TIBURON FIRE PROTECTION DISTRICT

VALUATION OF RETIREE HEALTH BENEFITS

REPORT OF GASB 45 VALUATION
AS OF JANUARY 1, 2015

Prepared by: North Bay Pensions
November 21, 2015

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Actuarial Certification

This report presents the determination of benefit obligations under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45) as of January 1, 2015 for the retiree health and welfare benefits provided by the Tiburon Fire Protection District. I was retained by the District to perform these calculations.

GASB Statement 45, "Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions", was issued to provide standards for governmental employers to record expense for Other Postemployment Benefits (OPEB). OPEB includes postretirement health and welfare benefits, hence GASB 45 is the appropriate Standard to follow when recording the District's OPEB obligations.

The information contained in this report was based on a participant census as of July 1, 2015 provided to me by the District. I assumed that this was equivalent to a census as of January 1, 2015. The actuarial assumptions and methods used in this valuation were selected by the District after consultation with me. I believe the assumptions and methods are reasonable and appropriate for actuarial computations under GASB 45.

Actuarial computations under GASB 45 are for purposes of fulfilling employer accounting requirements. The calculations reported herein have been made on a basis consistent with my understanding of GASB 45. Determinations for purposes other than meeting employer financial accounting requirements may be significantly different from the results reported herein. Due to the limited scope of my assignment, I did not perform an analysis of the potential range of future measurements.

To the best of my knowledge, this report is complete and accurate. This valuation has been conducted in accordance with generally accepted actuarial principles and practices, including Actuarial Standards of Practice. The undersigned is a Fellow of the Society of Actuaries, a Fellow of the Conference of Consulting Actuaries, and a Member of the American Academy of Actuaries, and meets their continuing education requirements and qualification standards for public statements of actuarial opinion relating to retirement plans. In my opinion, I am qualified to perform this valuation.

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Summary of Results

Background

The District pays monthly medical insurance premiums on behalf of retired former employees. As of January 1, 2015, the District continues to pay current benefits out of operating funds and fund future benefits through the California Employers Retirement Benefit Trust (CERBT) sponsored by CalPERS.

In June 2004, the Governmental Accounting Standards Board (**GASB**) released Statement No. 45, "Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions". This statement, often referred to as **GASB 45**, requires governmental entities to (1) record annual expense for their **OPEB** (Other Post Employment Benefits) and (2) disclose certain information in their year-end financial statements.

The District has requested this actuarial valuation to determine what its OPEB obligations under the program are, and what the fiscal impact of GASB 45 will be for the 2015-2016 and 2016-2017 fiscal years. **The valuation date has been changed from July 1 to January 1 to take advantage of the "community rating" exemption one last time (see below under "Future Changes")**.

Actuarial Present Value of Total Projected Benefits

The Actuarial Present Value of Total Projected Benefits (**APVTPB**) for all current and former employees, as of January 1, 2015, is **$4,486,404**. This is the amount that the District would theoretically need to set aside at this time to fully fund <u>all</u> those future benefits.

The total value of $4,486,404 is the sum of these amounts:

Employees	$ 1,922,571
Retirees	2,563,833
Subtotal	**$ 4,486,404**

The present value of medical insurance premiums that are expected to be paid by the District to retirees in the current and future years is $4,486,404. This figure may be compared to the APVTPB of $4,080,669 which was disclosed in the 2013 valuation report. I would have expected the APVTPB to increase to approximately $4,278,000 as employees continue working and grow closer to retirement age. The difference between the 2013 figure of $4,080,669 and this year's amount of $4,486,404 is due to:

• Expected increase from 2013	$ 197,763
• Change in demographic assumptions (see below)	(28,540)
• Change in discount rate (see below)	197,399
• Miscellaneous experience gains/losses	39,113
Total of all changes	$ 405,735

The assumed probabilities of mortality, turnover, retirement and disablement (demographic assumptions) have been changed. The discount rate has also been changed, from 7.61% to 7.28%. All these changes are explained below, under “Actuarial Assumptions”.

All these figures have been computed by (1) estimating the OPEB benefits that will be paid to each current and former employee and their beneficiaries, upon the employee’s retirement from the District, (2) estimating the likelihood that each payment will be made, taking into consideration the likelihood of remaining employed until retirement age and the likelihood of survival after retirement, and (3) discounting each expected future payment back to the present date at the discount rate of 7.28% per year.

Actuarial Accrued Liability

Under the accounting rules, a portion of each employee’s benefits is attributed to each year of employment. The portion of the APVTPB which is due to past years of employment is called the Actuarial Accrued Liability (**AAL**). The AAL can be thought of as the part of the APVTPB which was “earned” in prior years. The portion of the APVTPB which is being “earned” in the current year is called the **Normal Cost**.

As of January 1, 2015, the Actuarial Accrued Liability is $4,179,211. The Normal Cost is $54,633. One way to think of the APVTPB is like this:

Portion “earned” in prior years (AAL)	$ 4,179,211
Portion being “earned” this year (Normal Cost)	54,633
Portion to be “earned” in future years	252,560
APVTPB	$ 4,486,404

Annual OPEB Cost

The Annual Required Contribution (ARC) is equal to the Normal Cost plus an amortization of the Unfunded Actuarial Accrued Liability (UAAL). In calculating these amounts for the 2015-16 fiscal year, values at January 1, 2015 have been rolled forward to July 1, 2015.

The Annual OPEB Cost, the actual amount to be accrued each year under GASB 45 as an annual operating expense, is calculated as the sum of (1) the ARC, (2) one year’s interest on prior years' ARC's that haven't been funded yet, and (3) an adjustment to prevent double-counting of the amortization of the UAAL.

The Annual OPEB Cost for the 2015-2016 fiscal year is **$265,104**. For the 2016-2017 fiscal year, the Annual OPEB Cost is estimated to be **$265,589**. Detailed derivations of these amounts are shown in Exhibit 2 of this report. Exhibit 3 provides *estimates* of the Annual OPEB Cost for the next three years after that.
At the end of each fiscal year, the District will carry a balance sheet liability or asset, called the "**Net OPEB Obligation/Asset**", which represents the cumulative amount of Annual OPEB Costs for all past years that haven't yet been funded, or which have been overfunded. The District has informed me that the Net OPEB Asset as of June 30, 2015 is $937,758, which means that the District has funded that amount in excess of annual GASB 45 operating expenses over the last six fiscal years. Exhibit 4 shows a derivation of this amount over the last two years.

Actuarial Assumptions

The calculations of the benefit obligations involve various estimates of future events. These estimates are called "actuarial assumptions". The assumptions used are described in detail in Exhibit 6 of this report. The calculated results are highly dependent on the assumptions selected. These assumptions have been changed effective January 1, 2015:

Discount Rate. This is the interest rate used to calculate the discounted present values of benefits. In 2013, we used a discount rate of 7.61%, which was CalPERS' estimated mean long-term rate of return under CERBT Investment Strategy #1, at that time. Since then, CalPERS has revised the estimated rate of return for that Strategy from 7.61% to 7.28%, so we have changed the discount rate accordingly. This change increased the APVTPB by $197,399.

Demographic assumptions. In 2013, to forecast the likelihood that employees and retirees would receive benefits in future years, we used probabilities of retirement, termination, disablement and death from the 2010 CalPERS OPEB Assumptions Model. In 2014, CalPERS released an updated version of that Model, with slightly different tables of probabilities, based on more recent data. We have switched to the new tables, in the expectation that these would provide a more up-to-date forecast of future experience.

Future Changes

GASB has issued a new standard to replace GASB 45: GASB 75. It appears that the level of annual accruals under GASB 75 will be approximately the same as under GASB 45. The one big change is that the District will need to show a liability on its balance sheet equal to the unfunded Actuarial Accrued Liability, instead of the Net OPEB Asset. If these rules were effective on June 30, 2015, the District would need to show a liability of $2,182,181, instead of an asset of $937,758 – a difference of $3,119,939.

The other big change coming is the inclusion of the value of subsidized premiums. This requires a lengthier explanation.

The Actuarial Standards Board promulgates professional standards for actuaries, called "Actuarial Standards of Practice". One such standard, Actuarial Standard of Practice No. 6 (or ASOP 6), was recently modified. It requires that actuarial valuations dated after March 2015 must incorporate age-specific claims costs, which recognize that the true cost of health care coverage increases with age. This is a significant change from prior practice, in which we only valued health care premiums.

The theory behind the change is the well-known fact that the actual cost of health care increases as people get older. Insurance companies know this, of course. When an insurance company (like Kaiser) calculates a single monthly premium which applies to all employees, that single amount is a blended figure which combines the lower cost of health care for younger workers and the higher cost of health care for older workers. In a certain sense, younger employees are **subsidizing** the cost of health care for older ones.

GASB 45 requires us to use these age-specific rates when we evaluate the cost of an employer's post-retirement health care plan. However, there is an exemption from this rule in the case of a health plan where the premium amounts are determined based on the pooled experience of a large group of persons, and the actual demographics of a specific employer have little or no effect on the actual premium amount. In that type of plan, called a "community rated plan", GASB 45 allows us to use only the forecasted premium amounts. This usually results in lower annual operating expense. In the past, we made use of this exemption for the District, because the CalPERS medical plans meet the "community rated" definition.

The change to ASOP 6 effectively eliminates the exemption described above, starting in April 2015. This is why we have changed the valuation date from July 1 to January 1, for this year only, to take advantage of the community rating exemption one last time. Starting with the 2017 valuation, we will need to calculate the liabilities of your post-retirement benefit plan using age-specific claims costs. Another way of saying the same thing is that we will need to include the value of "subsidized premiums" in our GASB 45 computations. **I estimate that this will increase your annual accruals by roughly 20%, starting in the 2017-18 fiscal year**.

Exhibit 1 - Actuarial Values as of January 1, 2015

The actuarial present value as of January 1, 2015 of all future benefits from the program, also known as the **Actuarial Present Value of Total Projected Benefits** (**APVTPB**), for all current and former employees, is as follows:

Current employees	$ 1,922,571
Retirees	2,563,833
Total (APVTPB)	**$ 4,486,404**

The portion of the APVTPB which is attributed to past years of employment is called the **Actuarial Accrued Liability** (**AAL**).

The **Actuarial Value of Assets** (**AVA**) is the total amount of assets that have been segregated for purposes of paying these benefits, and which cannot be used by the District for any other purpose. For accounting purposes, this segregation is accomplished by setting assets in an irrevocable trust, rather than merely allocating funds to an account of the District's balance sheet. As of January 1, 2015, the District has assets of $2,073,417 in the CERBT (the California Employers Retirement Benefit Trust sponsored by CalPERS).

The **Unfunded Actuarial Accrued Liability** (**UAAL**) is the excess, if any, of the AAL over the AVA.

As of July 1, 2015, these amounts are:

Current employees	$ 1,700,461
Retirees	2,555,137
Total (AAL)	**$ 4,255,598**
Actuarial Value of Assets (AVA)	**$ 2,073,417**
Unfunded Actuarial Accrued Liability (UAAL)	**$ 2,182,181**

Number of Employees Covered

Current employees	22
Average Age	43.4
Average Service	13.0
Retired Employees	19
Average Age	65.7

Exhibit 2 - Annual OPEB Cost

The **Annual Required Contribution** (**ARC**) is the sum of the Normal Cost and the amortization of the Unfunded Actuarial Accrued Liability (UAAL). For the 2016 and 2017 fiscal years, the ARC is computed like this:

Fiscal Year Ending	June 30, 2016	June 30, 2017
Actuarial Accrued Liability	$ 4,255,598	$ 4,415,720
Actuarial Value of Assets	2,073,417	2,276,690
Unfunded Actuarial Accrued Liability (UAAL)	2,182,181	2,139,030
Years Remaining in Amortization Period	24	23
Amortization of UAAL	$ 194,959	$ 194,316
Normal Cost	54,633	54,633
Annual Required Contribution (ARC)	$ 249,592	$ 248,949

Annual OPEB Cost, which is the actual amount to be accrued each year under GASB 45 as an annual operating expense, is equal to the sum of (1) the ARC, plus (2) adjustments to reflect ARC's from prior years that have not yet been funded. For the 2016 and 2017 fiscal years, these amounts are:

Fiscal Year Ending	June 30, 2016	June 30, 2017
ARC	$ 249,592	$ 248,949
Interest adjustment	(68,269)	(67,140)
Amortization adjustment	83,781	83,780
Annual OPEB Cost	**$ 265,104**	**$ 265,589**

Exhibit 3 - Five-Year Projection of Costs

Shown below is an estimate of the way in which the Annual OPEB Cost might be expected to increase over the next five years. In this illustration, it is assumed that the District will fund each year an amount equal to the ARC, with the amount in excess of total payments to retirees being paid monthly into the CERBT. It is also assumed that the Normal Cost will remain unchanged and that all actuarial assumptions will remain unchanged. Note: GASB 75 and ASOP 6 have not been reflected in these estimates.

Fiscal Year:	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**
Actuarial Accd. Liab.	$ 4,255,598	$ 4,415,720	$ 4,573,726	$ 4,735,240	$ 4,898,295
Value of Assets	2,073,417	2,276,690	2,480,820	2,691,403	2,906,713
Unfunded Actuarial Accrued Liability	2,182,181	2,139,030	2,092,906	2,043,837	1,991,582
Years of Amortization Remaining	24	23	22	21	20
ARC					
Normal cost	$ 54,633	$ 54,633	$ 54,633	$ 54,633	$ 54,633
Amortization	194,959	194,316	193,626	192,888	192,108
Total ARC	249,592	248,949	248,259	247,521	246,741
Plus interest	(68,269)	(67,140)	(65,928)	(64,628)	(63,234)
Less ARC adjustment	83,781	83,780	83,783	83,782	83,785
Annual OPEB Cost	**$ 265,104**	**$ 265,589**	**$ 266,114**	**$ 266,675**	**$ 267,292**
Funding by the District					
Pay-as-you-go amount	197,264	210,562	218,280	228,145	238,871
Additional funding	52,328	38,387	29,979	19,376	7,870
Total paid each year	**$ 249,592**	**$ 248,949**	**$ 248,259**	**$ 247,521**	**$ 246,741**
Increase in net OPEB Obligation	15,512	16,640	17,855	19,154	20,551
Net OPEB (Asset) at beginning of year	$ (937,758)	$ (922,246)	$ (905,606)	$ (887,751)	$ (868,597)
Net OPEB (Asset) at end of year	**$ (922,246)**	**$ (905,606)**	**$ (887,751)**	**$ (868,597)**	**$ (848,046)**

Exhibit 4 - Net OPEB Asset

GASB 45 defines the "**Net OPEB Asset**" as the cumulative difference between (a) amounts accrued as Annual OPEB Cost and (b) amounts actually contributed by the Library. The Net OPEB Obligation (or Asset) is the unpaid liability (or prepaid asset) shown on the Library's balance sheet at the end of each fiscal year.

The Net OPEB Asset as of June 30, 2015 is developed in this way:

1.	Net OPEB Obligation/(Asset) as of July 1, 2013	$ (715,353)
2.	Annual OPEB Cost for the 2013-14 year	272,228
3.	Benefits paid to retirees during the 2013-14 year	171,029
4.	Funding to the CERBT during 2013-14	210,000
5.	Net OPEB Obligation at June 30, 2014: 1. plus 2. minus 3. minus 4.	$ (824,154)
6.	Annual OPEB Cost for the 2014-15 year	273,794
7.	Benefits paid to retirees during the 2014-15 year	182,138
8.	Funding to the CERBT during 2014-15	205,260
9.	Net OPEB Obligation at June 30, 2014: 5. plus 6. minus 7. minus 8.	$ (937,758)

Exhibit 5 - Summary of Benefit Provisions

The District contributes toward post-retirement benefits for employees who retire after age 50 or who become disabled. The District will pay the full monthly premiums for medical coverage for the retired employee and eligible dependents (spouses and dependent children), but no more than the "cap" amounts which have been agreed upon. Medical coverage is provided under plans sponsored by CalPERS.

For an employee hired after March 1, 2005, the cap amounts are pro-rated if the employee has less than 20 years of service at retirement (unless the employee has retired due to disability), as follows:

Years of Service at Retirement	Percentage of Cap Payable
Less than 10 Years	0 %
10 Years	50 %
11 Years	55 %
12 Years	60 %
13 Years	65 %
14 Years	70 %
15 Years	75 %
16 Years	80 %
17 Years	85 %
18 Years	90 %
19 Years	95 %
20 or More Years	100 %

Effective in July 2015, the monthly caps in effect are $615 for single party coverage, $1,231 for two-party and $1,601 for family coverage.

Exhibit 6 - Summary of Actuarial Assumptions

Actuarial Assumptions: The following assumptions as of January 1, 2015 were selected by the District in accordance with the requirements of GASB 45. In my opinion, these assumptions are reasonable and appropriate for purposes of determining OPEB costs under GASB 45.

The assumed turnover, mortality, retirement and disablement rates are taken from the 2014 CalPERS OPEB Assumptions Model. In the 2013 valuation, analogous rates were taken from the 2010 CalPERS OPEB Assumptions Model.

Discount rate: 7.28% per year, consistent with expected mean long-term returns under CERBT Investment Strategy #1. In the 2013 valuation, the discount rate was 7.61% per year.

Funding Method: The Entry Age Normal funding method, with the Normal Cost computed as a level dollar amount. The Unfunded Actuarial Accrued Liability is amortized as a level dollar amount over the closed 30-year period beginning July 1, 2009.

Turnover (withdrawal): Likelihood of termination within the next year is taken from the 2014 CalPERS OPEB Assumptions Model, rates for fire safety employees. Sample rates are:

	5 Years Service	10 Years Service	15 Years Service
Age 20	1.91 %		
Age 30	1.91 %	0.70 %	0.64 %
Age 40	1.91 %	0.70 %	0.64 %
Age 50	0.29 %	0.09 %	0.06 %

Mortality: Mortality rates are taken from the 2014 CalPERS OPEB Assumptions Model. No projection to future years is needed, since the CalPERS table already includes a projection to future years.

Coverage Elections: 100% of future eligible retired employees are assumed to participate in this program. Employees are assumed to keep the same medical plan after retirement that they have while employed. Employees without current coverage are assumed to elect Blue Shield coverage. All participants are expected to qualify for Social Security Medicare. All employees are assumed to have the same family status (married, single) after retirement that they have now.

<u>Baseline Medical Costs:</u> CalPERS medical plans are considered to be "community rated" under GASB 45, so there is no inherent subsidy to be valued. **Beginning with the 2017 valuation, the value of subsidized premiums will need to be included in the District's annual cost. I roughly estimate that this might increase the District's annual operating expense by 20%.**

<u>Retirement:</u> Rates are taken from the 2014 CalPERS OPEB Assumptions Model for firefighters with a 3% at age 55 retirement formula. Sample rates are:

	10 Years Service	20 Years Service	30 Years Service
Age 55	7.3 %	10.9 %	25.9 %
Age 58	6.5 %	9.9 %	24.1 %
Age 61	11.8 %	17.5 %	38.0 %
Age 64	6.7 %	10.0 %	24.3 %

<u>Medical Cost Increases (Trend)</u>: CalPERS medical premiums are assumed to increase as follows:

2016	6.4 %
2017	6.1 %
2018	5.8 %
2019 and later	5.5 %

The caps on medical premiums are assumed to increase 3% per year for the years 2016 through 2018, then 4% every third year thereafter.

<u>Assets:</u> The actuarial value of assets is the fair market value of assets.

<u>Disablement</u>: Likelihood of retiring because of disability within the next year is taken from the 2014 CalPERS valuations for fire safety employees. Sample rates are:

Age 25	0.035 %
Age 30	0.084 %
Age 35	0.168 %
Age 40	0.310 %
Age 45	0.550 %
Age 50	2.822 %