



**Marin/Sonoma
Mosquito & Vector Control District**

BARTEL
ASSOCIATES, LLC

**Retiree Healthcare Plan
July 1, 2019 Actuarial Valuation**

November 2019

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TABLE OF CONTENTS

SECTION	PAGE
Background	1
Changes Since the Last Valuation	1
Valuation Results	1
Basic Definitions	6
Summary of Retiree Healthcare Benefits	7
Actuarial Methods and Assumptions	9
Summary of Participant Data	13
Actuarial Certification	15



November 5, 2019



BACKGROUND

The District provides medical benefits through Marin County's medical plans, paying the 2-party premium for employees who were hired before July 1, 2009 and retire directly from the District under the Marin County Employees' Retirement System (MCERA) with 10 years District service. The District pays the retiree-only premium for employees hired on or after July 1, 2009 who retire with 10 years District service.

The District does not pay retiree medical premiums for employees hired after July 30, 2014. These employees receive contributions into a Health Reimbursement Account while active and are not eligible to continue coverage under the District medical plans after retirement.

The District commenced pre-funding the plan during the 2014/15 fiscal year with contributions that would phase into the full Actuarially Determined Contribution (ADC) over nine years. The phase-in period has since been eliminated and the District will start contributing the full ADC each year beginning in the 2019/20 fiscal year. In FY 2018/19 the District made an additional \$1.6 million contribution which increased the plan's funded ratio significantly.

Funds are held in the California Employees Retirement Benefit Trust (CERBT) and invested under CERBT Asset Allocation Strategy #1 (59% Global Equity, 25% Fixed Income, 8% Real Estate Investment Trusts, 5% Treasury Inflation-Protected Securities, 3% Commodities).

The purpose of this report is to provide information to be used in determining funding contributions and the plan's funded ratio. It also provides information to be used as a basis for determining information used in GASBS 75 reporting.

CHANGES SINCE THE LAST VALUATION

Assumptions:

- Demographic assumptions were updated

Medical Plans:

- The Anthem Blue Cross Plan has been replaced by the Teamsters Anthem PPO plan for pre-Medicare coverage and a UnitedHealthcare Medicare Advantage PPO for post-Medicare coverage.

VALUATION RESULTS

Summary of Results: The unfunded actuarial accrued liability (UAAL) as of July 1, 2017 was \$9.5 million. Had the District contributed the full pre-funding contribution and assumptions and methods remained the same, a July 1, 2019 UAAL of \$9.2 million would have been expected. However, the actual UAAL was \$6.0 million. The \$3.2 million difference is primarily due to \$2.2 million in gains resulting from lower premium increases than anticipated and another \$1.0 million from larger trust assets than expected due to total employer contributions in excess of the ADC over the past 2 years.

The current funded ratio (portion of actuarial accrued liability covered by assets) rose to 36% in this valuation compared to 7% as of July 1, 2017.



Marin/Sonoma Mosquito & Vector Control District Retiree Healthcare Plan
July 1, 2019 Actuarial Valuation
Page 2

Plan Assets: To be considered Plan Assets for GASBS 75 purposes, funds must be set aside in a trust that cannot legally be used for any purpose other than to pay retiree healthcare benefits. The following table shows the asset reconciliation for 2017/18 and 2018/19 fiscal years (000's omitted):

	<u>2017/18</u>	<u>2018/19</u>
■ Market Value of Assets (Beginning of Year)	\$726	1,158
• Contributions	354	2,058
• Benefit Payments	-	-
• Investment Income	79	154
• Investment Expenses	(0)	(1)
• Administrative Expenses	<u>(1)</u>	<u>(1)</u>
■ Market Value of Assets (End of Year)	1,158	3,368

Funded Status: The funded status of the plan is equal to the Actuarial Accrued Liability less Plan Assets. When assets equal liabilities, a plan is considered on track for funding. The following table summarizes the Plan's funded status for the current valuation and the prior valuation (000's omitted):

	<u>July 1, 2017 Valuation</u>	<u>July 1, 2019 Valuation</u>
■ Discount Rate	6.50%	6.50%
■ Present Value of Benefits (PVB)		
• Actives	\$ 6,755	\$ 5,522
• Retirees	<u>5,324</u>	<u>5,345</u>
• Total	12,079	10,867
■ Actuarial Accrued Liability (AAL)		
• Actives	4,902	4,038
• Retirees	<u>5,324</u>	<u>5,345</u>
• Total	10,226	9,383
■ Market Value of Assets	<u>726</u>	<u>3,368</u>
■ Unfunded AAL	9,500	6,015
■ Funded Ratio (Assets/AAL)	7%	36%

Assuming that all current actuarial assumptions are realized, the Funded Ratio would be expected to increase from 36% to 58% over the next five years (July 1, 2019 to July 1, 2024).



Marin/Sonoma Mosquito & Vector Control District Retiree Healthcare Plan
July 1, 2019 Actuarial Valuation
Page 3

Actuarially Determined Contribution (ADC): The District’s Actuarially Determined Contribution is simply the current employer Normal Cost plus administrative expenses and an amortization of the unfunded liability. In other words, the ADC is the value of benefits actuarially considered earned during the year plus an amount to keep the plan on track for funding. For the current valuation, we calculated the 2020/21 ADC as the Normal Cost and projected administrative expenses plus a 19-year amortization (as a level dollar amount) of the Unfunded AAL. ADCs are shown as of the middle of the fiscal year (000’s omitted).

	<u>July 1, 2017 Valuation</u>			<u>July 1, 2019 Valuation</u>	
Discount Rate		6.50%		6.50%	
■ Fiscal Year	<u>2018/19</u>	<u>2019/20</u>	<u>2019/20¹</u>	<u>2020/21</u>	<u>2021/22</u>
■ Normal Cost	\$ 244	\$ 228	\$ 228	\$ 200	\$ 193
■ CERBT Administrative Expense	1	1	1	3	3
■ UAAL Amortization	<u>836</u>	<u>865</u>	<u>721</u>	<u>509</u>	<u>509</u>
■ ADC	1,081	1,094	950	712	705
■ Estimated Covered Payroll ²	2,808	2,650	2,650	2,700	2,630
■ ADC as a % of estimated payroll	38.5%	41.3%	35.9%	26.4%	26.8%

¹ Based on estimated asset balance as of 6/30/2019 including \$1.6 million special contribution.

² Payroll projected on a closed group basis.



Marin/Sonoma Mosquito & Vector Control District Retiree Healthcare Plan
July 1, 2019 Actuarial Valuation
Page 4

Actuarial Gains/Losses: The gain/loss analysis for the 2 year period between valuation dates is shown below (000's omitted).

Actuarial Accrued Liabilities were lower than anticipated. Replacement plans for the Anthem Blue Cross medical plan significantly lowered premiums. In addition, premium levels were lower than anticipated for the Kaiser plans.

Assets were higher than anticipated due to the District's additional contribution to the plan.

Assumption changes (shown below) had only a minor impact on results. Demographic assumptions were updated based on a newer MCERA experience study.

- A newer projection scale for future mortality improvement was implemented.
- A retiree family plan election assumption was implemented.

	Actuarial Accrued Liability (Gain)/Loss	Asset (Gain)/Loss	Unfunded Actuarial Accrued Liability (Gain)/Loss
■ July 1, 2017 Actual Value	\$ 10,226	\$ (726)	\$ 9,500
■ July 1, 2019 Expected Value	11,486	(2,255)	9,231
■ Experience (Gains/Losses)			
• Demographic & other experience	217	-	217
• Premium (gain)/loss	(2,248)	-	(2,248)
• Contribution (gain)/loss	-	(1,087)	(1,087)
• Investment (gain)/loss	-	(26)	(26)
• Subtotal	(2,031)	(1,113)	(3,144)
■ Assumption Changes			
• Mortality Improvement	(118)	-	(118)
• Experience Study	(4)	-	(4)
• Family Plan Election Assumption	50	-	50
• Subtotal	(72)	-	(72)
■ Total Change	(2,103)	(1,113)	(3,216)
■ July 1, 2019 Actual Value	9,383	(3,368)	6,015



Marin/Sonoma Mosquito & Vector Control District Retiree Healthcare Plan
July 1, 2019 Actuarial Valuation
Page 5

Projected Benefit Payments: Following is a 10-year projection of benefit payments starting in 2019/20 (000's omitted):

<u>Year</u>	<u>Cash Payments</u>	<u>Implied Subsidy Payments</u>	<u>Total Benefit Payments</u>	<u>Year</u>	<u>Cash Payments</u>	<u>Implied Subsidy Payments</u>	<u>Total Benefit Payments</u>
2019/20	\$ 247	\$ 35	\$ 282	2024/25	\$ 413	\$ 90	\$ 503
2020/21	276	46	322	2025/26	446	94	540
2021/22	306	56	362	2026/27	486	101	587
2022/23	346	71	417	2027/28	508	82	590
2023/24	377	78	455	2028/29	543	83	626

Contributions Projection

The following table illustrates the estimated contribution amounts for the next 10 years (000's omitted):

<u>Year</u>	<u>Benefit Payments</u>	<u>Trust Contribution³</u>	<u>Total Contribution</u>	<u>Normal Cost⁴</u>	<u>UAAL Amortization</u>	<u>ADC</u>
2019/20	\$ 282	\$ 668	\$ 950	\$ 229	\$ 721	\$ 950
2020/21	322	390	712	203	509	712
2021/22	362	343	705	196	509	705
2022/23	417	280	697	188	509	697
2023/24	455	234	689	180	509	689
2024/25	503	174	677	168	509	677
2025/26	540	122	662	154	509	662
2026/27	587	60	647	138	509	647
2027/28	590	42	632	123	509	632
2028/29	626	(7)	619	110	509	619

The normal cost decreases as the number of covered employees decline.

³ Includes CERBT administrative expense.

⁴ Includes CERBT administrative expense.



BASIC DEFINITIONS

Present Value of Benefits (PVB): When an actuary prepares an actuarial valuation, the first step is gathering participant data (including active employees and participants and beneficiaries in payment status) at the valuation date (for example July 1, 2019). Using this data and actuarial assumptions, future benefit payments are projected. (The assumptions predict, among other things, when people will retire, terminate, die or become disabled, as well as what salary increases, general (and healthcare) inflation and investment return might be). Those future benefit payments are discounted, using expected future investment return, back to the valuation date. This discounted present value is the plan's present value of benefits. It represents the amount the plan needs as of the valuation date to pay all future benefits – if all assumptions are met and no future contributions (employee or employer) are made. The District's July 1, 2019 retiree healthcare Present Value of Benefits is \$10.9 million using a 6.50% discount rate, with \$5.3 million of this for former employees who have already retired.

Actuarial Accrued Liability (AAL): This represents the portion of the present value of benefits that participants have earned (on an actuarial, not actual, basis) through the valuation date. The District's July 1, 2019 retiree healthcare Actuarial Accrued Liability is \$9.4 million using a 6.50% discount rate, with \$5.3 million of this for former employees who have already retired.

Plan Assets: This includes funds that have been segregated and restricted in a trust so they can only be used to pay plan benefits. The market value of the District's July 1, 2019 assets is \$3.4 million.

Unfunded Actuarial Accrued Liability (UAAL): This is the difference between the Actuarial Accrued Liability and Plan Assets. This represents the amount of the Actuarial Accrued Liability that must still be funded. As of July 1, 2019, the District has an Unfunded Actuarial Accrued Liability of \$6.0 million.

Normal Cost (NC): The Normal Cost represents the portion of the present value of benefits expected to be earned (on an actuarial, not actual, basis) in the coming year. The District's 2020/21 retiree healthcare Normal Cost as of the middle of the fiscal year is \$0.2 million (7.4% of covered payroll) using a 6.50% discount rate.

Actuarial Cost Method: This determines the method in which benefits are actuarially earned (allocated) to each year of service. It has no effect on the Present Value of Benefits, but has significant effect on the Actuarial Accrued Liability and Normal Cost. The District's July 1, 2019 retiree healthcare valuation was prepared using the Entry Age Normal cost method. Under the Entry Age Normal cost method, the Plan's Normal Cost is developed as a level percent of payroll throughout the participant's working lifetime.

Implied Subsidy: An implied subsidy exists when premiums charged for employees subsidize retiree premiums. This occurs when premiums for retirees are not sufficient to pay anticipated claims.



SUMMARY OF RETIREE HEALTHCARE BENEFITS

Benefit Summary	
<p>■ Eligibility</p>	<p>■ Hired July 30, 2014 or earlier:</p> <ul style="list-style-type: none"> • Retire directly from the District under Marin County Employees' Retirement Association (Service Retirement at Age 50 with 10 years MCERA service or Age 52 with 5 years MCERA service depending on Retirement Tier, or disability retirement) • 10 years of District service <p>■ Hired after July 30, 2014:</p> <ul style="list-style-type: none"> • Not eligible for District payment of retiree medical premiums or coverage under District's medical plans after retirement.
<p>■ Medical Benefit</p>	<p>■ Hired July 30, 2014 or earlier:</p> <ul style="list-style-type: none"> • District pays the full medical and Medicare B premiums for retirees • For retirees hired prior to July 1, 2009, the District also pays the premium for 1 dependent <p>■ Hired after July 30, 2014:</p> <ul style="list-style-type: none"> • No District contributions towards retiree medical premiums, and may not participate in District medical plans • Eligible for Health Reimbursement Account (HRA) contributions after 2 years of service with the District
<p>■ Surviving Spouse Medical Benefit</p>	<p>■ Premium paid for those hired prior to July 1, 2009</p> <p>■ Same benefit continues to surviving spouse</p>
<p>■ Dental, Vision & Life</p>	<p>■ None</p>
<p>■ Medical Plans</p>	<p>■ County of Marin Medical Plans</p>



2019 Monthly Medical Premiums

Actives

Medical Plan	Non Medicare Eligible		
	Single	2-Party	Family
Kaiser Plan L	\$789.21	\$1,578.41	\$2,099.29
Teamsters Anthem PPO	746.22	1,490.21	2,084.97

Retirees

Medical Plan	Non Medicare Eligible			Medicare Eligible		
	Single	2-Party	Family	Single	2-Party	Family
Kaiser Plan L	\$789.21	\$1,578.41	\$2,099.29	\$397.86	\$795.72	n/a
Teamsters Anthem PPO	746.22	1,490.21	2,084.97	n/a	n/a	n/a
UnitedHealthcare PPO	n/a	n/a	n/a	414.78	829.56	n/a

2020 Monthly Medical Premiums

Actives

Medical Plan	Non Medicare Eligible		
	Single	2-Party	Family
Kaiser Plan L	\$854.99	\$1,709.98	\$2,274.27
Teamsters Anthem PPO	782.20	1,564.40	2,190.16

Retirees

Medical Plan	Non Medicare Eligible			Medicare Eligible		
	Single	2-Party	Family	Single	2-Party	Family
Kaiser Plan L	\$854.99	\$1,709.98	\$2,274.27	\$380.05	\$760.10	n/a
Teamsters Anthem PPO	782.20	1,564.40	2,190.16	n/a	n/a	n/a
UnitedHealthcare PPO	n/a	n/a	n/a	439.67	879.34	n/a

Marin/Sonoma Mosquito & Vector Control District Retiree Healthcare Plan

July 1, 2019 Actuarial Valuation

ACTUARIAL METHODS AND ASSUMPTIONS

Actuarial Methods

The actuarial cost method used for this valuation is the Entry Age Normal (“EAN”) cost method. Under the EAN cost method, the Normal Cost for each participant is determined as a level percent of payroll throughout the participant’s working career. The actuarial value of assets is market value as of the valuation date.

The July 1, 2019 Unfunded Actuarial Accrued Liability was amortized as a level dollar amount over a fixed 19-year period starting in 2020/21. The projected July 1, 2020 UAAL is \$5,637,000. The 2020/21 UAAL payment is \$509,000.

Actuarial Assumptions

Actuarial assumptions are shown below. Where appropriate, the demographic assumptions proposed in the Marin County Employees’ Retirement Association (MCERA) June 30, 2017 Actuarial Experience Study have been used.

Actuarial Assumptions	July 1, 2017 Valuation	July 1, 2019 Valuation
<ul style="list-style-type: none"> ■ Discount Rate 	<ul style="list-style-type: none"> ● 6.50%, pre-funded through CalPERS CERBT Asset Allocation Strategy #1 (57% Global Equity, 27% Fixed Income, 8% Real Estate Investment Trusts, 5% Treasury Inflation-Protected Securities, 3% Commodities) 	<ul style="list-style-type: none"> ● 6.50%, pre-funded through CalPERS CERBT Asset Allocation Strategy #1 (59% Global Equity, 25% Fixed Income, 8% Real Estate Investment Trusts, 5% Treasury Inflation-Protected Securities, 3% Commodities)
<ul style="list-style-type: none"> ■ General Inflation Rate 	<ul style="list-style-type: none"> ● 2.75% per year 	<ul style="list-style-type: none"> ● Same
<ul style="list-style-type: none"> ■ Aggregate Payroll Increases 	<ul style="list-style-type: none"> ● 3% per year 	<ul style="list-style-type: none"> ● Same
<ul style="list-style-type: none"> ■ Pay Merit and Longevity Increases 	<ul style="list-style-type: none"> ● MCERA 6/30/2014 Experience Study 	<ul style="list-style-type: none"> ● MCERA 6/30/2017 Experience Study
<ul style="list-style-type: none"> ■ Mortality, Termination 	<ul style="list-style-type: none"> ● MCERA 6/30/2014 Experience Study ● In addition, Post-retirement mortality improvement projected fully generational using Scale MP-2016 	<ul style="list-style-type: none"> ● MCERA 6/30/2017 Experience Study ● In addition, Post-retirement mortality improvement projected fully generational using Scale MP-2018
<ul style="list-style-type: none"> ■ Disability 	<ul style="list-style-type: none"> ● MCERA 6/30/2014 Experience Study 	<ul style="list-style-type: none"> ● MCERA 6/30/2017 Experience Study
<ul style="list-style-type: none"> ■ Service Retirement 	<ul style="list-style-type: none"> ● MCERA 6/30/2014 Experience Study 	<ul style="list-style-type: none"> ● MCERA 6/30/2017 Experience Study



Marin/Sonoma Mosquito & Vector Control District Retiree Healthcare Plan
July 1, 2019 Actuarial Valuation
Page 10

Actuarial Assumptions	July 1, 2017 Valuation	July 1, 2019 Valuation																																																																																																																		
<ul style="list-style-type: none"> ■ Participation at Retirement 	<ul style="list-style-type: none"> ● 100% 	<ul style="list-style-type: none"> ● Same 																																																																																																																		
<ul style="list-style-type: none"> ■ Medical Trend 	<ul style="list-style-type: none"> ■ Increases from prior year: <table border="0" style="margin-left: 20px;"> <thead> <tr> <th style="text-align: center;"><u>Year</u></th> <th style="text-align: center;"><u>Non-Medicare</u></th> <th style="text-align: center;"><u>Medicare</u></th> </tr> </thead> <tbody> <tr> <td>2017</td> <td colspan="2" style="text-align: center;">Actual Premiums</td> </tr> <tr> <td>2018-20</td> <td style="text-align: center;">7.50%</td> <td style="text-align: center;">6.50%</td> </tr> <tr> <td>2021</td> <td style="text-align: center;">7.25%</td> <td style="text-align: center;">6.30%</td> </tr> <tr> <td>2022</td> <td style="text-align: center;">7.00%</td> <td style="text-align: center;">6.10%</td> </tr> <tr> <td>2023</td> <td style="text-align: center;">6.75%</td> <td style="text-align: center;">5.90%</td> </tr> <tr> <td>2024</td> <td style="text-align: center;">6.50%</td> <td style="text-align: center;">5.70%</td> 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2024	6.50%	5.70%																																																																																																																		
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<ul style="list-style-type: none"> ■ Medicare Eligibility Rate for those hired before Medicare Contributions Required (4/1/1986) 	<ul style="list-style-type: none"> ● Current pre-Medicare retirees: 50% where unable to determine eligibility ● Current employees: None hired before 4/1/1986 	<ul style="list-style-type: none"> ● Same 																																																																																																																		
<ul style="list-style-type: none"> ■ Medical Plan at Retirement 	<ul style="list-style-type: none"> ● Same plan as current election 	<ul style="list-style-type: none"> ● Same 																																																																																																																		
<ul style="list-style-type: none"> ■ Marital Status 	<ul style="list-style-type: none"> ● Based on current medical coverage election 	<ul style="list-style-type: none"> ● Same 																																																																																																																		

⁵ Provided by the District. Varies by individual.



Marin/Sonoma Mosquito & Vector Control District Retiree Healthcare Plan
July 1, 2019 Actuarial Valuation
Page 11

Actuarial Assumptions	July 1, 2017 Valuation	July 1, 2019 Valuation
<ul style="list-style-type: none"> ■ Spouse Participation 	<ul style="list-style-type: none"> ● 100%, if benefit paid by the District ● 50%, if benefit not paid by the District 	<ul style="list-style-type: none"> ● Same
<ul style="list-style-type: none"> ■ Surviving Spouse Participation 	<ul style="list-style-type: none"> ● 100% 	<ul style="list-style-type: none"> ● Same
<ul style="list-style-type: none"> ■ Non-Spouse Dependent Participation 	<ul style="list-style-type: none"> ● 0% 	<ul style="list-style-type: none"> ● 50%, if coverage includes non-spouse dependents while active ● 0%, otherwise ● 1.75 children per family ● No non-spouse dependents assumed after retiree's age 67
<ul style="list-style-type: none"> ■ Implied Subsidy 	<ul style="list-style-type: none"> ● Valued 	<ul style="list-style-type: none"> ● Valued
<ul style="list-style-type: none"> ■ Patient Protection and Affordable Care Act (PPACA) Cadillac Tax 	<ul style="list-style-type: none"> ● Assumed to increase employer costs by 2% of the cash benefit costs 	<ul style="list-style-type: none"> ● Same



Marin/Sonoma Mosquito & Vector Control District Retiree Healthcare Plan
July 1, 2019 Actuarial Valuation
Page 12

Monthly Claims Costs

Age	2020 Age/Gender Claims Costs			
	Kaiser Plan L Non-Medicare		Kaiser Plan L Medicare	
	Male	Female	Male	Female
Children	\$434	\$434	n/a	n/a
30	414	700	n/a	n/a
35	447	692	n/a	n/a
40	500	706	n/a	n/a
45	580	736	n/a	n/a
50	697	789	n/a	n/a
55	888	903	n/a	n/a
60	1,166	1,077	n/a	n/a
65	1,301	1,133	\$291	\$252
70	1,465	1,235	354	298
75	1,781	1,475	431	356
80	2,141	1,761	518	425
85	2,516	2,069	609	500

Age	2020 Age/Gender Claims Costs			
	Teamsters Anthem PPO Non-Medicare		UnitedHealthcare PPO Medicare	
	Male	Female	Male	Female
Children	\$365	\$365		
30	347	596	n/a	n/a
35	375	589	n/a	n/a
40	420	601	n/a	n/a
45	490	628	n/a	n/a
50	593	676	n/a	n/a
55	765	779	n/a	n/a
60	1,017	936	n/a	n/a
65	1,140	987	\$409	\$357
70	1,284	1,075	412	342
75	1,561	1,284	464	375
80	1,876	1,533	557	448
85	2,205	1,801	655	526



SUMMARY OF PARTICIPANT DATA

Participant Statistics

Statistic	July 1, 2017		July 1, 2019	
	Actives	Retirees	Actives	Retirees
■ Count	29	17	26	19
■ Average Age	51.8	66.8	53.3	66.3
■ Average Retirement Age				
• Service	n/a	57.7	n/a	57.9
• Disability	n/a	48.7	n/a	48.7
■ Average Service	15.1	n/a	16.1	n/a
■ Payroll				
• Total	\$ 2,749,000	n/a	\$ 2,767,000	n/a
• Average	\$ 94,783	n/a	\$ 106,416	n/a

Actives by Age and Service

Age	District Service							Total
	< 1	1-4	5-9	10-14	15-19	20-24	≥ 25	
< 25								
25-29								
30-34								
35-39				2				2
40-44				1	4			5
45-49						2		2
50-54					1		1	2
55-59			2	4	2			8
60-64			1	3	1		1	6
≥ 65						1		1
Total			3	10	8	3	2	26



Participant Medical Coverage Elections
July 1, 2019

Medical Plan	Actives					
	EE Only	EE+ Spouse	EE+ Child(ren)	Family	Waived	Total
Kaiser Plan L	4	7	4	9		24
Teamsters Anthem	1					1
Waived					1	1
Total	5	7	4	9	1	26

Medical Plan	Retirees Age < 65					
	EE Only	EE+ Spouse	EE+ Child(ren)	Family	Waived	Total
Kaiser Plan L	2	4				6
Teamsters Anthem	1	1				2
Total	3	5				8

Medical Plan	Retirees Age ≥ 65					
	EE Only	EE+ Spouse	EE+ Child(ren)	Family	Waived	Total
Kaiser Plan L	3	6				9
Teamsters Anthem		1				1
UnitedHealthcare	1					1
Total	4	7				11

ACTUARIAL CERTIFICATION

This report presents the Marin/Sonoma Mosquito Vector Control District Retiree Healthcare Plan (“Plan”) July 1, 2019 actuarial valuation. The purpose of this valuation is to:

- Determine the Plan’s July 1, 2019 Funded Status, and
- Calculate the 2020/21 and 2021/22 Actuarially Determined Contributions.

Information provided in this report may be useful to the District for the Plan’s financial management. Future valuations may differ significantly if the Plan’s experience differs from our assumptions or if there are changes in Plan design, actuarial methods or actuarial assumptions. The project scope did not include an analysis of this potential variation.

The valuation is based on Plan provisions, participant data, and asset information provided by the District as summarized in this report, which we relied on and did not audit. We reviewed the participant data for reasonableness.

To the best of our knowledge, this report is complete and accurate and has been conducted using generally accepted actuarial principles and practices. As members of the American Academy of Actuaries meeting the Academy Qualification Standards, we certify the actuarial results and opinions herein.

Respectfully submitted,



Marilyn Oliver, FSA, MAAA, EA, FCA
Vice President
Bartel Associates, LLC
November 5, 2019



Catherine A Wandro, ASA, MAAA, FCA
Assistant Vice President
Bartel Associates, LLC
November 5, 2019



Tak Frazita, FSA, MAAA, EA, FCA
Associate Actuary
Bartel Associates, LLC
November 5, 2019

