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May 31, 2018

Ms. Rebecca Mendenhall
Administrative Services Director
City of San Carlos
600 Elm Street, San Carlos, CA 94070

Re: Analysis of Redwood City CalPERS Liability Payment Schedule

Dear Rebecca:

Milliman, Inc. ("Milliman") has been retained by the City of San Carlos ("the City") to provide an analysis of its portion of the Unfunded Actuarial Liability payments to the Safety Plan of the City of Redwood City ("the Plan").

Introduction

Effective July 1, 2013 the City entered into an agreement whereby it pays a portion of the unfunded liability payment rate, as determined by the annual CalPERS valuation of the Plan. The portion paid by the City increases according to the following schedule:

Original Contract Year #	2018 Contract Year #	Valuation Date	Valuation Determines Rates for Fiscal Year	Portion of Plan UAL Rate Paid by San Carlos
1		6/30/2011	FY 2013-14	0%
2		6/30/2012	FY 2014-15	10%
3		6/30/2013	FY 2015-16	20%
4		6/30/2014	FY 2016-17	30%
5		6/30/2015	FY 2017-18	40%
6	1	6/30/2016	FY 2018-19	45%
7	2	6/30/2017	FY 2019-20	60%
8	3	6/30/2018	FY 2020-21	TBD
9	4	6/30/2019	FY 2021-22	TBD
10	5	6/30/2020	FY 2022-23	TBD
11	6	6/30/2021	FY 2023-24	TBD

This report examines the relationship between the City of San Carlos and the unfunded liability of the Redwood City Safety Plan. There are two primary issues at play:

- A significant portion of the Plan's unfunded liability payment each year is attributable to Plan experience that predates July 1, 2013. We believe this is very likely to continue to be the case for at least the next five years.

- Most of the Plan's accrued liabilities are attributable to Redwood City firefighters who have retired and are currently receiving benefit payments. While it is typical for unfunded liability (including retiree liability) to be developed as a percentage of active payroll, retirees from San Carlos are not part of the Redwood City Safety Plan. Retired San Carlos firefighters are members of a separate plan, for which the City of San Carlos already makes unfunded liability payments, separately from the payments the City makes to Redwood City Safety Plan.

Make-Up of Redwood City Safety Plan Unfunded Liability

We have extracted the following table from the 6/30/2016 CalPERS valuation report. Subtotal rows at the bottom show which liabilities and payments are associated with gains or losses before the San Carlos firefighters joined the Redwood City plan.

Table 1: Schedule of Gain/Loss Amortization Bases for Redwood City Safety Plan

Date	Expected	Expected				
Established	6/30/16 Balance	2016-17 Pmt	6/30/17 Balance	2017-18 Pmt	6/30/18 Balance	2018-19 Pmt
6/30/2005	(601,391)	(44,045)	(600,103)	(45,366)	(597,352)	(46,164)
6/30/2006	593,747	68,676	566,372	70,736	534,844	72,310
6/30/2009	5,080,594	465,736	4,972,683	479,708	4,842,336	489,453
6/30/2009	8,901,708	588,353	8,948,546	606,004	8,980,549	615,663
6/30/2010	(1,171,918)	(75,798)	(1,179,804)	(78,072)	(1,185,914)	(79,286)
6/30/2011	5,359,630	450,269	5,288,325	463,777	5,197,765	472,767
6/30/2011	(1,952,203)	(123,727)	(1,967,970)	(127,439)	(1,981,053)	(129,370)
6/30/2012	739,747	45,998	746,639	47,378	752,610	48,077
6/30/2012	53,700,504	3,339,108	54,200,869	3,439,282	54,634,333	3,490,073
6/30/2013	33,812,292	923,860	35,348,627	1,427,363	36,476,528	1,931,816
6/30/2014	15,660,023	298,287	16,505,859	614,472	17,086,438	938,885
6/30/2014	(23,656,172)	(332,725)	(25,056,039)	(685,413)	(26,193,684)	(1,042,940)
6/30/2015	14,328,776	133,710	15,246,970	214,700	16,148,958	435,248
6/30/2016	5,315,362	(224,571)	5,940,075	(231,308)	6,617,841	124,738
6/30/2016	18,033,488	951,213	18,377,793	-	19,733,155	273,512

Total (Gain)/Loss for Redwood City Safety Plan

	134,144,187	6,464,344	137,338,842	6,195,822	141,047,354	7,594,782
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(Gain)/Loss Attributable to Plan Experience on or before 6/30/2013

\$ Amount	104,462,710	5,638,430	106,324,184	6,283,371	107,654,646	6,865,339
% of Total	78%	87%	77%	101%	76%	90%

(Gain)/Loss Attributable to Plan Experience after 6/30/2013

\$ Amount	29,681,477	825,914	31,014,658	(87,549)	33,392,708	729,443
% of Total	22%	13%	23%	-1%	24%	10%

City of San Carlos Contractual Portion of Plan UAL Rate

<u>2016-17 Pmt</u>	<u>2017-18 Pmt</u>	<u>2018-19 Pmt</u>
30%	40%	45%

As you can see, the percentage of the Plan's unfunded liability that developed after the San Carlos firefighters joined is well below the portion of the UAL payment that the City of San Carlos currently pays.

The percentage of the Plan's unfunded liability that developed after the San Carlos firefighters joined will increase over the long term. However, this percentage may not increase significantly over the next few years.

For the 2017 and 2018 actuarial valuations there are three significant gain/loss events that we know will impact the unfunded liability:

- 1) Investment gain for fiscal year 2016-17;
- 2) Actuarial loss for fiscal year 2016-17 arising from the discount rate change from 7.375% to 7.25%;
- 3) Actuarial loss for fiscal year 2017-18 arising from the discount rate change from 7.25% to 7.00%.

We have estimated the impact of these events and updated the unfunded liability table as shown:

Table 2: Amortization Bases with Anticipated Gain/Loss Items During 2017 & 2018

Date Established	6/30/16 Balance	Expected 6/30/17 Balance	Expected 6/30/18 Balance
6/30/2005	(601,391)	(600,103)	(597,352)
6/30/2006	593,747	566,372	534,844
6/30/2009	5,080,594	4,972,683	4,842,336
6/30/2009	8,901,708	8,948,546	8,980,549
6/30/2010	(1,171,918)	(1,179,804)	(1,185,914)
6/30/2011	5,359,630	5,288,325	5,197,765
6/30/2011	(1,952,203)	(1,967,970)	(1,981,053)
6/30/2012	739,747	746,639	752,610
6/30/2012	53,700,504	54,200,869	54,634,333
6/30/2013	33,812,292	35,348,627	36,476,528
6/30/2014	15,660,023	16,505,859	17,086,438
6/30/2014	(23,656,172)	(25,056,039)	(26,193,684)
6/30/2015	14,328,776	15,246,970	16,148,958
6/30/2016	5,315,362	5,940,075	6,617,841
6/30/2016	18,033,488	18,377,793	19,733,155
6/30/2017 ¹		(8,200,000)	(8,200,000)
6/30/2017 ²		5,800,000	5,800,000
6/30/2018 ³			11,000,000

Total (Gain)/Loss for Redwood City Safety Plan

	134,144,187	134,938,842	149,647,354
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(Gain)/Loss Attributable to Plan Experience on or before 6/30/2013

\$ Amount	104,462,710	106,324,184	107,654,646
% of Total	78%	79%	72%

(Gain)/Loss Attributable to Plan Experience after 6/30/2013

\$ Amount	29,681,477	28,614,658	41,992,708
% of Total	22%	21%	28%

1- Estimate of investment gain during FY 2016-17

2- Estimate of loss due to discount rate change from 7.375% to 7.25%

3- Estimate of loss due to discount rate change from 7.25% to 7.00%

These events do create new unfunded liability for the period after July 1, 2013, but only increase the post-2013 portion of the Plan's total unfunded liability to 28%.

More importantly, CalPERS methodology for paying off new gains and losses currently requires a 5-year "ramp-up" of unfunded liability payments. Therefore any new liability that arises from these events (or any such actuarial events over the next few years) will not be fully incorporated into the unfunded *payments* for an additional 5 years.

In contrast, the unfunded liabilities that predate July 1, 2013 are fully phased in (they are past the "ramp-up period") and the Plan will be making full unfunded liability payments on these items for another 5-10 years.

Pre-2013 Portion of the Plan's Accrued Liability

When CalPERS assesses an unfunded liability payment to Redwood City, the payment is expressed as a percentage of active member payroll, but a portion of that money is used to pay down unfunded liability associated with Redwood City retirees.

As shown in the table below, the retiree portion of the Plan's accrued liability is significant – between 65%-70% of the total. Since the firefighters contracted with the City of San Carlos did not join the Plan until 2013, virtually none of this retiree liability is attributable to them.

The City of San Carlos separately funds the Safety Plan of the Belmont-San Carlos Fire Department (in addition to its payments to the Redwood City Safety Plan). The money paid to the Belmont-San Carlos plan funds the retirement of former San Carlos firefighters. Very little liability – if any – attributable to retired San Carlos firefighters is contained within the Redwood City Safety Plan.

Table 3: EAN Accrued Liability from CalPERS Actuarial Valuations for Redwood City Safety Pan

	6/30/2013	6/30/2014	6/30/2015	6/30/2016
Actives	91,273,634	101,052,918	99,364,750	102,950,965
Transfers	5,705,878	6,423,164	4,956,599	5,066,624
Terminated	1,435,628	1,118,782	1,088,378	473,479
Retirees	184,284,375	201,363,230	222,435,826	241,172,970
Total	282,699,515	309,958,094	327,845,553	349,664,038
Normal Cost	6,809,408	8,349,253	8,339,080	8,942,760
Percent of Total Liability by Member Status				
Retirees	65%	65%	68%	69%
Actives	32%	33%	30%	29%
Others	3%	2%	2%	2%

Similarly, UAL payments are a function of the plan's Accrued Liability. This measurement is based entirely on members' service during prior years. Because the San Carlos firefighters joined in 2013, they each only have 3 years of prior service (as of June 30, 2016) that is being included in the Plan's accrued liability.

Approximating the portion of the Plan's AAL attributable to the prior 3 years can be done by looking at the Normal Cost over this period. Normal Cost is defined as the liability accrued for all active members during a given year. By accumulating the Normal Cost figures in the above table, we have estimated the portion of the Plan's 2016 AAL that is attributable to member service after July 1, 2013 in Table 4.

Table 4: Percent of Total Liability Attributable to Post-2013 Member Service

	6/30/2014	6/30/2015	6/30/2016
Approx Accumulated NC: Post-2013 AAL	7,320,114	16,844,569	27,072,423
Approx % of AAL that is Post-2013	2.36%	5.14%	7.74%

The estimates above show that the portion of accrued liability for the Plan that has arisen after July 1, 2013 is very small.

Conclusion

The portion of the Plan UAL rate that the City of San Carlos pays has increased each year since July 1, 2013. Based on the two issues discussed above, we believe that it would be reasonable to pause this increase and for the City to pay 30% of the Plan UAL rate for the next 4-5 years, after which time another analysis should be done to determine whether it would be appropriate to increase the City's portion.

Data, Assumptions and Methods

For our analysis we used the following CalPERS valuation reports, provided by the City of San Carlos:

- June 30, 2016 actuarial valuation report for the Safety Plan of the City of Redwood City.
- June 30, 2015 actuarial valuation report for the Safety Plan of the City of Redwood City.
- June 30, 2014 actuarial valuation report for the Safety Plan of the City of Redwood City.

Tables 1, 2 and 3 are based on figures provided in the above listed reports. Additional figures in Table 2 were developed by Milliman based on the following:

- Our estimate of the FY 2016-17 asset gain is based on CalPERS' stated investment return of 11.2% during FY 2016-17.
- Our estimates of the FY 2016-17 and FY 2017-18 discount rate change losses are based on discount rate sensitivity results provided in CalPERS' June 30, 2016 actuarial valuation report for the Safety Plan of the City of Redwood City.

Certification

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the City of San Carlos. This information includes but is not limited to employee census data, financial information and plan provisions. While Milliman has not audited the financial and census data, they have been reviewed for reasonableness and are, in our opinion, sufficient and reliable for the purposes of our calculations. If any of this information as summarized in this report is inaccurate or incomplete, the results shown could be materially affected and this report may need to be revised.

All costs, liabilities, rates of interest, and other factors for the Plan have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the Plan and reasonable expectations); and which, in combination, offer our best estimate of anticipated experience affecting the Plan. Further, in our opinion, each actuarial assumption used is reasonably related to the experience of the Plan and to reasonable expectations which, in combination, represent our best estimate of anticipated experience for the Plan. The expected investment return on assets has been selected by CalPERS and should represent a best estimate of anticipated experience under the Plan. We believe this assumption chosen by CalPERS to be reasonable for its intended purpose.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; 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); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements. The City has the final decision regarding the appropriateness of the assumptions and actuarial cost methods.

Milliman's work is prepared solely for the internal business use of the City of San Carlos. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exceptions:

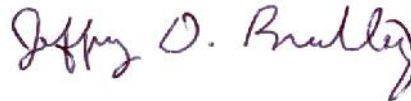
- (a) The City may provide a copy of Milliman's work, in its entirety, to its professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the City.
- (b) The City may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law.

No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel. The signing actuary is independent of the plan sponsor. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, the report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the applicable Actuarial Standards of Practice of the American Academy of Actuaries. The undersigned is a member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Sincerely,



Jeffrey D. Bradley, FSA, MAAA
Principal & Consulting Actuary

Cc: Ms. Carrie Tam