed for a given year, not from year to year. The results in the table are based on the December 31, 2022 valuation and are for the municipality in total, not by division. These results do not reflect a phase-in of the impact of the actuarial assumptions updated in the 2020 and 2019 valuations. There is no phase-in of dedicated gains.

It is important to note that calculations in this report are mathematical estimates based upon assumptions regarding future events, which may or may not materialize. Actuarial calculations can and do vary from one valuation to the next, sometimes significantly depending on the group's size. Projections are not predictions. Future valuations will be based on actual future experience.

12/31/2022 Valuation Results	**Lower Future Annual Returns**	**Lower Future Annual Returns**	**Valuation Assumptions**
Investment Return Assumption	**5.00%**	**6.00%**	**7.00%**
Accrued Liability	$ 18,156,939	$ 16,403,227	$ 14,911,318
Valuation Assets[1]	$ 9,322,784	$ 9,322,784	$ 9,322,784
Unfunded Accrued Liability	$ 8,834,155	$ 7,080,443	$ 5,588,534
Funded Ratio	51%	57%	63%
Monthly Normal Cost	$ 22,777	$ 18,115	$ 14,542
Monthly Amortization Payment	$ 75,868	$ 69,921	$ 64,278
Total Employer Contribution[2]	$ 98,645	$ 88,036	$ 78,820

1 The Valuation Assets include assets from Surplus divisions, if any.

2 If assets exceed accrued liabilities for a division, the division may have an overfunding credit to reduce the division's employer contribution requirement. If the overfunding credit is larger than the normal cost, the division's full credit is included in the municipality's amortization payment above but the division's total contribution requirement is zero. This can cause the displayed normal cost and amortization payment to not add up to the displayed total employer contribution.

Projection Scenarios

The next two pages show projections of the plan's funded ratio and computed employer contributions under the actuarial assumptions used in the valuation and alternate economic assumption scenarios. All three projections account for the past investment experience that will continue to affect the actuarial rate of return in the short term.

The 7.00% scenario provides an estimate of computed employer contributions based on current actuarial assumptions, and a projected 7.00% market return. The other two scenarios may be useful if the municipality chooses to budget more conservatively and make contributions in addition to the minimum requirements. The 6.00% and 5.00% projection scenarios provide an indication of the potential required employer contribution if these assumptions were met over the long term.

Your municipality includes one or more Surplus divisions. Extra contributions in a Surplus division may be used to reduce future employer contributions or to accelerate the date by which the municipality becomes 100% funded. The timing and use of these Surplus assets within the plan is discretionary. Certain employers have special funding arrangements that may differ from the Actuarial Policy.

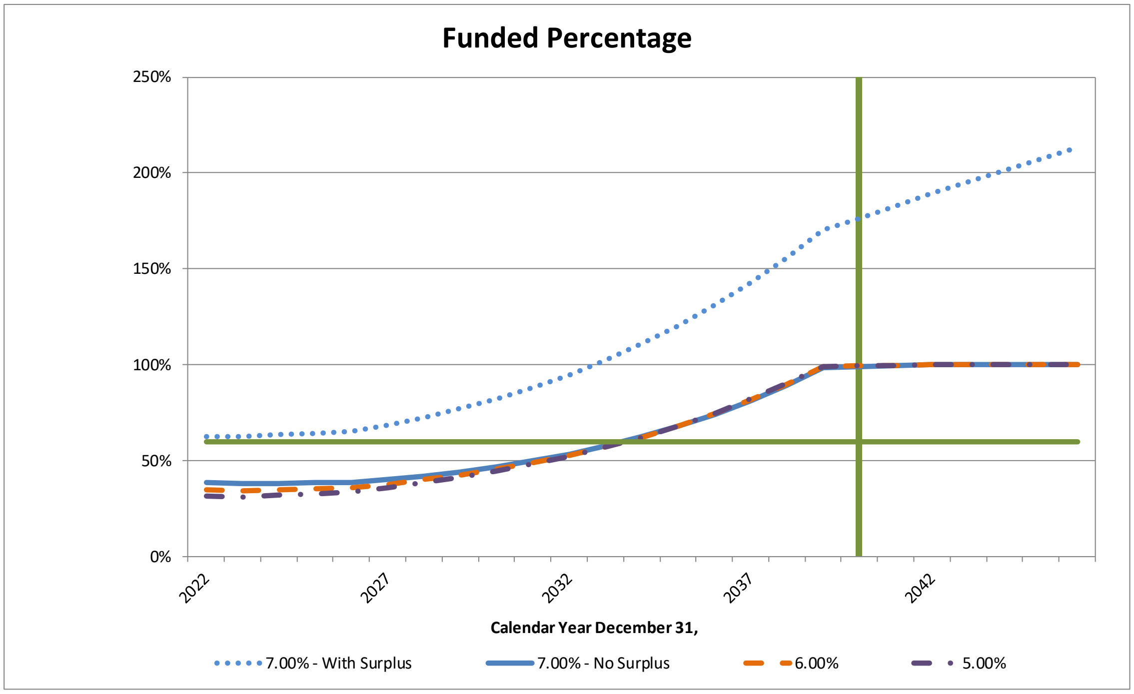
The Funded Percentage graph shows projections of funded status under the 7.00% investment return assumption, both including the Surplus assets (contributed as of the valuation date), and without the Surplus assets. The graph including the Surplus assets assumes these Surplus assets grow with interest and are not used to lower future employer contributions. We modeled the projections including the Surplus assets in this fashion because the use of these assets within the plan is discretionary by the employer and we do not know when and how the employer will use them. Once the employer uses these Surplus assets, any future employer contributions are expected to be lower than those shown in the projections.

Valuation Year Ending 12/31	Fiscal Year Beginning 1/1	Actuarial Accrued Liability	Valuation Assets[2]	Funded Percentage	Estimated Annual Employer Contribution[3]
7.00%[1] - NO PHASE-IN					
2022	2024	$ 14,911,318	$ 5,726,850	38%	$ 945,840
2023	2025	$ 15,100,000	$ 5,760,000	38%	$ 990,000
2024	2026	$ 15,200,000	$ 5,830,000	38%	$ 1,030,000
2025	2027	$ 15,300,000	$ 5,890,000	38%	$ 1,080,000
2026	2028	$ 15,300,000	$ 5,910,000	39%	$ 1,130,000
2027	2029	$ 15,300,000	$ 6,130,000	40%	$ 1,160,000
6.00%[1] - NO PHASE-IN					
2022	2024	$ 16,403,227	$ 5,726,850	35%	$ 1,056,432
2023	2025	$ 16,600,000	$ 5,710,000	34%	$ 1,100,000
2024	2026	$ 16,700,000	$ 5,840,000	35%	$ 1,150,000
2025	2027	$ 16,800,000	$ 5,960,000	36%	$ 1,190,000
2026	2028	$ 16,800,000	$ 6,040,000	36%	$ 1,240,000
2027	2029	$ 16,700,000	$ 6,300,000	38%	$ 1,280,000
5.00%[1] - NO PHASE-IN					
2022	2024	$ 18,156,939	$ 5,726,850	32%	$ 1,183,740
2023	2025	$ 18,300,000	$ 5,650,000	31%	$ 1,230,000
2024	2026	$ 18,400,000	$ 5,870,000	32%	$ 1,270,000
2025	2027	$ 18,500,000	$ 6,070,000	33%	$ 1,320,000
2026	2028	$ 18,500,000	$ 6,230,000	34%	$ 1,370,000
2027	2029	$ 18,400,000	$ 6,570,000	36%	$ 1,410,000

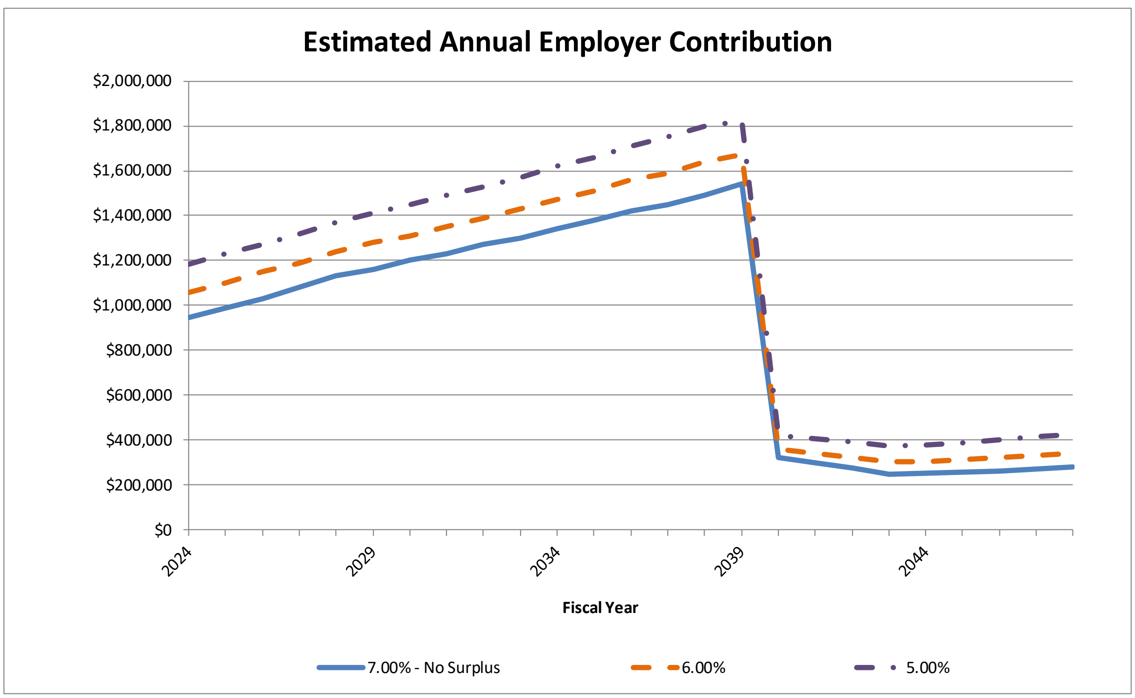
1 Represents both the interest rate for discounting liabilities and the future investment return assumption on the Market Value of assets.

2 Valuation Assets do not include assets from Surplus divisions, if any.

3 All projected contributions are shown with no phase-in.



Notes:
All projected funded percentages are shown with no phase-in.
Assumes assets from the Surplus division(s) will not be used to lower employer contributions during the projection period.
The green indicator lines have been added at 60% funded and 18 years following the valuation date for PA 202 purposes.



Notes:
All projected contributions are shown with no phase-in.
Projected employer contributions do not reflect the use of any assets from the Surplus division(s).

Table 1: Employer Contribution Details for the Fiscal Year Beginning January 1, 2024

Division	Total Normal Cost	Employee Contribution Rate	Employer Contributions[1]: Employer Normal Cost[6]	Employer Contributions[1]: Payment of the Unfunded Accrued Liability[4]	Employer Contributions[1]: Computed Employer Contribution No Phase-In	Computed Employer Contribution With Phase-In	Blended ER Rate No Phase-In[5]	Blended ER Rate With Phase-In[5]	Employee Contribution Conversion Factor[2]
Percentage of Payroll									
01 - Comm/Sal/ Non-Un	14.78%	0.00%	-	-	-	-	55.62%	54.66%	
10 - Union	15.71%	0.00%	-	-	-	-	55.62%	54.66%	
11 - Hourly Non-Union	15.99%	0.00%	-	-	-	-	55.62%	54.66%	
12 - Non-Un aft 10/14 &Un aft 10/1	8.18%	0.00%	8.18%	0.61%	8.79%	8.75%	55.62%	54.66%	0.84%
Estimated Monthly Contribution[3]									
01 - Comm/Sal/ Non-Un			$ 912	$ 7,130	$ 8,042	$ 7,867			
10 - Union			1,851	32,552	34,403	33,731			
11 - Hourly Non-Union			3,387	23,975	27,362	26,891			
12 - Non-Un aft 10/14 &Un aft 10/1			8,392	621	9,013	8,970			
Total Municipality			**$ 14,542**	**$ 64,278**	**$ 78,820**	**$ 77,459**			
Estimated Annual Contribution[3]			**$ 174,504**	**$ 771,336**	**$ 945,840**	**$ 929,508**			

[1] The above employer contribution requirements are in addition to the employee contributions, if any.

[2] If employee contributions are increased/decreased by 1.00% of pay, the employer contribution requirement will decrease/increase by the Employee Contribution Conversion Factor. The conversion factor is usually under 1% because employee contributions may be refunded at termination of employment and not used to fund retirement pensions. Employer contributions will all be used to fund pensions.

[3] For divisions that are open to new hires, estimated contributions are based on projected fiscal year payroll. Actual contributions will be based on actual reported monthly pays, and will be different from the above amounts. For divisions that will have no new hires (i.e., closed divisions), invoices will be based on the above dollar amounts which are based on projected fiscal year payroll. See description of Open Divisions and Closed Divisions in the Appendix.

[4] Note that if the overfunding credit is larger than the normal cost, the full credit is shown above but the total contribution requirement is zero. This will cause the displayed normal cost and unfunded accrued liability contributions not to add across.

[5] For linked divisions, the employer will be invoiced the Computed Employer Contribution No Phase-in rate shown above for each linked division (a contribution rate for the open division; a contribution dollar for the closed-but-linked division), unless the employer elects to contribute the Blended Employer Contribution rate shown above, by contacting MERS at 800-767-MERS (6377).

[6] For divisions with a negative employer normal cost, employee contributions cover the normal cost and a portion of the payment of any unfunded accrued liability.

Please see the Comments on Asset Smoothing in the Executive Summary of this report.

Table 2: Benefit Provisions

01 - Comm/Sal/ Non-Un: Closed to new hires, linked to Division 12

	2022 Valuation	2021 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	55/20	55/20
Early Retirement (Reduced):	50/25	50/25
	55/15	55/15
Final Average Compensation:	3 years	3 years
COLA for Future Retirees:	2.50% (Non-Compound)	2.50% (Non-Compound)
COLA for Current Retirees:	2.50% (Non-Compound)	2.50% (Non-Compound)
Employee Contributions:	0.00%	0.00%
Act 88:	Yes (Adopted 8/11/1969)	Yes (Adopted 8/11/1969)

10 - Union : Closed to new hires, linked to Division 12

	2022 Valuation	2021 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	-	-
Early Retirement (Reduced):	50/25	50/25
	55/15	55/15
Final Average Compensation:	5 years	5 years
COLA for Future Retirees:	2.50% (Non-Compound)	2.50% (Non-Compound)
COLA for Current Retirees:	2.50% (Non-Compound)	2.50% (Non-Compound)
Employee Contributions:	0.00%	0.00%
Act 88:	Yes (Adopted 8/11/1969)	Yes (Adopted 8/11/1969)

11 - Hourly Non-Union: Closed to new hires, linked to Division 12

	2022 Valuation	2021 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	55/20	55/20
Early Retirement (Reduced):	50/25	50/25
	55/15	55/15
Final Average Compensation:	3 years	3 years
COLA for Future Retirees:	2.50% (Non-Compound)	2.50% (Non-Compound)
COLA for Current Retirees:	2.50% (Non-Compound)	2.50% (Non-Compound)
Employee Contributions:	0.00%	0.00%
Act 88:	Yes (Adopted 8/11/1969)	Yes (Adopted 8/11/1969)

12 - Non-Un aft 10/14 &Un aft 10/1: Open Division, linked to Division 01, 10, 11

	2022 Valuation	2021 Valuation
Benefit Multiplier:	1.70% Multiplier (no max)	1.70% Multiplier (no max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	-	-
Early Retirement (Reduced):	50/25	50/25
	55/15	55/15
Final Average Compensation:	5 years	5 years
Employee Contributions:	0.00%	0.00%
Act 88:	Yes (Adopted 8/11/1969)	Yes (Adopted 8/11/1969)

Table 3: Participant Summary

Division	2022 Valuation Number	2022 Valuation Annual Payroll[1]	2021 Valuation Number	2021 Valuation Annual Payroll[1]	2022 Valuation Average Age	2022 Valuation Average Benefit Service[2]	2022 Valuation Average Eligibility Service[2]
01 - Comm/Sal/ Non-Un							
Active Employees	1	$ 105,000	1	$ 92,640	60.0	28.0	28.0
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	10	143,937	11	146,016	88.0		
Pending Refunds	0		0				
10 - Union							
Active Employees	3	$ 167,602	3	$ 157,449	60.7	18.1	18.1
Vested Former Employees	2	39,313	2	39,313	58.4	18.8	18.8
Retirees and Beneficiaries	23	527,858	23	518,367	75.3		
Pending Refunds	0		0				
11 - Hourly Non-Union							
Active Employees	4	$ 323,732	4	$ 280,547	57.3	22.7	23.6
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	8	291,778	8	286,072	73.0		
Pending Refunds	0		0				
12 - Non-Un aft 10/14 &Un aft 10/1							
Active Employees	20	$ 1,006,721	14	$ 726,730	47.1	3.7	4.9
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	1	12,582	1	12,582	56.7		
Pending Refunds	0		0				
Total Municipality							
Active Employees	**28**	**$ 1,603,055**	**22**	**$ 1,257,366**	**50.5**	**8.8**	**9.8**
Vested Former Employees	**2**	**39,313**	**2**	**39,313**	**58.4**	**18.8**	**18.8**
Retirees and Beneficiaries	**42**	**976,155**	**43**	**963,037**	**77.4**		
Pending Refunds	**0**		**0**				
Total Participants	**72**		**67**				

1 Annual payroll for active employees; annual deferred benefits payable for vested former employees; annual benefits being paid for retirees and beneficiaries.

2 Descriptions can be found under Miscellaneous and Technical Assumptions in the Appendix.

Table 4: Reported Assets (Market Value)

Division	2022 Valuation		2021 Valuation	
	Employer and Retiree[1]	Employee[2]	Employer and Retiree[1]	Employee[2]
01 - Comm/Sal/ Non-Un	$ 773,695	$ 0	$ 924,001	$ 0
10 - Union	1,806,213	0	2,168,124	0
11 - Hourly Non-Union	1,846,517	0	2,053,331	0
12 - Non-Un aft 10/14 &Un aft 10/1	520,473	0	521,497	0
S1 - Surplus Assoc. to div 10	3,106,196	0	2,938,030	0
Municipality Total[3]	**$ 8,053,093**	**$ 0**	**$ 8,604,983**	**$ 0**
Combined Assets[3]	**$8,053,093**		**$8,604,983**	

1 Reserve for Employer Contributions and Benefit Payments.

2 Reserve for Employee Contributions.

3 Totals may not add due to rounding.

The December 31, 2022 valuation assets (actuarial value of assets) are equal to 1.157665 times the reported market value of assets (compared to 0.998523 as of December 31, 2021). Refer to the Appendix for a description of the valuation asset derivation and a detailed calculation of valuation assets.

Assets in the Surplus division(s) are employer assets that have been reserved separately and may be used within the plan at the employer's discretion at some point in the future. These assets are not used in calculating the employer contribution for the fiscal year beginning January 1, 2024.

Table 5: Flow of Valuation Assets

Year Ended 12/31	Employer Contributions Required	Employer Contributions Additional	Employee Contributions	Investment Income (Valuation Assets)	Benefit Payments	Employee Contribution Refunds	Net Transfers	Valuation Asset Balance
2012	$ 383,147	$ 200,000	$ 0	$ 184,511	$ (897,949)	$ 0	$ 0	$ 4,852,056
2013	474,371	240,000	0	277,910	(855,403)	0	0	4,988,934
2014	491,842	240,000	0	281,528	(862,698)	0	0	5,139,606
2015	475,164	240,000	0	242,307	(956,535)	0	0	5,140,542
2016	499,702	270,000	0	251,960	(946,160)	0	0	5,216,044
2017	540,440	360,000	0	311,018	(954,157)	0	0	5,473,345
2018	582,080	480,000	0	215,963	(945,017)	0	0	5,806,371
2019	644,567	505,206	0	289,142	(954,162)	0	0	6,291,124
2020	708,904	493,772	0	538,720	(964,490)	0	0	7,068,030
2021	798,425	480,000	0	1,212,562	(966,743)	0	0	8,592,274
2022	833,391	480,000	0	378,896	(961,777)	0	0	9,322,784

Notes:

Transfers in and out are usually related to the transfer of participants between municipalities, and to employer and employee payments for service credit purchases (if any) that the governing body has approved.

The investment income column reflects the recognized investment income based on Valuation Assets. It does not reflect the market value investment return in any given year.

The Valuation Asset balance includes assets from Surplus divisions, if any.

Years where historical information is not available will be displayed with zero values.

Table 6: Actuarial Accrued Liabilities and Valuation Assets as of December 31, 2022

	Actuarial Accrued Liability							
Division	Active Employees	Vested Former Employees	Retirees and Beneficiaries	Pending Refunds	Total	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
01 - Comm/Sal/ Non-Un	$ 871,850	$ 0	$ 1,039,518	$ 0	$ 1,911,368	$ 895,680	46.9%	$ 1,015,688
10 - Union	836,347	478,831	5,442,158	0	6,757,336	2,090,989	30.9%	4,666,347
11 - Hourly Non-Union	2,288,961	0	3,273,228	0	5,562,189	2,137,648	38.4%	3,424,541
12 - Non-Un aft 10/14 &Un aft 10/1	524,295	0	156,130	0	680,425	602,533	88.6%	77,892
S1 - Surplus Assoc. to div 10	0	0	0	0	0	3,595,934		(3,595,934)
Total	**$ 4,521,453**	**$ 478,831**	**$ 9,911,034**	**$ 0**	**$ 14,911,318**	**$ 9,322,784**	**62.5%**	**$ 5,588,534**

The following results show the combined accrued liabilities and assets for each set of linked divisions. These results are already shown in the table on the prior page(s).

Table 6 (continued)

Division	Actuarial Accrued Liability					Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
	Active Employees	Vested Former Employees	Retirees and Beneficiaries	Pending Refunds	Total			
Linked Divisions 12, 01, 10, 11	$ 4,521,453	$ 478,831	$ 9,911,034	$ 0	$ 14,911,318	$ 5,726,850	38.4%	$ 9,184,468

Please see the Comments on Asset Smoothing in the Executive Summary of this report.

The December 31, 2022 valuation assets (actuarial value of assets) are equal to 1.157665 times the reported market value of assets. Refer to the Appendix for a description of the valuation asset derivation and a detailed calculation of valuation assets.

Table 7: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2008	$ 10,290,372	$ 5,523,619	54%	$ 4,766,753
2009	10,522,249	5,390,809	51%	5,131,440
2010	11,010,297	5,290,643	48%	5,719,654
2011	11,463,492	4,982,347	44%	6,481,145
2012	11,404,176	4,852,056	43%	6,552,120
2013	11,337,004	4,988,934	44%	6,348,070
2014	11,846,379	5,139,606	43%	6,706,773
2015	12,621,739	5,140,542	41%	7,481,197
2016	12,782,806	5,216,044	41%	7,566,762
2017	13,047,231	5,473,345	42%	7,573,886
2018	13,201,413	5,806,371	44%	7,395,042
2019	13,705,848	6,291,124	46%	7,414,724
2020	13,925,108	7,068,030	51%	6,857,078
2021	14,523,391	8,592,274	59%	5,931,117
2022	14,911,318	9,322,784	63%	5,588,534

Notes: Actuarial assumptions were revised for the 2008, 2009, 2010, 2011, 2012, 2015, 2019, 2020 and 2021 actuarial valuations.

The Valuation Assets include assets from Surplus divisions, if any.

Years where historical information is not available will be displayed with zero values.

Throughout this report are references to valuation results generated prior to the 2018 valuation date. Results prior to 2018 were received directly from the prior actuary or extracted from the previous valuation system by MERS's technology service provider.

Tables 8 and 9: Division-Based Comparative Schedules

Division 01 - Comm/Sal/ Non-Un

Table 8-01: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2012	$ 1,991,191	$ 1,216,292	61%	$ 774,899
2013	1,818,386	1,219,976	67%	598,410
2014	1,926,212	1,225,914	64%	700,298
2015	1,998,509	1,178,633	59%	819,876
2016	1,956,436	1,139,089	58%	817,347
2017	1,891,373	1,051,172	56%	840,201
2018	1,822,112	969,209	53%	852,903
2019	1,871,566	897,185	48%	974,381
2020	1,891,473	861,509	46%	1,029,964
2021	1,855,229	922,637	50%	932,592
2022	1,911,368	895,680	47%	1,015,688

Notes: Actuarial assumptions were revised for the 2012, 2015, 2019, 2020 and 2021 actuarial valuations.
The percent funded does not reflect valuation assets from Surplus divisions, if any.

Table 9-01: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution[1]	Employee Contribution Rate[2]
	Number	Annual Payroll		
2012	2	$ 122,866	50.27%	0.00%
2013	2	122,866	41.89%	0.00%
2014	1	68,952	$ 4,444	0.00%
2015	1	71,552	$ 5,483	0.00%
2016	1	74,014	$ 5,470	0.00%
2017	1	74,660	$ 5,586	0.00%
2018	1	86,763	$ 5,927	0.00%
2019	1	91,494	$ 7,060	0.00%
2020	1	89,762	$ 7,556	0.00%
2021	1	92,640	$ 6,963	0.00%
2022	1	105,000	$ 8,042	0.00%

1 For open divisions, a percent of pay contribution is shown. For closed divisions, a monthly dollar contribution is shown.

2 For each valuation year, the computed employer contribution is based on the employee rate. If the employee rate changes during the applicable fiscal year, the computed employer contribution will be adjusted.

Note: The contributions shown in Table 9 reflect the employer contribution requirement without phase-in. If applicable, the current phase-in contribution is shown in Table 1.

See the Benefit Provision History, later in this report, for past benefit provision changes.

Years where historical information is not available will be displayed with zero values.

Table 8-10: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2012	$ 6,420,290	$ 2,343,914	37%	$ 4,076,376
2013	6,601,914	2,318,339	35%	4,283,575
2014	6,755,163	2,289,539	34%	4,465,624
2015	7,203,338	2,272,587	32%	4,930,751
2016	6,388,779	2,205,671	35%	4,183,108
2017	6,527,690	2,225,501	34%	4,302,189
2018	6,580,984	2,085,233	32%	4,495,751
2019	6,651,752	1,996,053	30%	4,655,699
2020	6,539,408	1,971,635	30%	4,567,773
2021	6,766,223	2,164,922	32%	4,601,301
2022	6,757,336	2,090,989	31%	4,666,347

Notes: Actuarial assumptions were revised for the 2012, 2015, 2019, 2020 and 2021 actuarial valuations.

The percent funded does not reflect valuation assets from Surplus divisions, if any.

Table 9-10: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution[1]	Employee Contribution Rate[2]
	Number	Annual Payroll		
2012	8	$ 361,065	$ 23,866	0.00%
2013	8	383,337	$ 25,740	0.00%
2014	8	389,850	$ 27,366	0.00%
2015	8	406,564	$ 32,173	0.00%
2016	5	236,204	$ 26,257	0.00%
2017	5	207,954	$ 27,697	0.00%
2018	5	213,581	$ 29,638	0.00%
2019	3	162,823	$ 31,535	0.00%
2020	3	152,865	$ 31,776	0.00%
2021	3	157,449	$ 32,485	0.00%
2022	3	167,602	$ 34,403	0.00%

1 For open divisions, a percent of pay contribution is shown. For closed divisions, a monthly dollar contribution is shown.

2 For each valuation year, the computed employer contribution is based on the employee rate. If the employee rate changes during the applicable fiscal year, the computed employer contribution will be adjusted.

Note: The contributions shown in Table 9 reflect the employer contribution requirement without phase-in. If applicable, the current phase-in contribution is shown in Table 1.

See the Benefit Provision History, later in this report, for past benefit provision changes.

Years where historical information is not available will be displayed with zero values.

Division 11 - Hourly Non-Union

Table 8-11: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2012	$ 2,993,135	$ 1,267,498	42%	$ 1,725,637
2013	2,908,844	1,349,110	46%	1,559,734
2014	3,137,938	1,446,802	46%	1,691,136
2015	3,359,721	1,441,235	43%	1,918,486
2016	4,338,183	1,606,651	37%	2,731,532
2017	4,475,618	1,564,233	35%	2,911,385
2018	4,575,121	1,579,895	35%	2,995,226
2019	4,883,521	1,631,002	33%	3,252,519
2020	5,009,060	1,744,291	35%	3,264,769
2021	5,284,042	2,050,298	39%	3,233,744
2022	5,562,189	2,137,648	38%	3,424,541

Notes: Actuarial assumptions were revised for the 2012, 2015, 2019, 2020 and 2021 actuarial valuations.
The percent funded does not reflect valuation assets from Surplus divisions, if any.

Table 9-11: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution[1]	Employee Contribution Rate[2]
	Number	Annual Payroll		
2012	3	$ 151,118	81.48%	0.00%
2013	3	159,854	71.83%	0.00%
2014	1	57,910	$ 9,633	0.00%
2015	1	66,761	$ 11,808	0.00%
2016	4	270,350	$ 19,369	0.00%
2017	4	279,545	$ 20,637	0.00%
2018	4	279,652	$ 21,497	0.00%
2019	4	293,998	$ 24,286	0.00%
2020	4	281,985	$ 24,533	0.00%
2021	4	280,547	$ 24,562	0.00%
2022	4	323,732	$ 27,362	0.00%

1 For open divisions, a percent of pay contribution is shown. For closed divisions, a monthly dollar contribution is shown.

2 For each valuation year, the computed employer contribution is based on the employee rate. If the employee rate changes during the applicable fiscal year, the computed employer contribution will be adjusted.

Note: The contributions shown in Table 9 reflect the employer contribution requirement without phase-in. If applicable, the current phase-in contribution is shown in Table 1.

See the Benefit Provision History, later in this report, for past benefit provision changes.

Years where historical information is not available will be displayed with zero values.

Division 12 - Non-Un aft 10/14 &Un aft 10/1

Table 8-12: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2012	$ (440)	$ 24,352	0%	$ (24,792)
2013	7,860	101,509	1292%	(93,649)
2014	27,066	177,351	655%	(150,285)
2015	60,171	248,087	412%	(187,916)
2016	99,408	264,633	266%	(165,225)
2017	152,550	282,684	185%	(130,134)
2018	223,196	303,689	136%	(80,493)
2019	299,009	345,311	115%	(46,302)
2020	485,167	416,620	86%	68,547
2021	617,897	520,727	84%	97,170
2022	680,425	602,533	89%	77,892

Notes: Actuarial assumptions were revised for the 2012, 2015, 2019, 2020 and 2021 actuarial valuations.

The percent funded does not reflect valuation assets from Surplus divisions, if any.

Table 9-12: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution[1]	Employee Contribution Rate[2]
	Number	Annual Payroll		
2012	2	$ 64,368	3.30%	0.00%
2013	3	103,491	0.00%	0.00%
2014	7	268,403	0.76%	0.00%
2015	7	285,513	0.47%	0.00%
2016	7	313,901	1.91%	0.00%
2017	11	472,221	4.32%	0.00%
2018	11	536,804	5.43%	0.00%
2019	14	700,205	6.28%	0.00%
2020	13	647,913	8.18%	0.00%
2021	14	726,730	8.81%	0.00%
2022	20	1,006,721	8.79%	0.00%

1 For open divisions, a percent of pay contribution is shown. For closed divisions, a monthly dollar contribution is shown.

2 For each valuation year, the computed employer contribution is based on the employee rate. If the employee rate changes during the applicable fiscal year, the computed employer contribution will be adjusted.

Note: The contributions shown in Table 9 reflect the employer contribution requirement without phase-in. If applicable, the current phase-in contribution is shown in Table 1.

See the Benefit Provision History, later in this report, for past benefit provision changes.

Years where historical information is not available will be displayed with zero values.

Division S1 - Surplus Assoc. to div 10

Table 8-S1: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2012	$ 0	$ 0		$ 0
2013	0	0		0
2014	0	0		0
2015	0	0		0
2016	0	0		0
2017	0	349,755		(349,755)
2018	0	868,345		(868,345)
2019	0	1,421,573		(1,421,573)
2020	0	2,073,975		(2,073,975)
2021	0	2,933,690		(2,933,690)
2022	0	3,595,934		(3,595,934)

Notes: Actuarial assumptions were revised for the 2012, 2015, 2019, 2020 and 2021 actuarial valuations.

Years where historical information is not available will be displayed with zero values.

Table 10: Division-Based Layered Amortization Schedule

Division 01 - Comm/Sal/ Non-Un

Table 10-01: Layered Amortization Schedule

Type of UAL	Date Established	Original Balance[1]	Original Amortization Period[2]	Amounts for Fiscal Year Beginning 1/1/2024: Outstanding UAL Balance[3]	Remaining Amortization Period[2]	Annual Amortization Payment
Initial	12/31/2015	$ 819,876	23	$ 831,944	16	$ 70,476
(Gain)/Loss	12/31/2016	(21,211)	22	(22,475)	16	(1,908)
(Gain)/Loss	12/31/2017	17,260	21	18,168	16	1,536
(Gain)/Loss	12/31/2018	5,871	20	6,155	16	516
(Gain)/Loss	12/31/2019	66,319	19	69,091	16	5,856
Assumption	12/31/2019	51,116	19	49,785	16	4,212
Experience	12/31/2020	48,447	18	50,801	16	4,308
Experience	12/31/2021	(97,859)	17	(103,249)	16	(8,748)
Experience	12/31/2022	102,795	16	109,991	16	9,312
Total				**$ 1,010,211**		**$ 85,560**

[1] For each type of UAL (layer), this is the original balance as of the date the layer was established.

[2] According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see Appendix on MERS website).

[3] This is the remaining balance as of the valuation date, projected to the beginning of the fiscal year shown above.

The unfunded accrued liability (UAL) as of December 31, 2022 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2022 valuation to take into account the expected future contributions that are based on past valuations. Each type of UAL (layer) is amortized over the appropriate period. Please see the Appendix on the MERS website for a detailed description of the amortization policy.

Note: The original balance and original amortization periods prior to 12/31/2018 were received from the prior actuary.

Table 10-10: Layered Amortization Schedule

Type of UAL	Date Established	Original Balance[1]	Original Amortization Period[2]	Amounts for Fiscal Year Beginning 1/1/2024 Outstanding UAL Balance[3]	Remaining Amortization Period[2]	Annual Amortization Payment
Initial	12/31/2015	$ 4,930,751	23	$ 4,987,499	16	$ 422,472
(Gain)/Loss	12/31/2016	(843,994)	22	(894,515)	16	(75,768)
(Gain)/Loss	12/31/2017	141,093	21	148,542	16	12,588
(Gain)/Loss	12/31/2018	154,834	20	162,283	16	13,752
(Gain)/Loss	12/31/2019	(84,191)	19	(87,726)	16	(7,428)
Assumption	12/31/2019	212,168	19	204,427	16	17,316
Experience	12/31/2020	(89,539)	18	(93,896)	16	(7,956)
Experience	12/31/2021	55,745	17	58,819	16	4,980
Experience	12/31/2022	117,755	16	125,998	16	10,668
Total				**$ 4,611,431**		**$ 390,624**

[1] For each type of UAL (layer), this is the original balance as of the date the layer was established.

[2] According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see Appendix on MERS website).

[3] This is the remaining balance as of the valuation date, projected to the beginning of the fiscal year shown above.

The unfunded accrued liability (UAL) as of December 31, 2022 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2022 valuation to take into account the expected future contributions that are based on past valuations. Each type of UAL (layer) is amortized over the appropriate period. Please see the Appendix on the MERS website for a detailed description of the amortization policy.

Note: The original balance and original amortization periods prior to 12/31/2018 were received from the prior actuary.

Table 10-11: Layered Amortization Schedule

Type of UAL	Date Established	Original Balance[1]	Original Amortization Period[2]	Amounts for Fiscal Year Beginning 1/1/2024: Outstanding UAL Balance[3]	Remaining Amortization Period[2]	Annual Amortization Payment
Initial	12/31/2015	$ 1,918,486	23	$ 1,943,797	16	$ 164,652
(Gain)/Loss	12/31/2016	772,284	22	818,520	16	69,336
(Gain)/Loss	12/31/2017	103,093	21	108,526	16	9,192
(Gain)/Loss	12/31/2018	57,091	20	59,843	16	5,064
(Gain)/Loss	12/31/2019	83,396	19	86,889	16	7,356
Assumption	12/31/2019	156,486	19	151,431	16	12,828
Experience	12/31/2020	(152)	18	(162)	16	(12)
Experience	12/31/2021	(20,262)	17	(21,373)	16	(1,812)
Experience	12/31/2022	232,737	16	249,029	16	21,096
Total				**$ 3,396,500**		**$ 287,700**

[1] For each type of UAL (layer), this is the original balance as of the date the layer was established.

[2] According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see Appendix on MERS website).

[3] This is the remaining balance as of the valuation date, projected to the beginning of the fiscal year shown above.

The unfunded accrued liability (UAL) as of December 31, 2022 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2022 valuation to take into account the expected future contributions that are based on past valuations. Each type of UAL (layer) is amortized over the appropriate period. Please see the Appendix on the MERS website for a detailed description of the amortization policy.

Note: The original balance and original amortization periods prior to 12/31/2018 were received from the prior actuary.

Table 10-12: Layered Amortization Schedule

Type of UAL	Date Established	Original Balance[1]	Original Amortization Period[2]	Amounts for Fiscal Year Beginning 1/1/2024: Outstanding UAL Balance[3]	Remaining Amortization Period[2]	Annual Amortization Payment
Experience	12/31/2020	$ 75,925	15	$ 77,688	13	$ 7,692
Experience	12/31/2021	15,411	15	16,130	14	1,512
Experience	12/31/2022	(18,420)	15	(19,709)	15	(1,752)
Total				**$ 74,109**		**$ 7,452**

[1] For each type of UAL (layer), this is the original balance as of the date the layer was established.

[2] According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see Appendix on MERS website).

[3] This is the remaining balance as of the valuation date, projected to the beginning of the fiscal year shown above.

The unfunded accrued liability (UAL) as of December 31, 2022 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2022 valuation to take into account the expected future contributions that are based on past valuations. Each type of UAL (layer) is amortized over the appropriate period. Please see the Appendix on the MERS website for a detailed description of the amortization policy.

Note: The original balance and original amortization periods prior to 12/31/2018 were received from the prior actuary.

GASB Statement No. 68 Information

The following information has been prepared to provide some of the information necessary to complete GASB Statement No. 68 disclosures. GASB Statement No. 68 is effective for fiscal years beginning after June 15, 2014. Additional resources, including an Implementation Guide, are available at http://www.mersofmich.com/.

Actuarial Valuation Date:		12/31/2022
Measurement Date of the Total Pension Liability (TPL):		12/31/2022

At 12/31/2022, the following employees were covered by the benefit terms:

Inactive employees or beneficiaries currently receiving benefits:	42
Inactive employees entitled to but not yet receiving benefits (including refunds):	2
Active employees:	28
	72

Total Pension Liability as of 12/31/2021 measurement date:	$	14,191,259
Total Pension Liability as of 12/31/2022 measurement date:	$	14,573,392
Service Cost for the year ending on the 12/31/2022 measurement date:	$	163,059
Change in the Total Pension Liability due to:		
- Benefit changes[1]:	$	0
- Differences between expected and actual experience[2]:	$	180,939
- Changes in assumptions[2]:	$	0
Average expected remaining service lives of all employees (active and inactive):		3

[1] A change in liability due to benefit changes is immediately recognized when calculating pension expense for the year.

[2] Changes in liability due to differences between actual and expected experience, and changes in assumptions, are recognized in pension expense over the average remaining service lives of all employees.

Covered employee payroll (Needed for Required Supplementary Information):	$	1,603,055

Note: Covered employee payroll may differ from the GASB Statement No. 68 definition.

Sensitivity of the Net Pension Liability to changes in the discount rate:

	1% Decrease (6.25%)	Current Discount Rate (7.25%)	1% Increase (8.25%)
Change in Net Pension Liability as of 12/31/2022:	$ 1,434,381	$ 0	$ (1,230,848)

Note: The current discount rate shown for GASB Statement No. 68 purposes is higher than the MERS assumed rate of return. This is because for GASB Statement No. 68 purposes, the discount rate must be gross of administrative expenses, whereas for funding purposes it is net of administrative expenses.

GASB Statement No. 68 Information

This page is for those municipalities who need to “roll forward” their total pension liability due to the timing of completion of the actuarial valuation in relation to their fiscal year-end.

The following information has been prepared to provide some of the information necessary to complete GASB Statement No. 68 disclosures. GASB Statement No. 68 is effective for fiscal years beginning after June 15, 2014. Additional resources, including an Implementation Guide, are available at www.mersofmich.com.

Actuarial Valuation Date:		12/31/2022
Measurement Date of the Total Pension Liability (TPL):		12/31/2023
At 12/31/2022, the following employees were covered by the benefit terms:		
Inactive employees or beneficiaries currently receiving benefits:		42
Inactive employees entitled to but not yet receiving benefits (including refunds):		2
Active employees:		28
		72
Total Pension Liability as of 12/31/2022 measurement date:	$	14,340,881
Total Pension Liability as of 12/31/2023 measurement date:	$	14,773,431
Service Cost for the year ending on the 12/31/2023 measurement date:	$	167,854
Change in the Total Pension Liability due to:		
- Benefit changes[1]:	$	0
- Differences between expected and actual experience[2]:	$	249,369
- Changes in assumptions[2]:	$	0
Average expected remaining service lives of all employees (active and inactive):		3

[1] A change in liability due to benefit changes is immediately recognized when calculating pension expense for the year.

[2] Changes in liability due to differences between actual and expected experience, and changes in assumptions, are recognized in pension expense over the average remaining service lives of all employees.

Covered employee payroll (Needed for Required Supplementary Information):	$	1,603,055

Note: Covered employee payroll may differ from the GASB Statement No. 68 definition.

Sensitivity of the Net Pension Liability to changes in the discount rate:

	1% Decrease (6.25%)	Current Discount Rate (7.25%)	1% Increase (8.25%)
Change in Net Pension Liability as of 12/31/2023:	$ 1,425,405	$ 0	$ (1,224,439)

Note: The current discount rate shown for GASB Statement No. 68 purposes is higher than the MERS assumed rate of return. This is because for GASB Statement No. 68 purposes, the discount rate must be gross of administrative expenses, whereas for funding purposes it is net of administrative expenses.

Benefit Provision History

The following benefit provision history is provided by MERS. Any corrections to this history or discrepancies between this information and information displayed elsewhere in the valuation report should be reported to MERS. All provisions are listed by date of adoption.

01 - Comm/Sal/ Non-Un

1/1/2021	FMLA - Service Granted
1/1/2021	Public Safety Employees - Yes
1/1/2021	Other Leave - Service Granted
1/1/2021	Workers Compensation - Service Granted
1/1/2021	Service Credit Qualification - 80 hours
1/1/2021	Custom Wages
12/1/2016	Service Credit Purchase Estimates - Yes
1/1/2011	Exclude Temporary Employees requiring less than 12 months
11/1/1998	Benefit FAC-3 (3 Year Final Average Compensation)
11/1/1998	Benefit B-4 (80% max)
11/1/1998	Benefit F55 (With 20 Years of Service)
12/1/1995	Benefit B-2 (No Max)
1/1/1992	E1 2.5% COLA for past retirees (01/01/1992)
1/1/1992	E2 2.5% COLA for future retirees (01/01/1992)
1/1/1991	E1 2.5% COLA for past retirees (01/01/1991)
1/1/1989	Flexible E 2% COLA Adopted (01/01/1989)
2/1/1987	Benefit C-2/Base B-1 (No Max)
4/1/1975	Member Contribution Rate 0.00%
1/3/1975	Exclude Temporary Employees
8/11/1969	Covered by Act 88
10/1/1966	Benefit C-1 (Old) (No Max)
6/1/1960	Benefit FAC-5 (5 Year Final Average Compensation)
6/1/1960	10 Year Vesting
6/1/1960	Benefit C (Old) (No Max)
6/1/1960	Fiscal Month - January
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

10 - Union

1/1/2021	FMLA - Service Granted
1/1/2021	Public Safety Employees - Yes
1/1/2021	Other Leave - Service Granted
1/1/2021	Workers Compensation - Service Granted
1/1/2021	Service Credit Qualification - 80 hours
1/1/2021	Custom Wages
12/1/2016	Service Credit Purchase Estimates - Yes
1/1/2011	Exclude Temporary Employees requiring less than 12 months
1/1/2005	Benefit B-4 (80% max)
1/1/2001	Benefit B-3 (80% max)
2/3/1997	Temporary Benefit F55 (With 20 Years of Service) (02/03/1997 - 05/03/1997)
2/1/1996	Temporary Benefit F55 (With 20 Years of Service) (02/01/1996 - 05/04/1996)
1/1/1992	Benefit FAC-5 (5 Year Final Average Compensation)

10 - Union

1/1/1992	10 Year Vesting
1/1/1992	Benefit B-2 (No Max)
1/1/1992	Member Contribution Rate 0.00%
1/1/1992	E1 2.5% COLA for past retirees (01/01/1992)
1/1/1992	E2 2.5% COLA for future retirees (01/01/1992)
1/1/1991	E1 2.5% COLA for past retirees (01/01/1991)
1/3/1975	Exclude Temporary Employees
8/11/1969	Covered by Act 88
6/1/1960	Fiscal Month - January
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

11 - Hourly Non-Union

1/1/2021	FMLA - Service Granted
1/1/2021	Public Safety Employees - Yes
1/1/2021	Other Leave - Service Granted
1/1/2021	Workers Compensation - Service Granted
1/1/2021	Service Credit Qualification - 80 hours
1/1/2021	Custom Wages
12/1/2016	Service Credit Purchase Estimates - Yes
1/1/2011	Exclude Temporary Employees requiring less than 12 months
1/1/2003	Benefit B-4 (80% max)
11/1/1998	Benefit FAC-3 (3 Year Final Average Compensation)
11/1/1998	Benefit B-3 (80% max)
1/1/1994	Benefit F55 (With 20 Years of Service)
1/1/1992	Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1992	10 Year Vesting
1/1/1992	Benefit B-2 (No Max)
1/1/1992	Member Contribution Rate 0.00%
1/1/1992	E1 2.5% COLA for past retirees (01/01/1992)
1/1/1992	E2 2.5% COLA for future retirees (01/01/1992)
1/1/1991	E1 2.5% COLA for past retirees (01/01/1991)
1/3/1975	Exclude Temporary Employees
8/11/1969	Covered by Act 88
6/1/1960	Fiscal Month - January
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

12 - Non-Un aft 10/14 &Un aft 10/1

1/1/2021	FMLA - Service Granted
1/1/2021	Public Safety Employees - Yes
1/1/2021	Other Leave - Service Granted
1/1/2021	Workers Compensation - Service Granted
1/1/2021	Service Credit Qualification - 80 hours
1/1/2021	Custom Wages
12/1/2016	Service Credit Purchase Estimates - Yes
10/1/2014	Day of work defined as 160 Hours a Month for All employees.
10/1/2011	Benefit FAC-5 (5 Year Final Average Compensation)
10/1/2011	Exclude Temporary Employees requiring less than 12 months

12 - Non-Un aft 10/14 &Un aft 10/1

10/1/2011	10 Year Vesting
10/1/2011	Benefit B-1 (No Max)
10/1/2011	Member Contribution Rate 0.00%
8/11/1969	Covered by Act 88
6/1/1960	Fiscal Month - January
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

S1 - Surplus Assoc. to div 10

6/1/1960	Fiscal Month - January

Plan Provisions, Actuarial Assumptions, and Actuarial Funding Method

Details on MERS plan provisions, actuarial assumptions, and actuarial methodology can be found in the Appendix. Some actuarial assumptions are specific to this municipality and its divisions. These are listed below.

Increase in Final Average Compensation

Division	FAC Increase Assumption
All Divisions	1.00%

Miscellaneous and Technical Assumptions

Loads – None.

Amortization Policy for Closed Not Linked Divisions: The default funding policy for closed not linked divisions, including open divisions with zero active members, is to follow a non-accelerated amortization, where each closed period decreases by one year each year until the period is exhausted. In select instances, closed not linked division(s) may follow an accelerated amortization policy.

Risk Commentary

Determination of the accrued liability, the employer contribution, and the funded ratio requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability, the actuarially determined contribution and the funded ratio that result from the differences between actual experience and the actuarial assumptions.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions due to changing conditions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period, or additional cost or contribution requirements based on the Plan's funded status); and changes in plan provisions or applicable law. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:

- **Investment Risk** – actual investment returns may differ from the expected returns;
- **Asset/Liability Mismatch** – changes in asset values may not match changes in liabilities, thereby altering the gap between the accrued liability and assets and consequently altering the funded status and contribution requirements;
- **Salary and Payroll Risk** – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and contributions differing from expected;
- **Longevity Risk** – members may live longer or shorter than expected and receive pensions for a period of time other than assumed; and
- **Other Demographic Risks –** members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected.

  The effects of certain trends in experience can generally be anticipated. For example, if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise, if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.

PLAN MATURITY MEASURES

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust may be much more exposed to investment risk. Generally accepted plan maturity measures include the following:

	12/31/2022	12/31/2021	12/31/2020	12/31/2019	12/31/2018
1. Ratio of the market value of assets to total payroll	5.0	6.8	6.2	5.0	4.7
2. Ratio of actuarial accrued liability to payroll	9.3	11.6	11.9	11.0	11.8
3. Ratio of actives to retirees and beneficiaries	0.7	0.5	0.5	0.5	0.5
4. Ratio of market value of assets to benefit payments	8.4	8.9	7.5	6.5	5.6
5. Ratio of net cash flow to market value of assets (boy)	4.1%	4.3%	3.8%	3.7%	2.2%

RATIO OF MARKET VALUE OF ASSETS TO TOTAL PAYROLL

The relationship between assets and payroll is a useful indicator of the potential volatility of contributions. For example, if the market value of assets is 2.0 times the payroll, a return on assets 5% different than assumed would equal 10% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in plan sponsor contributions as a percentage of payroll.

RATIO OF ACTUARIAL ACCRUED LIABILITY TO PAYROLL

The relationship between actuarial accrued liability and payroll is a useful indicator of the potential volatility of contributions for a fully funded plan. A funding policy that targets a funded ratio of 100% is expected to result in the ratio of assets to payroll and the ratio of liability to payroll converging over time.

RATIO OF ACTIVES TO RETIREES AND BENEFICIARIES

A young plan with many active members and few retirees will have a high ratio of actives to retirees. A mature open plan may have close to the same number of actives to retirees resulting in a ratio near 1.0. A super-mature or closed plan may have significantly more retirees than actives resulting in a ratio below 1.0.

RATIO OF MARKET VALUE OF ASSETS TO BENEFIT PAYMENTS

The MERS' Actuarial Policy requires a total minimum contribution equal to the excess (if any) of three times the expected annual benefit payments over the projected market value of assets as of the participating municipality or court's Fiscal Year for which the contribution applies. The ratio of market value of assets to benefit payments as of the valuation date provides an indication of whether the division is at risk for triggering the minimum contribution rule in the near term. If the division triggers this minimum contribution rule, the required employer contributions could increase dramatically relative to previous valuations.

RATIO OF NET CASH FLOW TO MARKET VALUE OF ASSETS

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means existing funds are being used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

State Reporting

The following information has been prepared to provide some of the information necessary to complete the Public Act 202 pension reporting requirements for the State of Michigan's Local Government Retirement System Annual Report (Form No. 5572). Additional resources are available at www.mersofmich.com and on the State website.

Form 5572 Line Reference	Description	Result
10	**Membership as of December 31, 2022**	
11	Indicate number of active members	28
12	Indicate number of inactive members (excluding pending refunds)	2
13	Indicate number of retirees and beneficiaries	42
14	**Investment Performance for Calendar Year Ending December 31, 2022[1]**	
15	Enter actual rate of return - prior 1-year period	(10.37)%
16	Enter actual rate of return - prior 5-year period	4.95%
17	Enter actual rate of return - prior 10-year period	6.79%
18	**Actuarial Assumptions**	
19	Actuarial assumed rate of investment return[2]	7.00%
20	Amortization method utilized for funding the system's unfunded actuarial accrued liability, if any	Level Percent
21	Amortization period utilized for funding the system's unfunded actuarial accrued liability, if any[3]	16
22	Is each division within the system closed to new employees?[4]	No
23	**Uniform Assumptions**	
24	Enter retirement pension system's actuarial value of assets using uniform assumptions	$8,699,202
25	Enter retirement pension system's actuarial accrued liabilities using uniform assumptions[5]	$15,120,424
27	Actuarially Determined Contribution (ADC) using uniform assumptions, Fiscal Year Ending December 31, 2023	$1,003,020

1. The Municipal Employees' Retirement System's investment performance has been provided to GRS from MERS Investment Staff and is included here for reporting purposes. The investment performance figures reported are net of investment expenses on a rolling calendar year basis for the previous 1-, 5-, and 10-year periods as required under PA 530.
2. Net of administrative and investment expenses.
3. Populated with the longest amortization period remaining in the amortization schedule, across all divisions in the plan. This is when each division and the plan in total is expected to reach 100% funded if all assumptions are met.
4. If all divisions within the employer are closed, "yes." If at least one division is open (including shadow divisions), "no."
5. Line 25 actuarial accrued liability is determined under PA 202 uniform assumptions which differ from the valuation assumptions. In particular, the assumed rate of return for PA 202 purposes is 6.85%.

Corrective Action Plan Monitoring Certification of Compliance: Section 4 Sustainability Certification Worksheet

Instructions

Fiscal Year	Pension Payments		OPEB Payments		Projected (Actual) Governmental Revenues	Projected Enterprise Funds used for Retirement Costs	Projected Retirement Contributions as a Percent of Revenues	Annual Retirement Cost Increase
	Total Pension ADC (All Systems)	Additional Pension Contributions (All Systems)	Total OPEB Benefit Payment Amount (All Systems)	Additional OPEB Contributions (All Systems)				
2022					$7,778,864			
2023	$990,000	$480,000	$136,124		$7,934,441		20.2%	
2024	$1,030,000	$480,000	$135,083		$8,093,130		20.3%	2.4%
2025	$1,080,000	$480,000	$137,969		$8,254,993		20.6%	3.2%
2026	$1,130,000	$480,000	$130,152		$8,420,093		20.7%	2.5%
2027	$1,160,000	$480,000	$136,500		$8,588,494		20.7%	2.1%

Projected Annual Revenue Growth (Please select)	2%
Average Annual Retirement Cost Increase	2.6%

Attachment 5

MERS Municipal Employees' Retirement System
1134 Municipal Way
Lansing, MI 48917
(800) 767-6377

Iron County Road Commission
800 W Franklin St
Iron River, MI 49935

Customer Number: 360201

Statement of Fiduciary Net Position
For the Quarter Ended 09/30/2023

Reserve for Employer Contributions and Benefit Payments

Bargaining Unit	Balance as of 6/30/2023	Invoiced & Other Contributions	Transfers & Fees	Benefits Paid	Net Investment Income	Admin Expenses	Balance as of 9/30/2023
36020101	$787,306.04	$20,889.00	$0.00	($33,769.23)	($10,593.83)	($495.81)	$763,336.17
36020110	$1,834,673.83	$97,455.00	$0.00	($135,033.58)	($24,414.49)	($1,142.64)	$1,771,538.12
36020111	$1,947,479.15	$73,686.00	$0.00	($80,150.37)	($26,264.16)	($1,229.21)	$1,913,521.41
36020112	$599,809.47	$24,455.42	$0.00	($3,145.38)	($8,250.38)	($386.14)	$612,482.99
360201S1	$3,523,011.10	$120,000.00	$0.00	$0.00	($48,439.18)	($2,267.04)	$3,592,304.88
360201SG	$0.00	$851,132.00	$0.00	$0.00	($4,053.44)	($189.71)	$846,888.85
Total	$8,692,279.59	$1,187,617.42	$0.00	($252,098.56)	($122,015.48)	($5,710.55)	$9,500,072.42

Combined Reserves

	Balance as of 6/30/2023	Invoiced & Other Contributions	Transfers	Benefits Paid	Net Investment Income	Admin Expenses	Balance as of 9/30/2023
Total	$8,692,279.59	$1,187,617.42	$0.00	($252,098.56)	($122,015.48)	($5,710.55)	$9,500,072.42

Outstanding Accounts Receivable at 9/30/2023: $110,736.37

Attachment 5b.

MERS
Municipal Employees' Retirement System

3602 - Iron County Road Commission, MI

2022 MERS AAV Data

Funding Level

	Funding Level
2012	42.55%
2013	44.01%
2014	43.39%
2015	40.73%
2016	40.81%
2017	41.95%
2018	43.98%
2019	45.90%
2020	50.76%
2021	59.16%
2022	62.52%
2023	62.97%
2024	63.72%
2025	64.51%
2026	65.32%
2027	68.61%

The results reflected are mathematical estimates of future events based on information provided/available and assumptions that may not materialize. Subsequent measurements may differ, possibly materially, from these estimates due to differences in assumptions, methods, plan demographics, provisions and assets/returns, or other new information. Neither the employer, nor any other party receiving or reviewing the data may rely on these calculations as indicative of future results.

2020 for 2021

Assuming that experience of the plan meets actuarial assumptions:

- To accelerate to a 100% funding ratio in 10 years, estimated monthly employer contributions for the fiscal year beginning in 2022 for the entire employer would be $101,864, instead of $69,394.

How and Why Do These Numbers Change?

In a defined benefit plan, contributions vary from one annual actuarial valuation to the next as a result of the following:

- Changes in benefit provisions (see Table 2),
- Changes in actuarial assumptions and methods (see the Appendix), and
- Experience of the plan (investment experience and demographic experience); this is the difference between actual experience of the plan and the actuarial assumptions.

These impacts are reflected in various tables in the report. For more information, please contact your Regional Manager.

Comments on Investment Rate of Return Assumption

A defined benefit plan is funded by employer contributions, participant contributions, and investment earnings. Investment earnings have historically provided a significant portion of the funding. The larger the share of benefits being provided from investment returns, the smaller the required contributions, and vice versa. Determining the contributions required to prefund the promised retirement benefits requires an assumption of what investment earnings are expected to add to the fund over a long period of time. This is called the **Investment Return Assumption**.

The MERS Investment Return Assumption is **7.35%** per year. This, along with all of our other actuarial assumptions, is reviewed at least every five years in an Experience Study that compares the assumptions used against actual experience and recommends adjustments if necessary. If your municipality would like to explore contributions at lower assumed investment return assumptions, please review the "what if" projection scenarios later in this report.

Assumption Change in 2020

A 5-year experience study analyzing historical experience from 2013 through 2018 was completed in February 2020. In addition to changes to the economic assumptions which took effect with the fiscal year 2021 contribution rates, the experience study recommended updated demographic assumptions, including adjustments to the following actuarial assumptions: mortality, retirement, disability, and termination rates. Changes to the demographic assumptions resulting from the experience study have been approved by the MERS Retirement Board and are effective beginning with the December 31, 2020 actuarial valuation, first impacting 2022 contributions. A complete description of the assumptions may be found in the Appendix to the valuation.

Comments on Asset Smoothing

To avoid dramatic spikes and dips in annual contribution requirements due to short term fluctuations in asset markets, MERS applies a technique called **asset smoothing**. This spreads out each year's investment gains or losses over the prior year and the following four years. This smoothing method is used to determine your

MERS strongly encourages employers to contribute more than the minimum contribution shown above. With the implemented Dedicated Gains policy, market gains and losses will continue to be smoothed over five years; however, since excess return are being used to lower the investment assumption, there will be less gains to smooth in down markets. Having additional funds in Surplus divisions will assist plans with navigating any market volatility.

Assuming that experience of the plan meets actuarial assumptions:

- To accelerate to a 100% funding ratio in 10 years, estimated monthly employer contributions for the fiscal year beginning in 2023 for the entire employer would be $100,458, instead of $70,702.

How and Why Do These Numbers Change?

In a defined benefit plan, contributions vary from one annual actuarial valuation to the next as a result of the following:

- Changes in benefit provisions (see Table 2),
- Changes in actuarial assumptions and methods (see the Appendix), and
- Experience of the plan (investment experience and demographic experience); this is the difference between actual experience of the plan and the actuarial assumptions.

These impacts are reflected in various tables in the report. For more information, please contact your Regional Manager.

Comments on Investment Rate of Return Assumption

A defined benefit plan is funded by employer contributions, participant contributions, and investment earnings. Investment earnings have historically provided a significant portion of the funding. The larger the share of benefits being provided from investment returns, the smaller the required contributions, and vice versa. Determining the contributions required to prefund the promised retirement benefits requires an assumption of what investment earnings are expected to add to the fund over a long period of time. This is called the **Investment Return Assumption**.

The MERS Investment Return Assumption is **7.00%** per year. This, along with all of our other actuarial assumptions, is reviewed at least every five years in an Experience Study that compares the assumptions used against actual experience and recommends adjustments if necessary. If your municipality would like to explore contributions at lower assumed investment return assumptions, please review the "What If" projection scenarios later in this report.

Assumption and Method Change in 2021

Effective February 17, 2022, the MERS Retirement Board adopted a dedicated gains policy that automatically adjusts the assumed rate of investment return by using excess asset gains to mitigate large increases in required contributions to the Plan. Full details of this dedicated gains policy are available in the Actuarial Policy found on the MERS website. Some goals of the dedicated gains policy are to:

- Provide a systematic approach to lower the assumed rate of investment return between experience studies, and
- Use excess gains to cover both the increase in normal cost and any increase in UAL payment the first year after implementation (i.e., minimize the first-year impact (i.e., increase) in employer contributions).

MERS strongly encourages employers to contribute more than the minimum contribution shown above. With the implemented Dedicated Gains policy, market gains and losses will continue to be smoothed over five years; however, since excess returns are used to lower the investment assumption, there will be fewer gains to smooth in down markets. Having additional funds in Surplus divisions will assist plans with navigating any market volatility.

Assuming that experience of the plan meets actuarial assumptions:

- To accelerate to a 100% funding ratio in 10 years, estimated monthly employer contributions for the fiscal year beginning in 2024 for the entire employer would be $107,004, instead of $78,820.

How and Why Do These Numbers Change?

In a defined benefit plan, contributions vary from one annual actuarial valuation to the next as a result of the following:

- Changes in benefit provisions (see Table 2),
- Changes in actuarial assumptions and methods (see the Appendix), and
- Experience of the plan (investment experience and demographic experience); this is the difference between actual experience of the plan and the actuarial assumptions.

These impacts are reflected in various tables in the report. For more information, please contact your Regional Manager.

Comments on Investment Rate of Return Assumption

A defined benefit plan is funded by employer contributions, participant contributions, and investment earnings. Investment earnings have historically provided a significant portion of the funding. The larger the share of benefits being provided from investment returns, the smaller the required contributions, and vice versa. Determining the contributions required to prefund the promised retirement benefits requires an assumption of what investment earnings are expected to add to the fund over a long period of time. This is called the **Investment Return Assumption**.

The MERS Investment Return Assumption is **7.00%** per year. This, along with all of our other actuarial assumptions, is reviewed at least every five years in an Experience Study that compares the assumptions used against actual experience and recommends adjustments if necessary. If your municipality would like to explore contributions at lower assumed investment return assumptions, please review the "What If" projection scenarios later in this report.

Assumption and Method Change in 2022

Effective February 17, 2022, the MERS Retirement Board adopted a dedicated gains policy that automatically lowers the assumed rate of investment return by using excess asset gains to mitigate large increases in required contributions to the Plan. Full details of this dedicated gains policy are available in the Actuarial Policy found on the MERS website. Some goals of the dedicated gains policy are to:

- Provide a systematic approach to lower the assumed rate of investment return between experience studies, and
- Use excess gains to cover both the increase in normal cost and any increase in UAL payment the first contribution year after application (i.e., minimize the first-year impact (i.e., increase) in employer contributions).