City of Bloomfield Hills

Comprehensive Financial Plan for Pension Bonding
September 2014

Prepared by:
Karen K. Ruddy, Finance Director

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Exhibits:

Exhibit A – 2013 MERS Defined Benefit Plan Actuarial Report

Exhibit B – MERS Amortization Payment Projections of Defined Benefit Plan Unfunded Accrued Liability

Exhibit C – 2012 Post-Employment Health Benefit Actuarial Report

Exhibit D – Bloomfield Hills Pension Bonding Presentation

Exhibit E – Schedule of Anticipated Debt Service Requirements

CITY OF BLOOMFIELD HILLS
COMPREHENSIVE FINANCIAL PLAN

This comprehensive financial plan is being presented pursuant to Act 329 of Public Acts of Michigan, 2012 ("Act 329"). As the City is in compliance with all requirements of Act 329, it has chosen to issue bonds to finance the unfunded pension liability for the City's defined benefit pension plan.

As required by Act 329 the City must have at least an AA bond rating, whereas Bloomfield Hills has an AAA bond rating, the highest rating attainable, with both Standard and Poor's and Moody's. Also, the City has closed all divisions within its defined pension plan, and has established defined contribution plans for any employees hired after the closure date of each division. Furthermore the City has prepared, and will make public, this comprehensive financial plan which presents an analysis of its defined benefit pension plan, defined contribution plans, retiree health care plan, and retiree health savings plan. Since the bond issuance will finance only the defined benefit pension's unfunded pension liability, the defined benefit plan will be discussed more extensively.

I. Analysis of Retirement Programs and Post-Employment Health Care Benefit Programs

A. Defined Benefit Pension Plan

The City has one defined benefit pension plan which is part of the Municipal Employees' Retirement System (MERS). MERS is an agent multiple retirement system where each municipality is maintained as a separate trust, but where assets are pooled for investment purposes.

Within the City's plan there are eight separate divisions. Only four divisions were open as of June 30, 2014. These divisions include 01 – P S Dispatch, 02 – P S Command, 13 – DPW after 1/1/06, and 20 – P S Officers after 7/1/09. However, after June 30, 2014, each of the associated collective bargaining groups has agreed to close these divisions. Furthermore, MERS has been notified of the closure of these remaining divisions and directed to establish a defined contribution plan for new hires.

As of the most current annual actuarial report dated December 31, 2013, the defined benefit plan had 32 active employees, 2 vested former employees and 43 retirees and beneficiaries. Plan accrued assets based on the smoothed or actuarial value, totaled $15,484,021 while accrued liabilities were $31,174,095, leaving unfunded accrued liabilities of $15,690,074. The

plan became underfunded in 1995. Over the next eighteen years several factors caused the unfunded accrued liability to grow. In year 2000, the pension multipliers were increased. However, in recent years these multipliers have been negotiated to lower percentages, helping to curtail increases. Perhaps the greatest contributor to the increasing annual payments and unfunded liability were poor market conditions causing weak investment returns.

In an effort to determine if pension bonding was the most reasonable method to fund the City's unfunded accrued liability, MERS was asked to provide an amortization schedule of payment projections showing the estimated contribution over the next twenty years; based on both accrual and market values (Exhibit – B). This projection was based on the December 31, 2012 valuation; the most current actuarial valuation at that time. Although many scenarios were considered, the City utilized the MERS market value payment projection, because it presented the worst case scenario. A comparison was done showing the savings of issuing bonds over paying the liability without bond financing. The results are summarized below.

$16,945,000

CITY OF BLOOMFIELD HILLS
COUNTY OF OAKLAND, STATE OF MICHIGAN
GENERAL OBLIGATION LIMITED TAX BONDS, SERIES 2014
(20 Year Market Value Scenario B)

Cash Flow Comparison @ 8.0000000% (Market Value)

Date	(A) Projected Debt Service	(B) 8.00% Contribution	PV Factor	(= B- A) Gross Savings	PV Savings
06/30/2015	$ 1,426,685.17	$1,100,000.00	0.9560989x	$ (326,685.17)	$ (312,343.33)
06/30/2016	1,171,133.50	1,200,000.00	0.8852767x	28,866.50	25,554.84
06/30/2017	1,171,958.50	1,200,000.00	0.8197007x	28,041.50	22,985.64
06/30/2018	1,169,991.00	1,400,000.00	0.7589821x	230,009.00	174,572.72
06/30/2019	1,164,008.00	1,500,000.00	0.7027612x	335,992.00	236,122.15
06/30/2020	1,164,661.25	1,500,000.00	0.6507048x	335,338.75	218,206.55
06/30/2021	1,162,612.50	1,600,000.00	0.6025045x	437,387.50	263,527.93
06/30/2022	1,162,980.00	1,700,000.00	0.5578745x	537,020.00	299,589.77
06/30/2023	1,161,140.00	1,800,000.00	0.5165505x	638,860.00	330,003.44
06/30/2024	1,162,302.50	1,800,000.00	0.4782875x	637,697.50	305,002.73
06/30/2025	1,161,502.50	1,900,000.00	0.4428588x	738,497.50	327,050.10
06/30/2026	1,158,871.25	2,000,000.00	0.4100544x	841,128.75	344,908.56
06/30/2027	1,159,036.25	2,100,000.00	0.3796800x	940,963.75	357,265.14
06/30/2028	1,156,617.50	2,100,000.00	0.3515556x	943,382.50	331,651.38
06/30/2029	1,156,632.50	2,200,000.00	0.3255144x	1,043,367.50	339,631.17
06/30/2030	1,154,123.75	2,100,000.00	0.3014022x	945,876.25	285,089.22
06/30/2031	1,149,490.00	2,200,000.00	0.2790761x	1,050,510.00	293,172.29
06/30/2032	1,152,460.00	2,300,000.00	0.2584038x	1,147,540.00	296,528.74
06/30/2033	1,147,612.50	2,400,000.00	0.2392628x	1,252,387.50	299,649.76
06/30/2034	1,149,750.00	2,200,000.00	0.2302308x	1,050,250.00	241,799.85
Total	**$ 23,463,568.67**	**$36,300,000.00**	-	**$ 12,836,431.33**	**$ 4,679,968.62**

Table provided by Bendzinski & Co. Municipal Finance Advisors

As can be seen in the table above, the present value saving to the City could potentially be $4.6 million dollars over the next twenty years. It should be noted that with bond financing, the annual payment can be smoothed over twenty years; creating less volatility for budgeting and

more accurate forecasting. Since the City pays pension obligation costs each year from the General Fund, it is more advantageous to be able to predict the annual payment.

Two public work sessions with City Commission were held to discuss the feasibility of the bond financing. The City's bond attorney and bond advisors were present at both meetings to answer any questions. Additionally, on May 12th, 2014 at the regular commission meeting, a presentation (Exhibit – D) was given by the City Finance Director explaining the pension and health care retirement plans, as well as the bond issuance process. At that same meeting, the City Commission voted unanimously by resolution to indicate its intent to issue pension obligation bonds for an amount not to exceed $17,000.000.

The City elected to finance the defined benefit pension unfunded liability through the issuance of pension obligation bonds based on:

- Promises made to employees in the defined benefit plan
- Projected possible cost savings
- Predictability of annual unfunded liability costs

The City recognizes that the value of assets and liabilities may change depending on market conditions and actuarial projections that differ from actual experiences. Furthermore, the City understands that such changes may result in additional required contributions to the plan or perhaps could result in the plan becoming overfunded.

The City of Bloomfield Hills has a long tradition of making sound financial decisions. Perhaps this is best evidenced by the fact that the City has continued to maintain its AAA bond rating, even throughout the last economic downturn. Furthermore, the City levies only 10.6000 of its 14.7182 allowable millage. By exploring all cost savings the City is able to keep its millage low, but if needed could collect over $3 million in additional tax revenue per year.

B. Defined Contribution Pension Plans

The City currently has two separate defined contribution plans. The first plan is administered by MERS and is open to only non-union administrative employees. This plan has 6 active employees and 4 non-active employees, and has an employer contribution rate of 1% of base salary. Employees are not required to make contributions, and are vested immediately. As of June 30, 2014, the MERS plan assets totaled $41,202.76.

The second plan is administered by ICMA. Only non-union administrative employees receive an employer contribution; which is 15% of base salary. However, all City employees are able to make voluntary contributions into the plan based on either a percentage of pay or a flat monthly rate. Vesting for this plan is also immediate. As of June 30, 2014, the ICMA plan assets totaled $976,656.08.

Two separate defined contribution plans are currently being established with MERS for newly hired union employees. These plans will require an employee contribution of 5%. However, the employer contribution will be 10% for Department of Public Works (DPW) and Dispatch employees and 12% for Public Safety Officers and Command Officers.

C. Other Post-Employment Benefits Program

Health and dental benefits are offered to all retirees under bargaining agreements if hired prior to July 1, 2009. As of July 1, 2009 all newly hired union employees are not eligible for post-employment health benefits. Instead these employees are eligible for the retiree health savings plan (see D. below). Non-union administrative employees are not eligible for retiree health benefits.

The City is required to have an actuarial valuation completed every three years. The most current actuarial report is of January 1st, 2012 (Exhibit C). This report:

- Computes the liability associated with health benefits likely to be paid on behalf of active and retired eligible employees
- Computes a pre-funding contribution rate to finance retirement health benefits as they accrue

As of January 1st, 2012 the City had plan assets totaling $428,359 and plan accrued liability of $9,817,918 leaving an unfunded accrued liability of $9,389,559. There were 27 active employees and 35 retirees at the date of the last actuarial study. The City elects to use the "pay as you go" method of funding. This means the City pays retiree health care as it is incurred. However, the City has made contributions totaling $1,100,000 to advance fund the plan since 2010. The January 1, 2009 actuarial report showed unfunded liability of $11,358,067. Compared with the January 1, 2012 report, the City has reduced its unfunded liability by $1,968,508.

With the prefunding of this plan, and converting new employees hired beginning July 1, 2009 to a health savings plan, the City has decided not to finance the unfunded liability through pension obligation bonds for the post-employment health benefit plan.

D. Retiree Health Savings Plan

All union employees hired beginning July 1, 2009 are entered into a health savings plan, and are not eligible for the City's post-employment health benefit plan. The City contributes monthly into the employees' health savings account until such time as the employee retires. Currently the City has four employees that are eligible for this plan. For Dispatch, Public Safety Officers and Command Officers, the City contributes $120 per pay period or $3,120 per year. For DPW employees, the City contributes $80 per pay period or $2,080 per year. Non-union administrative employees are not eligible for retiree health benefits.

II. Elimination of Defined Benefit Unfunded Pension Liability

The defined benefit plan's unfunded pension liability of $15,690,074, which is found in Exhibit A, page 20, will be eliminated using the issuance of limited tax general obligation bonds as shown in Exhibit E – Schedule of Anticipated Debt Service Requirement.

III. Schedule of Anticipated Debt Service Requirement

The debt service schedule (Exhibit E) for the proposed pension obligation bonds is attached. The schedule assumes the bonds sell at a true interest cost of 3.8168796%. The City intends to use General Fund money to satisfy the debt obligations per the bond amortization schedule.

I certify that I have prepared this Comprehensive Financial Plan and that the Plan is complete and accurate.

Karen K. Ruddy

Karen K. Ruddy, Finance Director
City of Bloomfield Hills

City of Bloomfield Hills

Exhibit - A

2013 MERS Defined Benefit Plan Actuarial Report

MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM OF MICHIGAN

ANNUAL ACTUARIAL VALUATION REPORT DECEMBER 31, 2013

BLOOMFIELD HILLS, CITY OF (6302)

TEGRITGROUP
Actuarial Consulting | Retirement Plan Services | Technologies

Spring, 2014

Bloomfield Hills, City of

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 as of December 31, 2013. The report includes the determination of liabilities and contribution rates resulting from the participation of Bloomfield Hills, City of (6302) in the Municipal Employees' Retirement System of Michigan ("MERS"). MERS is an independent public nonprofit organization that has partnered with Michigan municipalities for more than 65 years, helping them provide safe, secure retirement plans for their employees. Bloomfield Hills, City of is responsible for the employer contributions needed to provide MERS benefits for its employees and former employees under the Michigan Constitution and the MERS Plan Document.

The purpose of the December 31, 2013 annual actuarial valuation is to:

- measure funding progress,
- establish contribution requirements for the fiscal year beginning July 1, 2015, and
- provide actuarial information in connection with applicable Governmental Accounting Standards Board statements.

This valuation report should not be relied upon for any other purpose. Reliance on information contained in this report by anyone for anything other than the intended purpose could be misleading.

The valuation uses financial data, plan provision data, and participant data as of December 31, 2013 furnished by MERS' administrative staff. In accordance with Actuarial Standards of Practice No. 23, the data was checked for internal and year to year consistency as well as general reasonableness, but was not otherwise audited. Tegrit Group does not assume responsibility for the accuracy or completeness of the data used in this valuation.

The actuarial assumptions and methods are adopted by the Retirement Board. Please refer to the division-specific assumptions described in table(s) in this report, and to the Appendix on the MERS website at:
www.mersofmich.com/Portals/0/Assets/Resources/AAV-Appendix/MERS-2013AnnualActuarialValuation-Appendix.pdf.

The actuarial assumptions used for this valuation produce results that we believe are reasonable.

To the best of our knowledge, this report is complete and accurate, was prepared in conformity with generally recognized actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board, and is in compliance with Act No. 220 of the Public Acts of 1996, as amended, and the MERS Plan Document as revised. All of the undersigned are members of the American Academy of Actuaries (MAAA), and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. 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).

Our advice 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 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 related third parties such as the auditor for the municipality). Tegrit Group is not responsible for the consequences of any unauthorized use.

You should notify MERS if you disagree with anything contained in the report or are aware of any information that would affect the results of the report that have not been communicated to us. 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 MERS at: http://www.mersofmich.com/MERS/About-MERS/Contact-Us

Sincerely,

Alan Sonnanstine, MAAA, ASA
Cathy Nagy, MAAA, FSA
Jim Koss, MAAA, ASA
Rebecca Stouffer, MAAA, ASA

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Executive Summary

Funded Ratio and Required Employer Contributions

The MERS Defined Benefit Plan is an agent multiple-employer plan, meaning that assets are pooled for investment purposes but separate trusts are maintained for each individual employer. Each municipality is responsible for their own plan liabilities; MERS does not borrow from one municipality's account to pay for another.

The funded ratio of a plan is the percentage of the dollar value of the accrued benefits that is covered by the actuarial value of assets.

Your Funded Ratio:

	12/31/2013	12/31/2012
Funded Ratio	50%	51%

Michigan Law requires that pension plans be pre-funded, meaning money is set aside now to pay for future benefits. Pension plans are usually funded by employer and employee contributions, and investment income.

As a result of the plan's funding policy, the funded ratio is expected to approach 100% over time. How quickly a plan attains the 100% goal depends on many factors such as:

- The current funded ratio,
- The future experience of the plan, and
- The amortization period.

It is more important to look at the trend in the funded ratio over a period of time than at a particular point in time.

Your Required Employer Contributions:

Your minimum required employer contributions are shown on the following page. Employee contributions, if any, are shown in Table 2, and are in addition to the required employer contribution on the next page.

	Percentage of Payroll		Monthly $ Based on Valuation Payroll	
Valuation Date:	**12/31/2013**	**12/31/2012**	**12/31/2013**	**12/31/2012**
Fiscal Year Beginning:	**July 1, 2015**	**July 1, 2014**	**July 1, 2015**	**July 1, 2014**
Division				
01 - P S Dispatch	9.13%	6.97%	$ 1,346	$ 1,023
02 - P S Command	88.21%	108.88%	46,903	43,134
10 - Dept of Pb Wk	-	-	11,951	11,121
11 - General Admin	-	-	5,491	4,514
12 - Executive Div	-	-	11,864	8,121
13 - DPW aftr 1/1/06	5.02%	1.88%	677	237
20 - P S Officers	-	-	32,807	36,767
21 - P S Officers after 7/1	9.58%	10.07%	1,365	1,009
Municipality Total			**$ 112,404**	**$ 105,926**

You may contribute more than the minimum required contributions, as these additional contributions will earn investment income, and later you may have to contribute less than otherwise. MERS strongly encourages employers to contribute more than the minimum contribution shown above.

Assuming that experience of the plan meets actuarial assumptions:

- To accelerate to a 100% funding ratio in 10 years, estimated monthly contributions for the entire employer would be $ 183,062, instead of $ 112,404.
- To accelerate to a 100% funding ratio in 20 years, estimated monthly contributions for the entire employer would be $ 123,919, instead of $ 112,404.

If you are interested in making additional contributions, please contact MERS and they can assist you with evaluating your options.

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.

Actuarial valuations do not affect the ultimate cost of the plan; the benefit payments (current and future) determine the cost of the plan. Actuarial valuations only affect the timing of the contributions into the plan. Because assumptions are for the long term, plan experience will not match the actuarial

assumptions in any given year (except by coincidence). Each annual actuarial valuation will adjust the required employer contributions up or down based on the prior year's actual experience.

Comments on the Investment Markets

At this time, MERS maintains the 8% annual return assumption in the belief that over the long-term this is achievable. For example, MERS' 30 year return was 9.3% on December 31, 2013. The MERS portfolio returned 14.8% in 2013; the two year (12.9%), three year (9.2%), four year (10.4%), and five year (11.7%) returns all exceed the 8% annual return assumption. It has now been five years since the peak of the financial crisis and the stock market decline still weighs down MERS' medium term returns. This was a one in fifty year event comparable only to the Stock Market Crash of 1929 during the Great Depression. The stock market and economy have stabilized since 2008 and are on the long road to recovery. MERS regularly monitors the investment return assumption to make sure it is reasonable compared to long term expectations.

The actuarial value of assets, used to determine both your funded ratio and your required employer contribution, is based on a 10-year smoothed value of assets. Only a portion (six-tenths, for 2008 - 2013) of the 2008 investment market losses was recognized in this actuarial valuation report. This reduces the volatility of the valuation results, which affects your required employer contribution and funded ratio.

As of December 31, 2013 the actuarial value of assets is 106% of market value. This means that meeting the actuarial assumption in the next few years will require average annual market returns that exceed the 8% investment return assumption.

If the December 31, 2013 valuation results were based on market value on that date instead of 10-year smoothed funding value: i) the funded percent of your entire municipality would be 47% (instead of 50%); and ii) your total employer contribution requirement for the fiscal year starting July 1, 2015 would be $ 1,411,224 (instead of $ 1,348,848).

The asset smoothing method is a powerful tool for reducing the volatility of your required employer contributions. **However, if the current 6% difference between the smoothed value and the market value of assets is not made up, the result would be gradual increases in your employer contribution requirement over the next few years (to around the levels described above).**

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

The analysis in this section is intended to review the potential volatility of the actuarial valuation results. 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.

In the table below, we show the impact of varying one actuarial assumption: the future annual rate of investment return. Lower investment returns would result in higher required employer contributions, and vice-versa.

Other assumptions are also important in determining the required employer contributions.

For example:

- Smaller than projected pay increases would lower required employer contributions.
- Reductions in the number of active employees would lower required contribution dollars, but would usually increase the contribution rate expressed as a percentage of payroll.
- Retirements at earlier ages than projected would usually increase required employer contributions.
- More non-vested terminations of employment than projected would decrease required contributions.
- More disabilities or survivor (death) benefits than projected would increase required contributions.
- Longer lifetimes after retirement than projected would increase required employer contributions.

The relative impact of each investment return scenario 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, 2013 valuation, and are for the municipality in total, not by division.

	Assumed Future Annual Smoothed Rate of Investment Return			
	Lower Future Annual Returns		**Valuation Assumption**	**Higher Returns**
12/31/2013 Valuation Results	**6%**	**7%**	**8%**	**9%**
Accrued Liability	$ 39,679,746	$ 35,017,576	$ 31,174,095	$ 27,976,878
Valuation Assets	$ 15,484,021	$ 15,484,021	$ 15,484,021	$ 15,484,021
Unfunded Accrued Liability	$ 24,195,725	$ 19,533,555	$ 15,690,074	$ 12,492,857
Funded Ratio	39%	44%	50%	55%
Monthly Normal Cost	$ 48,982	$ 35,349	$ 25,228	$ 17,626
Monthly Amortization Payment	$ 111,114	$ 99,288	$ 87,176	$ 74,522
Total Employer Contribution[1]	$ 160,096	$ 134,637	$ 112,404	$ 92,681

[1] If assets exceed accrued liabilities for a division, the division's amortization payment is negative and is used 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.

Employer Contribution Details
For the Fiscal Year Beginning July 1, 2015

Table 1

Division	Amort. Period for Unfund. Liab.[4,5]	Employer Contributions[1]			Blended Employer Contribut.[7]	GASB ARC[6]	Member Contribut. Conversion Factor[2]
		Normal Cost	Unfunded Accrued Liability	Total Required Employer Contribut.			
Percentage of Payroll							
01 - P S Dispatch	25	9.83%	-0.70%	9.13%			
02 - P S Command	25	13.06%	75.15%	88.21%			
10 - Dept of Pb Wk	25	-	-	-	50.78%		
11 - General Admin	8	-	-	-			
12 - Executive Div	12	-	-	-			
13 - DPW aftr 1/1/06	25	10.83%	-5.81%	5.02%	50.78%		
20 - P S Officers	25	-	-	-	31.01%		
21 - P S Officers after	25	9.47%	0.11%	9.58%	31.01%		
Estimated Monthly Contribution[3]							
01 - P S Dispatch	25	$ 1,449	$ (103)	$ 1,346			0.81%
02 - P S Command	25	6,944	39,959	46,903			0.73%
10 - Dept of Pb Wk	25	1,386	10,565	11,951			
11 - General Admin	8	0	5,491	5,491			
12 - Executive Div	12	0	11,864	11,864			
13 - DPW aftr 1/1/06	25	1,460	(783)	677			0.89%
20 - P S Officers	25	12,640	20,167	32,807			
21 - P S Officers after	25	1,349	16	1,365			0.80%
Total Municipality		**$ 25,228**	**$ 87,176**	**$ 112,404**			
Estimated Annual Contribution[3]		**$ 302,736**	**$ 1,046,112**	**$ 1,348,848**			

1 The above Employer contribution requirements are in addition to the Member contributions, if any, shown in Table 2.

2 If Member contributions are increased/decreased by 1.00% of pay, the Employer contribution requirement will decrease/increase by the Member Contribution Conversion Factor.

3 For divisions that are open to new hires, estimated contributions are based on valuation payroll. Actual contributions will be based on actual reported monthly pays, and will be different from the above amounts (usually higher). For divisions that will have no new hires, 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 If projected assets exceed projected liabilities as of the beginning of the July 1, 2015 fiscal year, the negative unfunded accrued liability is amortized (spread) over 10 years. This amortization is used to reduce the employer contribution rate. 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 to not add across.

5 If the division is closed to new hires, with new hires not covered by MERS Defined Benefit Plan or Hybrid Plan provisions, the amortization period will decrease as follows: Under Amortization Option A, the period will decrease by 2 years each valuation year, until a minimum 5-year amortization is attained. Under Amortization Option B, the period will decrease by 2 years each valuation year, until reaching 15 years. Thereafter, the period will reduce by 1 year each valuation year, until a minimum 5-year amortization is attained. This will result in amortization payments that increase faster than the usual 4.5% each year. If the division is closed to new hires, with new hires (and transfers) covered by MERS Defined Benefit Plan or Hybrid Plan provisions, the standard open division amortization period will apply.

6 For reporting and disclosure purposes under Statement Nos. 25 and 27 of the Governmental Accounting Standards Board, the annual required contribution (ARC) for this division is based on a 30 year level dollar amortization.

[7] For linked divisions, the employer will be invoiced the Total Required Employer Contribution 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 800-767-2308.

Please see the Comments on the Investment Markets.

Benefit Provisions

Table 2

01 - P S Dispatch: Open Division

	2013 Valuation	2012 Valuation
Benefit Multiplier:	3.00% Multiplier (80% max)	3.00% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	55/25	55/25
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)
Member Contributions:	5%	5%
Act 88:	Yes (Adopted 9/10/2002)	Yes (Adopted 9/10/2002)

02 - P S Command: Open Division

	2013 Valuation	2012 Valuation
Benefit Multiplier:	3.00% Multiplier (80% max)	3.00% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	50/25	50/25
Early Retirement (Reduced):	55/15	55/15
Final Average Compensation:	3 years	3 years
COLA for Future Retirees:	2.50% (Non-Compound)	2.50% (Non-Compound)
Member Contributions:	5%	5%
RS50% Percentage:	50%	50%
Act 88:	Yes (Adopted 9/10/2002)	Yes (Adopted 9/10/2002)

10 - Dept of Pb Wk: Closed to new hires, linked to Division 13

	2013 Valuation	2012 Valuation
Benefit Multiplier:	3.00% Multiplier (80% max)	3.00% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	55/25	55/25
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)
Member Contributions:	5%	5%
RS50% Percentage:	50%	50%
Act 88:	Yes (Adopted 9/10/2002)	Yes (Adopted 9/10/2002)

Table 2 (continued)

11 - General Admin: Closed to new hires

	2013 Valuation	2012 Valuation
Benefit Multiplier:	3.00% Multiplier (80% max)	3.00% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	55/25	55/25
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)
Member Contributions:	1.70%	1.70%
RS50% Percentage:	50%	50%
DC Plan for New Hires:	1/1/2002	1/1/2002
Act 88:	Yes (Adopted 9/10/2002)	Yes (Adopted 9/10/2002)

12 - Executive Div: Closed to new hires

	2013 Valuation	2012 Valuation
Benefit Multiplier:	3.00% Multiplier (80% max)	3.00% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	50/25	50/25
Early Retirement (Reduced):	55/15	55/15
Final Average Compensation:	3 years	3 years
COLA for Future Retirees:	2.50% (Non-Compound)	2.50% (Non-Compound)
Member Contributions:	5%	5%
RS50% Percentage:	50%	50%
Act 88:	Yes (Adopted 9/10/2002)	Yes (Adopted 9/10/2002)

13 - DPW aftr 1/1/06: Open Division, linked to Division 10

	2013 Valuation	2012 Valuation
Benefit Multiplier:	2.50% Multiplier (no max)	2.50% Multiplier (no max)
Normal Retirement Age:	60	60
Vesting:	8 years	8 years
Early Retirement (Unreduced):	55/25	55/25
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)
Member Contributions:	5%	5%
RS50% Percentage:	50%	50%
Act 88:	No	No

Table 2 (continued)

20 - P S Officers: Closed to new hires, linked to Division 21

	2013 Valuation	2012 Valuation
Benefit Multiplier:	3.00% Multiplier (80% max)	3.00% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	50/25	50/25
Early Retirement (Reduced):	55/15	55/15
Final Average Compensation:	3 years	3 years
COLA for Future Retirees:	2.50% (Non-Compound)	2.50% (Non-Compound)
Member Contributions:	5%	5%
RS50% Percentage:	50%	50%
Act 88:	Yes (Adopted 9/10/2002)	Yes (Adopted 9/10/2002)

21 - P S Officers after 7/1/2009: Open Division, linked to Division 20

	2013 Valuation	2012 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):	55/25	55/25
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)
Member Contributions:	5%	5%
RS50% Percentage:	50%	50%
Act 88:	Yes (Adopted 9/10/2002)	Yes (Adopted 9/10/2002)

Membership Summary

Table 3

Division	2013 Valuation Number	2013 Valuation Annual Payroll[1]	2012 Valuation Number	2012 Valuation Annual Payroll[1]	2013 Valuation Average Age	2013 Valuation Average Benefit Service[2]	2013 Valuation Average Eligibility Service[2]
01 - P S Dispatch							
Active Members	3	$ 176,926	3	$ 176,121	44.1	10.7	10.7
Vested Former Members	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	3	40,933	3	40,533	73.9		
02 - P S Command							
Active Members	7	$ 638,062	5	$ 475,392	43.1	16.8	16.8
Vested Former Members	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	19	986,265	19	964,069	67.6		
10 - Dept of Pb Wk							
Active Members	2	$ 135,468	2	$ 125,696	45.3	12.7	12.7
Vested Former Members	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	6	242,483	6	237,683	66.4		
11 - General Admin							
Active Members	0	$ 0	0	$ 0	0.0	0.0	0.0
Vested Former Members	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	3	77,982	3	76,399	58.9		
12 - Executive Div							
Active Members	0	$ 0	0	$ 0	0.0	0.0	0.0
Vested Former Members	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	2	139,281	2	136,560	73.0		
13 - DPW aftr 1/1/06							
Active Members	3	$ 161,794	3	$ 151,057	43.8	7.0	7.0
Vested Former Members	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	0	0	0	0	0.0		
20 - P S Officers							
Active Members	14	$ 1,116,595	16	$ 1,374,982	38.8	11.5	11.9
Vested Former Members	2	47,473	2	47,473	46.2	12.9	17.5
Retirees and Beneficiaries	10	494,617	10	484,961	63.0		
21 - P S Officers after 7							
Active Members	3	$ 170,987	2	$ 120,295	31.1	1.3	1.3
Vested Former Members	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	0	0	0	0	0.0		
Total Municipality							
Active Members	**32**	**$ 2,399,832**	**31**	**$ 2,423,543**	**40.4**	**11.3**	**11.5**
Vested Former Members	**2**	**47,473**	**2**	**47,473**	**46.2**	**12.9**	**17.5**
Retirees and Beneficiaries	**43**	**1,981,561**	**43**	**1,940,205**	**66.5**		
Total Particpants	**77**		**76**				

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

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

Reported Assets (Market Value)

Table 4

Division	2013 Valuation		2012 Valuation	
	Employer and Retiree[1]	Employee[2]	Employer and Retiree[1]	Employee[2]
01 - P S Dispatch	$ 594,446	$ 85,375	$ 531,775	$ 76,444
02 - P S Command	6,117,126	462,639	5,607,410	323,431
10 - Dept of Pb Wk	1,027,515	35,373	1,003,710	28,568
11 - General Admin	387,382	0	370,592	0
12 - Executive Div	275,481	0	294,942	0
13 - DPW aftr 1/1/06	257,947	50,359	216,953	42,223
20 - P S Officers	4,537,057	714,859	4,225,169	767,031
21 - P S Officers after 7/1/2009	25,033	11,662	5,711	2,931
Municipality Total	**$ 13,221,987**	**$ 1,360,267**	**$ 12,256,262**	**$ 1,240,628**
Combined Reserves	**$ 14,582,254**		**$ 13,496,890**	

1 Reserve for Employer Contributions and Benefit Payments

2 Reserve for Employee Contributions

The December 31, 2013 valuation assets are equal to 1.061840 times the reported market value of assets (compared to 1.143563 as of December 31, 2012). The derivation of valuation assets is described, and detailed calculations of valuation assets are shown, in the Appendix.

Flow of Valuation Assets

Table 5

Year Ended 12/31	Contributions		Investment Income	Benefit Payments	Member Contrib. Refunds	Net Transfers	Valuation Asset Balance
	Employer	Member					
2003	$ 475,648	$ 93,769	$ 933,716	$ (849,277)	$ (27,027)	$ 8,517	$ 13,409,865
2004	664,180	94,422	904,802	(951,266)	(4,832)	85,549	14,202,720
2005	550,265	94,438	897,753	(1,147,033)	0	105,823	14,703,966
2006	554,694	90,682	1,156,597	(1,334,392)	0	0	15,171,547
2007	665,283	97,585	1,220,334	(1,504,026)	(833)	0	15,649,890
2008	789,697	118,460	657,431	(1,564,330)	0	0	15,651,148
2009	875,875	121,969	581,945	(1,579,559)	0	0	15,651,378
2010	858,747	113,423	733,606	(1,663,911)	0	0	15,693,243
2011	860,958	110,920	694,619	(1,766,045)	(7,593)	0	15,586,102
2012	967,279	117,540	629,754	(1,858,941)	(7,190)	0	15,434,544
2013	1,025,420	118,894	850,444	(1,945,281)	0	0	15,484,021

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

Actuarial Accrued Liabilities and Valuation Assets
As of December 31, 2013

Table 6

Division	Actuarial Accrued Liability	Valuation Assets[1]	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
01 - P S Dispatch				
Active Members	$ 406,552	$ 420,941	103.5%	$ (14,389)
Vested Former Members	0	0	0.0%	0
Retirees And Beneficiaries	300,920	300,920	100.0%	0
Pending Refunds	0	0	0.0%	0
Total	**$ 707,472**	**$ 721,861**	**102.0%**	**$ (14,389)**
02 - P S Command				
Active Members	$ 3,357,845	$ 462,639	13.8%	$ 2,895,206
Vested Former Members	0	0	0.0%	0
Retirees And Beneficiaries	11,850,663	6,524,019	55.1%	5,326,644
Pending Refunds	0	0	0.0%	0
Total	**$ 15,208,508**	**$ 6,986,658**	**45.9%**	**$ 8,221,850**
10 - Dept of Pb Wk				
Active Members	$ 455,158	$ 35,373	7.8%	$ 419,785
Vested Former Members	0	0	0.0%	0
Retirees And Beneficiaries	2,716,583	1,093,244	40.2%	1,623,339
Pending Refunds	0	0	0.0%	0
Total	**$ 3,171,741**	**$ 1,128,617**	**35.6%**	**$ 2,043,124**
11 - General Admin				
Active Members	$ 0	$ 0	0.0%	$ 0
Vested Former Members	0	0	0.0%	0
Retirees And Beneficiaries	887,630	411,338	46.3%	476,292
Pending Refunds	0	0	0.0%	0
Total	**$ 887,630**	**$ 411,338**	**46.3%**	**$ 476,292**
12 - Executive Div				
Active Members	$ 0	$ 0	0.0%	$ 0
Vested Former Members	0	0	0.0%	0
Retirees And Beneficiaries	1,390,304	292,517	21.0%	1,097,787
Pending Refunds	0	0	0.0%	0
Total	**$ 1,390,304**	**$ 292,517**	**21.0%**	**$ 1,097,787**
13 - DPW aftr 1/1/06				
Active Members	$ 232,025	$ 327,372	141.1%	$ (95,347)
Vested Former Members	0	0	0.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	0	0	0.0%	0
Total	**$ 232,025**	**$ 327,372**	**141.1%**	**$ (95,347)**

Table 6 (continued)

Division	Actuarial Accrued Liability	Valuation Assets[1]	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
20 - P S Officers				
Active Members	$ 3,650,471	$ 618,196	16.9%	$ 3,032,275
Vested Former Members	314,823	96,663	30.7%	218,160
Retirees And Beneficiaries	5,576,192	4,861,835	87.2%	714,357
Pending Refunds	0	0	0.0%	0
Total	**$ 9,541,486**	**$ 5,576,694**	**58.4%**	**$ 3,964,792**
21 - P S Officers after 7/1/2009				
Active Members	$ 34,929	$ 38,964	111.6%	$ (4,035)
Vested Former Members	0	0	0.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	0	0	0.0%	0
Total	**$ 34,929**	**$ 38,964**	**111.6%**	**$ (4,035)**
Total Municipality				
Active Members	**$ 8,136,980**	**$ 1,903,485**	**23.4%**	**$ 6,233,495**
Vested Former Members	**314,823**	**96,663**	**30.7%**	**218,160**
Retirees and Beneficiaries	**22,722,292**	**13,483,873**	**59.3%**	**9,238,419**
Pending Refunds	**0**	**0**	**0.0%**	**0**
Total Participants	**$ 31,174,095**	**$ 15,484,021**	**49.7%**	**$ 15,690,074**
The following results show the combined accrued liabilities and assets for each set of linked divisions. These results are already included in the table above.				
Linked Divisions 13, 10				
Active Members	$ 687,183	$ 362,745	52.8%	$ 324,438
Vested Former Members	0	0	0.0%	0
Retirees and Beneficiaries	2,716,583	1,093,244	40.2%	1,623,339
Pending Refunds	0	0	0.0%	0
Total	**$ 3,403,766**	**$ 1,455,989**	**42.8%**	**$ 1,947,777**
Linked Divisions 21, 20				
Active Members	$ 3,685,400	$ 657,160	17.8%	$ 3,028,240
Vested Former Members	314,823	96,663	30.7%	218,160
Retirees and Beneficiaries	5,576,192	4,861,835	87.2%	714,357
Pending Refunds	0	0	0.0%	0
Total	**$ 9,576,415**	**$ 5,615,658**	**58.6%**	**$ 3,960,757**

[1] Includes both employer and member assets.

Please see the Comments on the Investment Markets.

See the MERS Fiscal Responsibility Policy on the MERS website at:
http://www.mersofmich.com/Portals/0/Assets/PageResources/MERS/PlanDocument/Pension/sec_43c.pdf.

Actuarial Accrued Liabilities - Comparative Schedule

Table 7

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities	UAL as Percent of Annual Payroll
1999	$ 12,770,421	$ 10,815,820	85%	$ 1,954,601	95%
2000	16,234,489	11,869,655	73%	4,364,834	205%
2001	17,360,777	12,669,224	73%	4,691,553	236%
2002	18,209,422	12,774,519	70%	5,434,903	264%
2003	20,012,444	13,409,865	67%	6,602,579	318%
2004	21,155,294	14,202,720	67%	6,952,574	354%
2005	23,099,541	14,703,966	64%	8,395,575	444%
2006	23,994,143	15,171,547	63%	8,822,596	493%
2007	25,443,447	15,649,890	62%	9,793,557	464%
2008	26,586,401	15,651,148	59%	10,935,253	465%
2009	26,757,641	15,651,378	58%	11,106,263	439%
2010	27,636,950	15,693,243	57%	11,943,707	532%
2011	28,937,448	15,586,102	54%	13,351,346	601%
2012	30,466,201	15,434,544	51%	15,031,657	620%
2013	31,174,095	15,484,021	50%	15,690,074	654%

Notes: Actuarial assumptions were revised for the 2000, 2004, 2008, 2009, 2010, 2011, and 2012 actuarial valuations.

GASB 25 and GASB 27 Information

The following information has been prepared to provide the information necessary to comply with GASB Statements Number 25 and 27. Statement 25 is effective for fiscal years beginning after June 15, 1996 and Statement 27 is effective for fiscal years beginning after June 15, 1997.

All entries and the annual employer contribution amount were based on the actuarial methods and assumptions used in the December 31, 2013 actuarial valuation. The entry age normal actuarial method was used to determine the disclosure entries.

GASB 25 Information (as of 12/31/2013)

Actuarial Accrued Liability		
Retirees and beneficiaries currently receiving benefits	$	22,722,292
Terminated employees (vested former members) not yet receiving benefits		314,823
Non-Vested terminated employees (pending refunds of accumulated member contributions)		0
Current employees -		
Accumulated employee contributions including allocated investment income		1,263,604
Employer financed		6,873,376
Total Actuarial Accrued Liability	$	31,174,095
Net Assets Available for Benefits at Actuarial Value	$	15,484,021
(Market Value is 14,582,254)		
Unfunded (Overfunded) Actuarial Accrued Liability	$	15,690,074

GASB 27 Information (as of 12/31/2013)

Fiscal Year Beginning		July 1, 2015
Annual Required Contribution (ARC)	$	1,318,356[1]

[1] Based on valuation payroll (based on projected fiscal year payroll for divisions that will have no new hires). For divisions that are open to new hires the actual required contribution will be based on current monthly payroll (during the fiscal year beginning July 1, 2015) times the computed employer contribution rate(s) shown in Table 1. The ARC shown here is the sum of the ARC's calculated separately for each division.

GASB 27 Information (Used in the 12/31/2013 Annual Actuarial Valuation)

Amortization Factors Used to Compute Employer Contribution Requirements Used for Funding Calculations and Most ARC Calculations (see below) (Payments Increase 4.5% per Year)

Amortization Factor Used - Underfunded or Overfunded Liabilities (5 years)	0.221706
Amortization Factor Used - Underfunded or Overfunded Liabilities (6 years)	0.187731
Amortization Factor Used - Underfunded or Overfunded Liabilities (7 years)	0.163488
Amortization Factor Used - Underfunded or Overfunded Liabilities (8 years)	0.145330
Amortization Factor Used - Underfunded or Overfunded Liabilities (9 years)	0.131227
Amortization Factor Used - Underfunded or Overfunded Liabilities (10 years)	0.119963
Amortization Factor Used - Underfunded or Overfunded Liabilities (11 years)	0.110763
Amortization Factor Used - Underfunded or Overfunded Liabilities (12 years)	0.103112
Amortization Factor Used - Underfunded or Overfunded Liabilities (13 years)	0.096652
Amortization Factor Used - Underfunded or Overfunded Liabilities (14 years)	0.091128
Amortization Factor Used - Underfunded or Overfunded Liabilities (15 years)	0.086353
Amortization Factor Used - Underfunded or Overfunded Liabilities (16 years)	0.082185
Amortization Factor Used - Underfunded or Overfunded Liabilities (17 years)	0.078519
Amortization Factor Used - Underfunded or Overfunded Liabilities (18 years)	0.075270
Amortization Factor Used - Underfunded or Overfunded Liabilities (19 years)	0.072372
Amortization Factor Used - Underfunded or Overfunded Liabilities (20 years)	0.069773
Amortization Factor Used - Underfunded or Overfunded Liabilities (21 years)	0.067430
Amortization Factor Used - Underfunded or Overfunded Liabilities (22 years)	0.065308
Amortization Factor Used - Underfunded or Overfunded Liabilities (23 years)	0.063378
Amortization Factor Used - Underfunded or Overfunded Liabilities (24 years)	0.061616
Amortization Factor Used - Underfunded or Overfunded Liabilities (25 years)	0.060002

Amortization Factor Used to Compute the GASB Annual Required Contribution (ARC) For Divisions that are Closed to New Hires (and new hires are not covered by MERS DB or Hybrid provisions in a linked division) If Division is Less than 100% Funded, and Uses a Funding Period over 15 Years

Amortization Factor Used - Underfunded Liabilities (30 year level $)	0.085453

Assumptions: Continuous Payments; Interest at 8% Per Year

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 - P S Dispatch

7/1/2009	3.0% Multiplier (80% max)
1/1/2006	Benefit B-4 (80% max)
7/1/2004	Member Contribution Rate 5.00%
9/10/2002	Covered by Act 88
1/1/2001	E2 2.5% COLA for future retirees (01/01/1996)
1/1/2000	E2 2% COLA for future retirees (01/01/1996)
7/1/1999	Benefit B-3 (80% max)
1/1/1999	E2 2.3% COLA for future retirees (01/01/1996)
1/1/1997	Member Contribution Rate 4.50%
1/1/1996	E2 2.5% COLA for future retirees (01/01/1996)
7/1/1994	Benefit B-2
7/1/1994	Benefit F55 (With 25 Years of Service)
1/1/1987	Flexible E 2% COLA Adopted (01/01/1987)
1/1/1987	E Cola Adoption Date 01-01-1987
1/1/1987	E Cola Increase Amount 2
1/1/1987	E Cola Increase Type Percent
7/1/1981	Benefit C-2/Base C-1 (Old)
7/1/1966	Benefit C-1 (Old)
7/1/1946	10 Year Vesting
7/1/1946	Member Contribution Rate 3.00% Under $4,200.00 - Then 5.00%
7/1/1946	Benefit FAC-5 (5 Year Final Average Compensation)
7/1/1946	Benefit C (Old)
	Fiscal Month - July

02 - P S Command

11/1/2011	A day of work is defined as 104 hrs. in a month
9/10/2002	Covered by Act 88
7/1/2001	3.0% Multiplier (80% max)
1/1/1998	Benefit F50 (With 25 Years of Service)
1/1/1997	Benefit RS 50 (50% Post-Ret. Spouse Benefits)
2/12/1996	Day of work defined as 8 Hours a Day for all employees
1/1/1996	E2 2.5% COLA for future retirees (01/01/1996)
1/1/1995	E2 2.5% Window COLA for future retirees (08/01/1994) to (09/29/1994)
7/1/1994	Benefit B-4 (80% max)
7/1/1992	Benefit FAC-3 (3 Year Final Average Compensation)
7/1/1992	Benefit B-3 (80% max)
1/1/1987	Benefit F55 (With 25 Years of Service)
1/1/1987	Flexible E 2% COLA Adopted (01/01/1987)
1/1/1987	E Cola Adoption Date 01-01-1987
1/1/1987	E Cola Increase Amount 2

02 - P S Command

1/1/1987	E Cola Increase Type Percent
7/1/1981	Benefit B-2
7/1/1966	Benefit B-1
7/1/1946	10 Year Vesting
7/1/1946	Benefit FAC-5 (5 Year Final Average Compensation)
7/1/1946	Benefit B
7/1/1946	Member Contribution Rate 5.00%
	Fiscal Month - July

10 - Dept of Pb Wk

7/1/2011	Member Contribution Rate 5.00%
11/19/2003	DC Adoption Date 11-19-2003
9/10/2002	Covered by Act 88
1/1/2001	E2 2.5% COLA for future retirees (01/01/1996)
7/1/2000	3.0% Multiplier (80% max)
1/1/2000	E2 2% COLA for future retirees (01/01/1996)
7/1/1999	Benefit RS 50 (50% Post-Ret. Spouse Benefits)
1/1/1999	E2 2.3% COLA for future retirees (01/01/1996)
7/1/1998	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/1997	Member Contribution Rate 1.70%
1/1/1996	E2 2.5% COLA for future retirees (01/01/1996)
7/1/1994	Benefit B-4 (80% max)
7/1/1992	Benefit F55 (With 25 Years of Service)
7/1/1989	10 Year Vesting
7/1/1989	Benefit B-2
7/1/1989	Member Contribution Rate 3.00% Under $4,200.00 - Then 5.00%
1/1/1987	Flexible E 2% COLA Adopted (01/01/1987)
1/1/1987	E Cola Adoption Date 01-01-1987
1/1/1987	E Cola Increase Amount 2
1/1/1987	E Cola Increase Type Percent
	Fiscal Month - July
	Benefit FAC-5 (5 Year Final Average Compensation)

11 - General Admin

9/10/2002	Covered by Act 88
1/1/2002	DC Adoption Date 01-01-2002
4/1/2001	3.0% Multiplier (80% max)
4/1/2001	Benefit F55 (With 25 Years of Service)
1/1/2001	E2 2.5% COLA for future retirees (01/01/1996)
1/1/2000	E2 2% COLA for future retirees (01/01/1996)
1/1/1999	E2 2.3% COLA for future retirees (01/01/1996)
1/1/1998	Benefit RS 50 (50% Post-Ret. Spouse Benefits)
1/1/1997	Member Contribution Rate 1.70%
1/1/1996	E2 2.5% COLA for future retirees (01/01/1996)
7/1/1994	Benefit FAC-3 (3 Year Final Average Compensation)

11 - General Admin

7/1/1994	Benefit B-4 (80% max)
7/1/1989	10 Year Vesting
7/1/1989	Benefit B-2
7/1/1989	Member Contribution Rate 3.00% Under $4,200.00 - Then 5.00%
7/1/1989	Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1987	Flexible E 2% COLA Adopted (01/01/1987)
1/1/1987	E Cola Adoption Date 01-01-1987
1/1/1987	E Cola Increase Amount 2
1/1/1987	E Cola Increase Type Percent
	Fiscal Month - July

12 - Executive Div

12/1/2003	Member Contribution Rate 5.00%
9/10/2002	Covered by Act 88
3/1/2000	Benefit FAC-3 (3 Year Final Average Compensation)
3/1/2000	10 Year Vesting
3/1/2000	Benefit RS 50 (50% Post-Ret. Spouse Benefits)
3/1/2000	3.0% Multiplier (80% max)
3/1/2000	Member Contribution Rate 1.70%
3/1/2000	Benefit F50 (With 25 Years of Service)
3/1/2000	E2 2.5% COLA for future retirees (03/01/2000)
	Fiscal Month - July

13 - DPW aftr 1/1/06

1/1/2006	Benefit RS 50 (50% Post-Ret. Spouse Benefits)
1/1/2006	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/2006	8 Year Vesting
1/1/2006	Benefit B-4
1/1/2006	Day of work defined as 8 Hours a Day for all employees
1/1/2006	Member Contribution Rate 5.00%
1/1/2006	Benefit F55 (With 25 Years of Service)
1/1/2006	E2 2.5% COLA for future retirees (01/01/2006)
	Fiscal Month - July

20 - P S Officers

5/1/2011	A day of work is defined as 104 hrs. in a month
9/10/2002	Covered by Act 88
7/1/1999	Benefit FAC-3 (3 Year Final Average Compensation)
7/1/1999	Benefit RS 50 (50% Post-Ret. Spouse Benefits)
7/1/1999	10 Year Vesting
7/1/1999	3.0% Multiplier (80% max)
7/1/1999	Member Contribution Rate 5.00%
7/1/1999	Benefit F50 (With 25 Years of Service)
7/1/1999	E2 2.5% COLA for future retirees (07/01/1999)
2/12/1996	Day of work defined as 8 Hours a Day for all employees

20 - P S Officers

Fiscal Month - July

21 - P S Officers after 7/1/2009

1/1/2012	E2 2.5% COLA for future retirees (05/01/2011)
5/1/2011	Benefit FAC-3 (3 Year Final Average Compensation)
5/1/2011	Benefit RS 50 (50% Post-Ret. Spouse Benefits)
5/1/2011	10 Year Vesting
5/1/2011	Benefit B-4 (80% max)
5/1/2011	A day of work is defined as 104 hrs. in a month
5/1/2011	Member Contribution Rate 5.00%
5/1/2011	Benefit F55 (With 25 Years of Service)
9/10/2002	Covered by Act 88
	Fiscal Month - July

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%

Withdrawal Rate Scaling Factor

Division	Withdrawal Rate Scaling Factor
All Divisions	100%

Miscellaneous and Technical Assumptions

Loads – None.

Amortization Policy for Closed Divisions

Closed Division	Amortization Option
All Closed Divisions	Option A

City of Bloomfield Hills

Exhibit - B

MERS Amortization Payment Projections

Defined Benefit Plan Unfunded Accrued Liability

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April 2, 2014

Bloomfield Hills, City of

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

Re: Bloomfield Hills, City of (6302) – Amortization Payment Projections of Unfunded Accrued Liability

As requested by Bloomfield Hills, City of (6302), we prepared this letter to illustrate the series of amortization payments scheduled to fund the estimated unfunded accrued liability (UAL) as of December 31, 2013. The amortization payment projections are based on the two amortization policies available to defined benefit (DB) divisions that are closed to new hires (with modifications described below).

These calculations were based on the liabilities determined in the December 31, 2012 annual actuarial valuation, projected to December 31, 2013, and actual Market Value and estimated Actuarial Value assets as of December 31, 2013. Although some divisions were listed as open in the December 31, 2012 annual actuarial valuation, as requested we have considered any open divisions closed for purposes of this study.

The purpose of this letter is to show the pattern in the annual amortization payment of the UAL under the two amortization policies for closed divisions (Option A and Option B) and to show the amortization payments of the UAL calculated using both the actuarial value and market value of assets.

The estimates from this study should not be used for short term budgeting purposes because the assumptions are designed to be a long term expectation of future events. A projection of contribution rates for budgeting purposes would require additional analysis, which is beyond the scope of this study.

Please note this letter should be distributed to any interested parties only in its entirety.

Background

At their February 12, 2003 meeting, the MERS Retirement Board first adopted the Closed Division Amortization Policy. The policy applies to a participating municipality's or court's closed divisions, meaning the new hires are not covered by MERS defined benefit provisions or hybrid benefit provisions. The policy is needed because the standard amortization policy for open divisions would not fund a closed division quickly enough. The time horizon to fund a closed division is shorter than the time horizon for an open division. The policy has been modified several times since 2003. However, its desired goals remain the same:

- Accelerate the funding for closed divisions, to make sure those divisions accumulate enough assets to pay the benefits promised, and
- Avoid an abrupt and large increase in employer contributions in the first year of closure.

This amortization policy is designed to more rapidly fund the UAL in comparison to the standard open division amortization policy. In some instances the required contributions are approaching levels that some MERS employers and members will likely find increasingly difficult to make. In general, this is a result of the following:

- Michigan's long recession posing budgetary problems for many municipalities in Michigan, and
- Increasing employer contributions due to the poor financial markets of 2008.

The MERS Retirement Board adopted an alternate amortization policy for closed divisions at their July 11, 2012 meeting. The two options are described below:

- **Option A –** When a division first becomes closed to new hires, the amortization period starts at 2 years less than the current standard amortization period for open divisions (e.g. 24 years for divisions that are first reflected as closed in the December 31, 2012 annual actuarial valuation) and decreases two years each year until it reaches 5 years. Thereafter, the 5 year amortization period is reset each year (Amended Amortization Policy for Closed Divisions within Open Municipalities, as revised July 11, 2012). However, because the City is considering funding the UAL in a lump sum using pension obligation bonds, in the accompanying tables the amortization period is allowed to continue decreasing (to zero) after reaching 5 years.
- **Option B –** When a division first becomes closed to new hires, the amortization period starts at 2 years less than the current standard amortization period for open divisions (e.g. 24 years for divisions that are first reflected as closed in the December 31, 2012 annual actuarial valuation) and decreases two years each year until it reaches 15 years. Thereafter, it decreases by one year each year until it reaches 5 years. Thereafter, the 5 year amortization period is reset each year (Amended Amortization Policy for Closed Divisions within Open Municipalities, as revised July 11, 2012). However, because the City is considering funding the UAL in a lump sum using pension obligation bonds, in the accompanying tables the amortization period is allowed to continue decreasing (to zero) after reaching 5 years.

Both Option A and Option B accelerate the amortization of the unfunded liabilities for the closed DB division, so that the division will not run out of money. Please note that under both options the same unfunded liability is paid off, however, it is paid off over different periods of time. Option B is less conservative than Option A, in that Option B does not pay off the unfunded liability as rapidly as does Option A. Because of the time value of money, under Option A the employer will pay less over the lifetime of the closed division, compared to Option B. This is similar to a home mortgage: extending the payment period results in lower annual payments, but more total payments over the life of the mortgage.

Municipalities that are considering closing DB divisions to new hires can adopt either of these options for the closed divisions. Note that an employer may always elect to contribute more than the minimum required employer contribution requirement.

Bloomfield Hills, City of

Divisions 01, 02, 13, and 21 are open as of the December 31, 2012 valuation date. However, as requested, these divisions have been treated as being closed to new entrants as of December 31, 2012 (with new hires covered by a DC plan) for purposes of this study.

We projected the annual amortization payments, starting in the calendar year beginning January 1, 2014, under both the Option A and Option B amortization policies. **Note that the tables only show the amortization payments. Any normal cost payments are in addition to the amortization payment, and are not affected by the amortization policy used.**

Divisions 01, 13, and 21 are projected to be overfunded as of December 31, 2013. We allocated the overfunding of these divisions to underfunded divisions before projecting the annual amortization payments.

These results are for illustration purposes only. Actual amortization payments will depend on the results of future annual actuarial valuations.

Comments on the actuarial (funding) value of assets

The actuarial value of assets (funding value), used to determine both your funded status and your required employer contribution, is based on a 10-year smoothed value of assets. Only a portion (six-tenths, for 2008 - 2013) of the 2008 investment market losses will be recognized in the 2013 actuarial valuation report. This reduces the volatility of the valuation results, which affects your required employer contribution and actuarial funded percentage.

As of December 31, 2013 the actuarial value of assets is estimated to be 107% of market value (down from 114% in 2012). This means that meeting the actuarial assumption in the next few years will require average annual market returns that exceed the 8% investment return assumption. If the investment markets do not fully make up for the 2008 losses, employer contribution requirements may rise.

Because the calculated UAL is particularly sensitive to the assumed rate of investment return (assumed 8% annual market return, plus making up of the 7% current difference between market value and the smoothed actuarial value of assets), we show the projected amortization payments:

1. Based on the estimated December 31, 2013 actuarial value of assets, and
2. Based on the December 31, 2013 market value of assets.

Comments on Pension Obligation Bonds

A discussion of pension obligation bonds is beyond the scope of this letter. It is important for the City to understand and acknowledge the following implications of funding the UAL using pension obligation bonds:

1. **The City will continue to be responsible for funding the employer normal cost as long as there are active members in the plan, and**

2. **If future financial or demographic experience is less favorable than assumed, additional UAL may emerge which would require additional City contributions.**
3. **Fully funding the current UAL does not guarantee that there will be no employer contribution requirements in the future.**

Our calculations were based on the following:

- Demographic information, and benefit provisions provided by MERS for the December 31, 2012 annual actuarial valuation.
- The same actuarial assumptions and methods that were used in the December 31, 2012 annual actuarial valuation.
- Liabilities were projected to December 31, 2013 using the results of the December 31, 2012 annual actuarial valuation.
- Actual Market Value Assets as of December 31, 2013 were used to determine the Market Value of Assets UAL.
- The Actuarial Value of Assets as of December 31, 2013 was calculated by multiplying the Market Value Assets by an estimated 2013 Valuation Asset Adjustment Factor of 1.07

As always, the MERS actuaries will closely watch the funding progress of all closed divisions. While not currently anticipated, the actuaries may recommend changes to the amortization policy in the future if they deem it necessary for the financial security of benefits provided by the municipality, which could result in more accelerated employer contributions than those shown in this report.

The undersigned actuaries are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. Please see page 5 of this document for additional disclosures required by the Actuarial Standards of Practice.

If you have any questions or need additional information, do not hesitate to contact us.

Sincerely,

Cathy Nagy

Cathy Nagy, FSA, MAAA
Actuary

W. James Koss, ASA, MAAA
Actuary

cc: Erin Boertman, MERS

17187 N. Laurel Park Drive, Suite 250 Livonia, MI 48152 / (p) 248.663.2443 / (f) 248.281.2900 / www.tegritgroup.com

Additional Disclosures Required by Actuarial Standards of Practice

Future actuarial measurements may differ significantly from the current measurements presented in this letter 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; 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. Due to the limited scope of the actuary's assignment, the actuary did not perform an analysis of the potential range of such future measurements.

This letter should not be relied on for any purpose other than the purpose described in the primary communication. Determination of the financial results associated with the benefits described in this letter in a manner other than the intended purpose may produce significantly different results.

The signing actuaries are independent of MERS.

The calculation was based upon information furnished by the Municipality, concerning Retirement System benefits and member information. Tegrit Group is not responsible for the accuracy or completeness of the information provided to us for these calculations.

The developed findings included in this report consider data or other information through December 31, 2012, with the exception of the Market Value of Assets, which was provided as of December 31, 2013.

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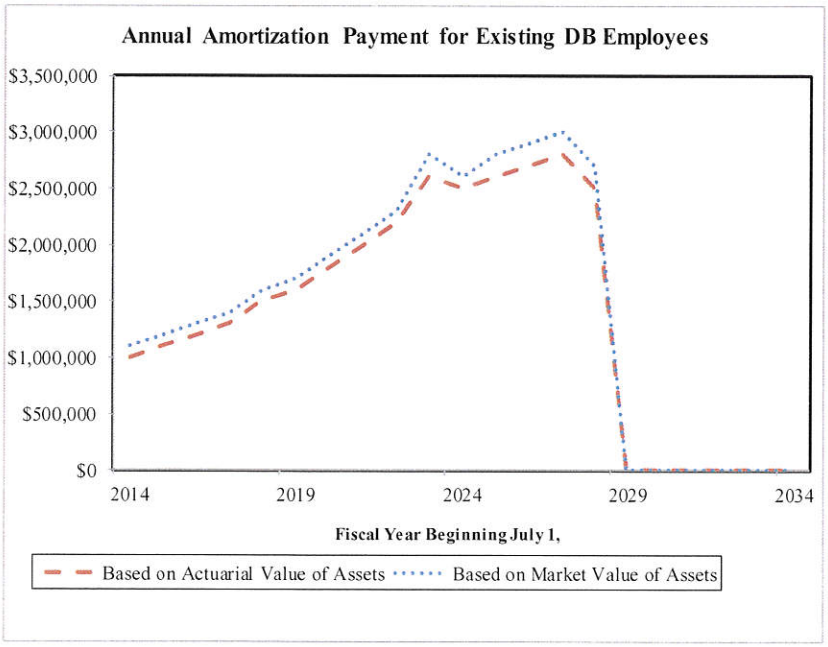
Bloomfield Hills, City of (6302) - Total of All Divisions
Projected Amortization Payments Based on December 31, 2012 Actuarial Valuation
Closed Amortization Policy Option A - Modified After Reaching 5-Year Amortization Period

	Based on the Actuarial Value of Assets		Based on the Market Value of Assets	
Fiscal Year Beginning July 1	Beginning of Year UAL Balance	Amortization Payment	Beginning of Year UAL Balance	Amortization Payment
2014	15,700,000	1,000,000	16,700,000	1,100,000
2015	15,900,000	1,100,000	16,900,000	1,200,000
2016	16,000,000	1,200,000	17,100,000	1,300,000
2017	16,000,000	1,300,000	17,100,000	1,400,000
2018	15,900,000	1,500,000	17,000,000	1,600,000
2019	15,700,000	1,600,000	16,700,000	1,700,000
2020	15,200,000	1,800,000	16,300,000	1,900,000
2021	14,600,000	2,000,000	15,600,000	2,100,000
2022	13,700,000	2,200,000	14,600,000	2,300,000
2023	12,600,000	2,600,000	13,400,000	2,800,000
2024	10,900,000	2,500,000	11,600,000	2,600,000
2025	9,200,000	2,600,000	9,800,000	2,800,000
2026	7,200,000	2,700,000	7,700,000	2,900,000
2027	5,000,000	2,800,000	5,300,000	3,000,000
2028	2,400,000	2,500,000	2,600,000	2,700,000
2029	0	-	0	-
2030	-	-	-	-
2031	-	-	-	-
2032	-	-	-	-
2033	-	-	-	-
2034	-	-	-	-



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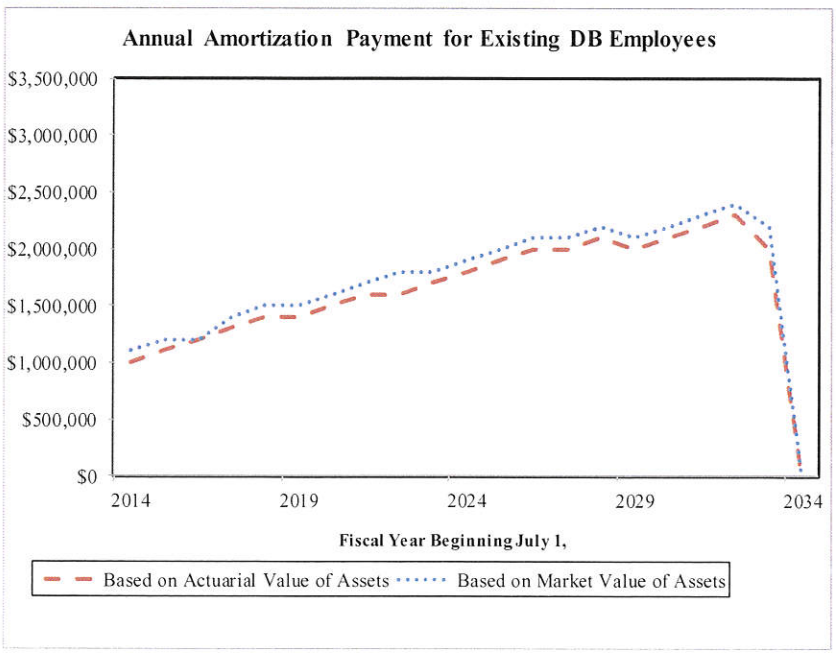
Bloomfield Hills, City of (6302) - Total of All Divisions
Projected Amortization Payments Based on December 31, 2012 Actuarial Valuation
Closed Amortization Policy Option B - Modified After Reaching 5-Year Amortization Period

	Based on the Actuarial Value of Assets		Based on the Market Value of Assets	
Fiscal Year Beginning July 1	Beginning of Year UAL Balance	Amortization Payment	Beginning of Year UAL Balance	Amortization Payment
2014	15,700,000	1,000,000	16,700,000	1,100,000
2015	15,900,000	1,100,000	17,000,000	1,200,000
2016	16,100,000	1,200,000	17,100,000	1,200,000
2017	16,100,000	1,300,000	17,200,000	1,400,000
2018	16,100,000	1,400,000	17,200,000	1,500,000
2019	16,000,000	1,400,000	17,000,000	1,500,000
2020	15,700,000	1,500,000	16,800,000	1,600,000
2021	15,400,000	1,600,000	16,400,000	1,700,000
2022	15,000,000	1,600,000	16,000,000	1,800,000
2023	14,500,000	1,700,000	15,500,000	1,800,000
2024	13,900,000	1,800,000	14,800,000	1,900,000
2025	13,100,000	1,900,000	14,000,000	2,000,000
2026	12,200,000	2,000,000	13,000,000	2,100,000
2027	11,200,000	2,000,000	11,900,000	2,100,000
2028	10,000,000	2,100,000	10,700,000	2,200,000
2029	8,700,000	2,000,000	9,300,000	2,100,000
2030	7,300,000	2,100,000	7,800,000	2,200,000
2031	5,700,000	2,200,000	6,100,000	2,300,000
2032	4,000,000	2,300,000	4,200,000	2,400,000
2033	1,900,000	2,000,000	2,100,000	2,200,000
2034	-	-	-	-



City of Bloomfield Hills

Exhibit - C

2012 Post-Retirement Health Benefit Actuarial Report

January 25, 2012

City of Bloomfield Hills
45 E. Long Lake Road
Bloomfield Hills, Michigan 48304

Attention: Lisa Dolan, Finance Director/Treasurer

This report contains the results of an actuarial valuation of the liabilities associated with retiree health benefits provided by the City of Bloomfield Hills for its employees, together with computed contributions to systematically finance these benefits.

The date of the valuation was January 1, 2012.

The purpose of the actuarial valuation is to:

- Compute the liabilities associated with post-retirement health benefits likely to be paid on behalf of current active employees and retirees, and

- Compute a pre-funding contribution rate for the employer to finance the post-retirement health benefits as they accrue.

This valuation has been conducted in accordance with generally accepted actuarial principles and practices. Data concerning active employees, retirees, health insurance premiums and benefit provisions was provided by the City of Bloomfield Hills Finance Director. This data has been reviewed for reasonableness, but no attempt has been made to audit such information. The valuation was performed under the supervision of a member of the American Academy of Actuaries, as indicated, who meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,

Denise M. Jones
Senior Consultant

Sandra W. Rodwan
Member, American Academy of Actuaries

City of Bloomfield Hills
Post-Employment Health Benefits

Actuarial Valuation as of January 1, 2012

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Section One:

Valuation Summary

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Purpose of Valuation

The purpose of this actuarial valuation of post-retirement health benefits as of January 1, 2012 is to:

- Compute the liabilities associated with post-retirement health benefits likely to be paid on behalf of current active and retired participants,
- Compute a pre-funding contribution rate to finance the benefits as they accrue.

Assumptions Used in the Valuation

The liabilities and pre-funding contribution rate are very sensitive to the long-term assumptions used in making the valuation. The assumptions used in making this valuation, summarized in Section Four, are only one reasonable set out of a large number of possibilities. To the extent that actual experience differs from the long-term assumptions, the liabilities and contribution rates will be greater or less than those indicated in this report. The assumptions having the greatest impact are the rate of medical care inflation and the investment return rate. We have assumed an 8% annual increase for medical care inflation in the first year, decreasing in increments of 0.5% over the next 8 years to the ultimate 4% assumption. The assumed investment return rate was 7.50%. Please refer to Comment 2 on page 4. Liabilities and computed contributions can change significantly in future years depending upon the actual and assumed rates of medical care inflation, investment return, benefit provisions and demographics of the participant group.

Actuarial Accrued Liabilities

Actuarial accrued liabilities as of January 1, 2012, were computed to be $9,817,918. Of this amount, $1,629,718 was attributable to current active employees and 8,188,200 to current retirees.

Funding Value of Assets

The funding value of assets used in this actuarial valuation was $428,359.

Computed Contribution Rate

The total annual contribution rate computed to pre-fund post-retirement health benefits was computed to be 31.56% of active employee payroll. There are two components of this rate, the normal cost and an amortization payment for unfunded actuarial accrued liability. The normal cost contribution rate was computed to be 3.85% of active employee payroll. The amortization payment as a level percent of active member payroll was computed to be 27.71%. The amortization period used was 30 years, which is the maximum amortization period permitted for reporting purposes under Statements 43 and 45 of the Governmental Accounting Standards Board.

Participants

Active Employees	27
Active Employee Payroll	$1,678,840
Averages:	
Age	39.1 yrs.
Service	10.4 yrs.
Retirees	35

Section Two:

Actuarial Calculations – Funding

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company

Actuarial Accrued Liabilities

The actuarial accrued liability as of January 1, 2012 was computed to be $9,817,918.

Active participants	$1,629,718
Retired participants	8,188,200
Total Actuarial Accrued Liability	9,817,918
Funding Value of Assets	428,359
Unfunded Actuarial Accrued Liability	$9,389,559

Computed Contribution Rates – Annual Required Contribution

The computed contribution rate consists of two components: normal cost and amortization of unfunded actuarial accrued liability. Normal cost was computed to be a level percent of payroll from date of hire to date of termination. The normal cost can be considered to be the ongoing cost.

The portion of the total present value of future benefits allocated to service already rendered is the actuarial accrued liability. We have amortized the unfunded actuarial accrued liability for over 30 years. The amortization payments were computed to remain level as percents of payroll.

The contribution rates shown below are expressed as level percents of active member payroll. The annual dollar amounts of contributions are assumed to increase as payroll increases.

	City of Bloomfield Hills Computed Employer Contribution Rate as Level % of Payroll
Normal Cost	3.85%
Unfunded Actuarial Accrued Liability	27.71
Total Computed Contribution Rate	31.56%
Dollar Contribution*	$529,842

*Based on 1/1/2012 valuation payroll of $1,678,840.

Comments

Comment 1: The Governmental Accounting Standards Board (GASB) has issued Statements 43 and 45 concerning financial reporting for "other post employment benefits" (OPEB), which are non-pension benefits including retiree health benefits. The standards apply to the plan (Statement 43) and the plan sponsor (Statement 45). Among the required disclosures are the annual OPEB expense, liabilities, funded status and funding progress. Actuarial valuations to determine these disclosures are required every 3 years for plans with fewer than 200 participants.

Comment 2: The GASB statements do not mandate that the plan sponsor pre-fund OPEB liabilities. However, if the plan sponsor's funding policy is to contribute less than the Annual Required Contribution (ARC), the GASB standards require that a lower assumed rate of investment return be used to compute the liabilities and Annual Required Contribution. This will increase the liabilities, ARC, and the OPEB obligation that must be reported in the financial statements. The OPEB obligation represents the cumulative difference between the annual OPEB cost and the employer's actual contribution.

For purposes of this valuation we have assumed a rate of investment return (7.5%) based upon the assumption that the City will contribute the actuarially determined annual required contribution. If a higher rate of investment return is assumed, the liabilities and ARC would be less. If a lower rate of investment return is assumed the liabilities and ARC would be greater.

Comment 3: The unfunded actuarial accrued liabilities for active employees were amortized over the maximum 30 year period permitted for reporting purposes under the GASB standards. A shorter period would result in higher computed contribution rates.

Comment 4: In order for assets to be considered in determining the unfunded actuarial accrued liability, the assets must be a) irrevocably held in a trust or equivalent arrangement, b) dedicated to providing benefits to retirees and their beneficiaries in accordance with the terms of the plan, and c) legally protected from creditors of the employer or plan.

Section Three:

Benefit Provisions

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Benefit Provision Summary

The City of Bloomfield Hills provides medical, dental and prescription drug insurance benefits for eligible retirees and their spouses at the time of retirement. Employees hired after July 1, 2012 and all non-union employees are not eligible for post-retirement health benefits.

Eligibility - **DPW and Dispatchers:** Age 55 with 25 years of service is 100% employer-financed. Age 55 with 15 to 24 years of service, employer portion is 4% times years of service. **Public Safety:** Age 50 with 25 years of service is 100% Employer financed.

Some retirees pay all or a portion of their dental premiums.

Benefit continues to eligible surviving spouse after death of retiree.

Dependents are eligible for coverage to age 19, with continuation up to age 26 for eligible dependents.

Section Four:

Actuarial Assumptions And Methods

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Actuarial Assumptions

Economic Assumptions

(i) Interest Rate	7.5% (net of expenses)
(ii) Inflation Rate	
Health Care	8.0%, graded down to 4.0% in 0.5% increments over 8 years
Wage	4.0%

Demographic Assumptions

(i) Mortality RP 2000 Combined Healthy Mortality Table

Sample Ages	Value of $1 Monthly for Life		Future Life Expectancy (Years)	
	Men	Women	Men	Women
55	$140.15	$145.44	26.2	29.0
60	128.67	135.26	21.8	24.4
65	115.16	123.17	17.6	20.2
70	100.12	109.47	13.9	16.3
75	83.80	94.44	10.6	12.9
80	67.13	78.48	7.8	9.7

(ii) Disability

Sample Ages	Percent Becoming Disabled At Indicated Age
20	0.02%
25	0.02
30	0.02
35	0.02
40	0.05
45	0.12
50	0.25
55	0.40
60	0.45

(ii) **Termination of Employment**

Service related rates for first 5 years of employment. Age related rates after first 5 years of employment

Sample Ages	Years of Service	% of Active Members Separating Within Year
ALL	0	18.00%
	1	18.00
	2	16.00
	3	12.00
	4	10.00
25	5 & Over	9.00
30		9.00
35		7.00
40		5.00
45		4.00
50		4.00
55		3.00
60		3.00
65		2.00

(iii) Retirement Rates — Age-related rates

Percent Retiring – Age Related Rates

	Public Safety	DPW and Dispatchers
50	22%	
51	22	
52	22	
53	22	
54	22	
55	24	18%
56	18	15
57	14	10
58	16	15
59	18	20
60	18	20
61	20	24
62	24	24
63	24	24
64	24	27
65	27	30
66	30	30
67	30	30
68	30	30
69	30	30
70	100	100

Actuarial Method Used for the Valuation

Normal Cost. Normal cost and the allocation of actuarial present values between service rendered before and after the valuation date were determined using an individual entry-age actuarial cost method having the following characteristics:

- The annual normal costs for each individual active participant, payable from date of hire to date of retirement, are sufficient to accumulate the value of the participant's benefit at the time of retirement;

- Each annual normal cost is a constant percentage of the participant's year-by-year projected covered pay.

Financing of Unfunded Actuarial Accrued Liability. Unfunded actuarial accrued liability was amortized as a level percent of payroll over 30 years.

Section Five:

Valuation Data

RODWAN
consulting
company

Premium Summary

The following illustrates the premium rates for medical, dental, and prescription drug benefits reported for City of Bloomfield Hills retirees:

	Retiree Rate Before Age 65	Retiree Rate After Age 65
Single	$ 736.70	$367.41
2 Person	1,763.47	734.82
Family	2,166.87	

Valuation Assets

The funding value of assets used for this valuation was $428,359.

Participant Summary

The valuation included 35 persons receiving employer-financed retiree health benefits. Total annualized health premiums were $491,474.

Retirees - January 1, 2012

Attained Age	Total
41	1
46	1
51	1
55	2
56	1
57	1
58	1
60	1
62	2
63	2
64	2
65	1
66	2
67	2
68	2
69	1
70	2
71	2
75	1
78	1
80	1
81	1
85	1
86	1
88	1
89	1
Total	**35**

Active Employees—January 1, 2012

Attained	Service						Totals
Age	0-4	5-9	10-14	15-19	20-24	25-29	No.
25-29	1	1					2
30-34	0	5					5
35-39	0	2	8				10
40-44	1	0	1	2			4
45-49	1	1	1	1			4
50-54	1					1	2
Totals	**9**	**6**	**6**	**2**		**1**	**27**

Group Averages

Age: 39.1 years
Service: 10.4 years

City of Bloomfield Hills

Exhibit - D

Bloomfield Hills Pension Bonding Presentation

City of Bloomfield Hills

Pension Bonding

Pension Bonding

- Under Public Act 329 of 2012, municipalities with a AA bond rating or higher, with State approval, may issue bonds to pay off all or any part of the unfunded accrued liability in their pension and/or OPEB (Other Post Retirement Employee Benefits) plans.
- Bloomfield Hills has the highest bond rating attainable from Standard & Poors (AAA) and Moody's (Aaa).

2

Pension Bonding

- Local units must close all divisions in the defined benefit plan.
- Closing a division means no other employees can be added to that division.
- The law expires on December 31, 2014, so the City must get approval from the State and issue the bonds by this deadline.
- Bloomfield Township, West Bloomfield Township, City of Farmington, Oakland County and Saginaw County have already issued bonds.

3

Why Bond?

- To pay off the City's Defined Benefit Plan's accrued unfunded liability held with MERS of Michigan
- To potentially realize approximately $12.8 million dollars in gross savings over the next 20 years
- To move new employees into a defined contribution retirement plan

4

MERS of Michigan – The City's Defined Benefit Plan

- MERS stands for Municipal Employees' Retirement System
- It is an agent multiple-employer plan where assets from all participating municipalities are pooled for investment purposes.
- Investments are professionally managed.
- Separate trusts are maintained for each employer.
- One trust cannot borrow from another trust; each units is responsible for its own liabilities.

5

Defined Benefit Plan Definitions and Calculating Accrued Unfunded Liability

- **Accrued Assets** – Amount of plan investments as determined by an actuary as of a certain date. The amount of investments we have to cover any retirement payments promised.
- **Accrued Liability** – Present Value of the retirement plan's estimated benefits earned as determined by an actuary. Amount of retirement payments already promised.
- **Accrued Unfunded Liability** – Amount of benefits earned (liabilities), that are not sufficiently covered by the plan's investments (assets.) This is the amount the City is authorized to pay with the bond issue.
- In a best case scenario: **Accrued Assets = Accrued Liabilities**
- Plan that is underfunded: **Accrued Asset < Accrued Liabilities = Accrued Unfunded Liability**

6

Defined Benefit Plan – Annual Required Contribution

ARC – Annual Required Contribution

The ARC is made up of normal costs and may contain costs of amortizing the accrued unfunded liability.

Normal Costs – The portion of the projected benefits allocated to the current year. Employer's normal cost equals the total normal cost less employee contributions.

Amortization of Accrued Unfunded Liability - The accrued unfunded liability divided over a certain number of years plus interest.

- Over Funded Plan: **ARC = Normal Costs**
- Under Funded Plan: **ARC = Normal Costs + Amortized Accrued Unfunded Liability**

7

Actuarial Valuation @ 12/31/2013 for the City of Bloomfield Hills

Actuarial Accrued Assets (market value)	$ 14,582,254
Actuarial Accrued Liabilities	(31,174,095)
Unfunded Actuarial Accrued Liability (UAAL)	**$ 16,591,841**

2015-2016 ARC (without bonding)

Normal Costs (Est.)	$ 302,736
Amortized (UAAL)	1,046,112
Total ARC	$ 1,348,848

2015-2016 ARC (with bonding)

Normal Costs (Est.)	$ 302,736
Amortized (UAAL)	0*
Total ARC	$ 302,736

**UAAL can increase if actuarial assumptions are not realized (see next slide).*

8

Possible Causes of Accrued Unfunded Liability

- Actuarial assumptions are not realized
  - Lower interest rates than projected*
  - Greater wage increases than projected
  - Retirement at earlier ages than projected
  - More disabilities or survivor death benefits than projected
  - Longer lifetimes than projected

**MERS assumes an 8% return on investments and uses a 10 year "smoothing" method. Which means only 10% of each year's return above or below the 8% assumption is recognized each year over 10 years. This softens sharp peaks and valleys over the 10 years period to lessen volatility in yearly contribution amounts*

9

When and How Did this Liability Accrue?

- 1993 plan was <u>over funded</u>
- 1994 increased wage benefits
- None or little ARC payments made over the next three years (timing between actuarial results and ARC payments is 1.5 years)
- 1995 plan became <u>under funded</u>
- 2000 plan multipliers increased
- 1999-2001 stock market affects investment return (dot-com collapse/911)
- 2008 housing market affects investment returns

10

$16,945,000

CITY OF BLOOMFIELD HILLS

COUNTY OF OAKLAND, STATE OF MICHIGAN

GENERAL OBLIGATION LIMITED TAX BONDS, SERIES 2014
(20 Year Market Value Scenario B)

Cash Flow Comparison @ 8.0000000% (Market Value)

Date	(A) Projected Debt Service	(B) 8.00% Contribution	PV Factor	(= B- A) Gross Savings	PV Savings
06/30/2015	$ 1,426,685.17	$1,100,000.00	0.9560989x	$ (326,685.17)	$ (312,343.33)
06/30/2016	1,171,133.50	1,200,000.00	0.8852767x	28,866.50	25,554.84
06/30/2017	1,171,958.50	1,200,000.00	0.8197007x	28,041.50	22,985.64
06/30/2018	1,169,991.00	1,400,000.00	0.7589821x	230,009.00	174,572.72
06/30/2019	1,164,008.00	1,500,000.00	0.7027612x	335,992.00	236,122.15
06/30/2020	1,164,661.25	1,500,000.00	0.6507048x	335,338.75	218,206.55
06/30/2021	1,162,612.50	1,600,000.00	0.6025045x	437,387.50	263,527.93
06/30/2022	1,162,980.00	1,700,000.00	0.5578745x	537,020.00	299,589.77
06/30/2023	1,161,140.00	1,800,000.00	0.5165505x	638,860.00	330,003.44
06/30/2024	1,162,302.50	1,800,000.00	0.4782875x	637,697.50	305,002.73
06/30/2025	1,161,502.50	1,900,000.00	0.4428588x	738,497.50	327,050.10
06/30/2026	1,158,871.25	2,000,000.00	0.4100544x	841,128.75	344,908.56
06/30/2027	1,159,036.25	2,100,000.00	0.3796800x	940,963.75	357,265.14
06/30/2028	1,156,617.50	2,100,000.00	0.3515556x	943,382.50	331,651.38
06/30/2029	1,156,632.50	2,200,000.00	0.3255144x	1,043,367.50	339,631.17
06/30/2030	1,154,123.75	2,100,000.00	0.3014022x	945,876.25	285,089.22
06/30/2031	1,149,490.00	2,200,000.00	0.2790761x	1,050,510.00	293,172.29
06/30/2032	1,152,460.00	2,300,000.00	0.2584038x	1,147,540.00	296,528.74
06/30/2033	1,147,612.50	2,400,000.00	0.2392628x	1,252,387.50	299,649.76
06/30/2034	1,149,750.00	2,200,000.00	0.2302308x	1,050,250.00	241,799.85
Total	**$ 23,463,568.67**	**$36,300,000.00**	-	**$ 12,836,431.33**	**$ 4,679,968.62**

Potential savings of $12.8 million over 20 years. A final decision as to whether to use the market or the actuarial contribution amount has not been determined. However, using the market value gives us the worst case scenario when determining borrowing needs, and helps protect us from additional accrued unfunded liability after bond proceeds are paid out.

11

What is the City doing not to repeat the past?

- Reduced PSO multipliers
  - Hired before 7/1/2009: 3% to 2.8%
  - Hired after 7/1/2009: 2.5%
- Reduced DPW multipliers
  - Hired before 1/1/2004: 3% to 2.5%
  - Hired after 1/1/2004: 2.5%
- Bonding contingent on agreements with labor unions to:
  - Close all defined benefit plans to new hires
  - Offer only defined contribution plans to new hires
- If bonds are issued, pay off unfunded liability; potential saving $12.8 million over 20 years
- Continue to negotiate benefits levels, including those associated with defined benefit plans

12

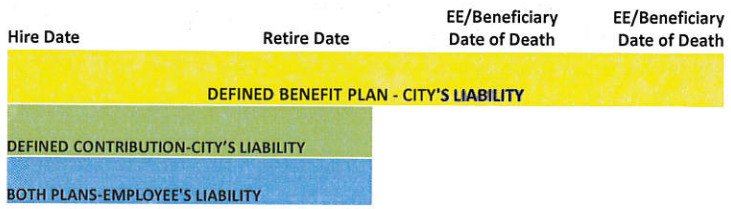
Defined Benefit versus Defined Contribution Plans

- Defined Benefit (DB) Plan - A pension plan that is designed to provide participants with a predefined, predictable and guaranteed benefit based on a formula that takes into account an employee's compensation, years of service and age. Payments are made to employee upon retirement and continue until both employee and beneficiary are deceased.

- Defined Contribution (DC) Plan – A retirement plan in which contributions are made to an individual account for each employee. The retirement benefit is not pre-determined and is entirely dependent upon the account balance at retirement; which is based on the money that accumulates in an employee's account. Upon retirement employee manages his/her own account balance. The employer has no further obligation to contribute.

13

Defined Benefit -vs- Defined Contribution
Employer/Employee Liability Comparison



14

The Bonding Process

- City publishes a notice of intent to issue bonds, which starts a 45 day referendum period
- City receives the most current valuation (12/31/2013) from MERS
- City prepares and makes available to the public a comprehensive financial plan, and submits the plan to the State of Michigan for approval to issue the bonds
- City authorizes the sale of the bonds
- City receives the bond proceeds
- City pays off the unfunded accrued liability to MERS
- Deadline to accomplish is December 31, 2014

15

Other Information -OPEB

- OPEB stands for Other Post-Retirement Employee Benefits
- This plan funds employee health benefits after retirement
- The City's plan combines pay-as-you-go coupled with prefunding. Retiree premiums are paid when incurred, and a separate trust is maintained by the City through ICMA where $225,000 is deposited each year
- Actuarial study due every three years. Next actuarial will be as of 1/1/2015 and good for three years
- As of 12/1/2012 the actuarial valuation report shows the City's unfunded actuarial accrued liability at $9,389,559
- At 12/1/2012 trust assets were at $428,359 however, currently the trust assets are approximately $1,454,900 from prefunding the plan
- The City does not plan to issue bonds to pay off the OPEB unfunded accrued liability

16

City of Bloomfield Hills

Exhibit - E

Schedule of Anticipated Debt Service Requirements

$15,940,000

CITY OF BLOOMFIELD HILLS
COUNTY OF OAKLAND, STATE OF MICHIGAN
GENERAL OBLIGATION LIMITED TAX BONDS, SERIES 2014

Debt Service Schedule - Fiscal Year

Date	Principal	Coupon	Interest	Total P+I
06/30/2015	1,065,000.00	0.500%	279,046.67	1,344,046.67
06/30/2016	625,000.00	0.500%	476,042.50	1,101,042.50
06/30/2017	630,000.00	0.750%	472,117.50	1,102,117.50
06/30/2018	635,000.00	1.320%	465,564.00	1,100,564.00
06/30/2019	640,000.00	1.920%	455,229.00	1,095,229.00
06/30/2020	655,000.00	2.250%	441,716.25	1,096,716.25
06/30/2021	670,000.00	2.600%	425,637.50	1,095,637.50
06/30/2022	685,000.00	2.850%	407,166.25	1,092,166.25
06/30/2023	705,000.00	3.050%	386,653.75	1,091,653.75
06/30/2024	730,000.00	3.200%	364,222.50	1,094,222.50
06/30/2025	750,000.00	3.350%	339,980.00	1,089,980.00
06/30/2026	775,000.00	3.450%	314,048.75	1,089,048.75
06/30/2027	805,000.00	3.650%	285,988.75	1,090,988.75
06/30/2028	830,000.00	3.800%	255,527.50	1,085,527.50
06/30/2029	865,000.00	3.950%	222,673.75	1,087,673.75
06/30/2030	900,000.00	4.050%	187,365.00	1,087,365.00
06/30/2031	935,000.00	4.100%	149,972.50	1,084,972.50
06/30/2032	970,000.00	4.200%	110,435.00	1,080,435.00
06/30/2033	1,015,000.00	4.300%	68,242.50	1,083,242.50
06/30/2034	1,055,000.00	4.400%	23,210.00	1,078,210.00
Total	**$15,940,000.00**	**-**	**$6,130,839.67**	**$22,070,839.67**

Yield Statistics

Bond Year Dollars	$163,828.33
Average Life	10.278 Years
Average Coupon	3.7422340%
Net Interest Cost (NIC)	3.8152068%
True Interest Cost (TIC)	3.7810979%
Bond Yield for Arbitrage Purposes	3.6885365%
All Inclusive Cost (AIC)	3.8727312%

IRS Form 8038

Net Interest Cost	3.7422340%
Weighted Average Maturity	10.278 Years