




Bickmore — Actuarial

Actuarial Review of the Self-Insured Workers' Compensation Program

Outstanding Liabilities as of June 30, 2020

Presented to
Novato Fire Protection District

July 21, 2020





Tuesday, July 21, 2020

Joe Valenti
Finance Director
Novato Fire Protection District
95 Rowland Way
Novato, California 94945

Re: Actuarial Review of the Self-Insured Workers' Compensation Program

Dear Mr. Valenti:

As you requested, we have completed our review of Novato Fire Protection District's self-insured workers' compensation program. It is our understanding that, effective July 1, 2014, Novato Fire Protection District joined the Fire Agencies Self Insurance System. The report that follows is an estimate of the program's liability for outstanding claims with dates of loss prior to July 1, 2014. We estimate the program's liability for outstanding claims as of June 30, 2020 to be \$1,077,000, which includes allocated loss adjustment expenses (ALAE), unallocated loss adjustment expenses (ULAE) and a discount for anticipated investment income. ALAE is the direct cost associated with the defense of individual claims (e.g. legal fees, investigation fees, court charges). ULAE is the cost to administer all claims to final settlement, which may be years into the future (e.g. claims adjusters' salaries, taxes). The discount for investment income is calculated based on the likely payout pattern of the District's claims, assuming a 2.5% return on investments per year

The \$1,077,000 estimate is the minimum liability to be booked by the District at June 30, 2020 for its workers' compensation program, in accordance with Governmental Accounting Standards Board (GASB) Statement #10. GASB #10 requires the District to accrue a liability on its financial statements for the ultimate cost of claims and expenses associated with all reported and unreported claims, including ALAE and ULAE. GASB #10 does not prohibit the discounting of losses to recognize investment income.

Our conclusions regarding the District's liability for unpaid loss and loss adjustment expenses (LAE) at June 30, 2020 are summarized in the table below.

Novato Fire Protection District
 Self-Insured Workers' Compensation Program
 Estimated Liability for Unpaid Loss and LAE
 at June 30, 2020
 Claims with Dates of Loss Prior to July 1, 2014

| | Expected | Marginally Acceptable 70% CL | Recommended Range | | | Conservative 90% CL |
|-----------------------------|-------------|------------------------------------|-------------------|------------------|----------------|------------------------|
| | | | Low 75% CL | Target 80% CL | High 85% CL | |
| Loss and ALAE | \$1,159,000 | | | | | |
| ULAE | 90,000 | | | | | |
| Investment Income Offset | (172,000) | | | | | |
| Discounted Loss and LAE | \$1,077,000 | \$1,249,000 | \$1,330,000 | \$1,426,000 | \$1,545,000 | \$1,706,000 |

GASB #10 does not address an actual asset requirement for the program, but only speaks to the liability to be recorded on the District's financial statements.

Because actuarial estimates of claims costs are subject to some uncertainty, we recommend that an amount in addition to the discounted expected loss costs be set aside as a risk margin for contingencies. Generally, the amount should be sufficient to fund assets to the 75% to 85% confidence level for primary programs. We consider funding assets to the 70% confidence level to be marginally acceptable and funding assets to the 90% confidence level to be conservative.

The loss projections in this report reflect the estimated impact of benefit legislation contained in AB749, AB227, SB228, SB899, SB863, and recent WCAB court decisions based upon information provided by the WCIRB.

The ultimate impact on loss costs of legislated benefit adjustments are generally difficult to forecast in advance because the changes typically take place over a period of several years following enactment. Furthermore, actuarially derived benefit level evaluations often underestimate actual future cost levels. The shortfalls result from a variety of circumstances, including: increases in utilization levels, unanticipated changes in administrative procedures, and cost shifting among benefit categories. Thus, actual cost increases could differ, perhaps substantially, from the WCIRB's estimates.

The report that follows outlines the scope of our study, its background, and our conclusions, recommendations, and assumptions. Judgments regarding the appropriateness of our conclusions and recommendations should be made only after studying the report in its entirety, including the graphs, attachments, exhibits and appendices. Our report has been developed for the District's internal use. It is not intended for general circulation.

We appreciate the opportunity to be of service to Novato Fire Protection District in preparing this report. Please feel free to call Becky Richard at (916) 244-1183 or Derek Burkhalter at (916) 244-1167 with any questions you may have concerning this report.

Sincerely,

Bickmore Actuarial



Becky Richard, ACAS, MAAA
Senior Actuarial Manager, Bickmore Actuarial
Associate, Casualty Actuarial Society
Member, American Academy of Actuaries



Derek Burkhalter, ACAS, MAAA
Senior Actuarial Manager, Bickmore Actuarial
Associate, Casualty Actuarial Society
Member, American Academy of Actuaries

TABLE OF CONTENTS

| | |
|--|----|
| I. BACKGROUND | 5 |
| II. CONCLUSIONS AND RECOMMENDATIONS | 6 |
| A. LIABILITY FOR OUTSTANDING CLAIMS | 6 |
| B. PROGRAM FUNDING: GOALS AND OBJECTIVES | 9 |
| C. COMPARISON WITH PREVIOUS RESULTS | 11 |
| D. DATA PROVIDED FOR THE ANALYSIS | 15 |
| III. ASSUMPTIONS AND LIMITATIONS | 16 |
| IV. GLOSSARY OF ACTUARIAL TERMS | 18 |
| V. EXHIBITS | 20 |
| VI. APPENDICES | 24 |

I. BACKGROUND

Novato Fire Protection District began its self-insured workers' compensation program on July 1, 1987. It is our understanding that, effective July 1, 2014, the District joined the Fire Agencies Self Insurance System and the self-insured workers' compensation program is now in run-off. Claims administration services are provided by Athens. Additional background on the program is given in Appendix K.

The purpose of this review is to provide a guide to the District to determine reasonable funding levels for its self-insurance program according to the funding policy the District has adopted and to comply with Governmental Accounting Standards Board Statements #10 and #30. The specific objectives of the study are to estimate the District's liability for outstanding claims as of June 30, 2020.

II. CONCLUSIONS AND RECOMMENDATIONS

A. LIABILITY FOR OUTSTANDING CLAIMS

Graph 1 on the following page summarizes our assessment of the District's funding position as of June 30, 2020. The dark-colored bars indicate our estimates of the program's liability for outstanding claims before recognition of the investment income that can be earned on the assets held before the claim payments come due.

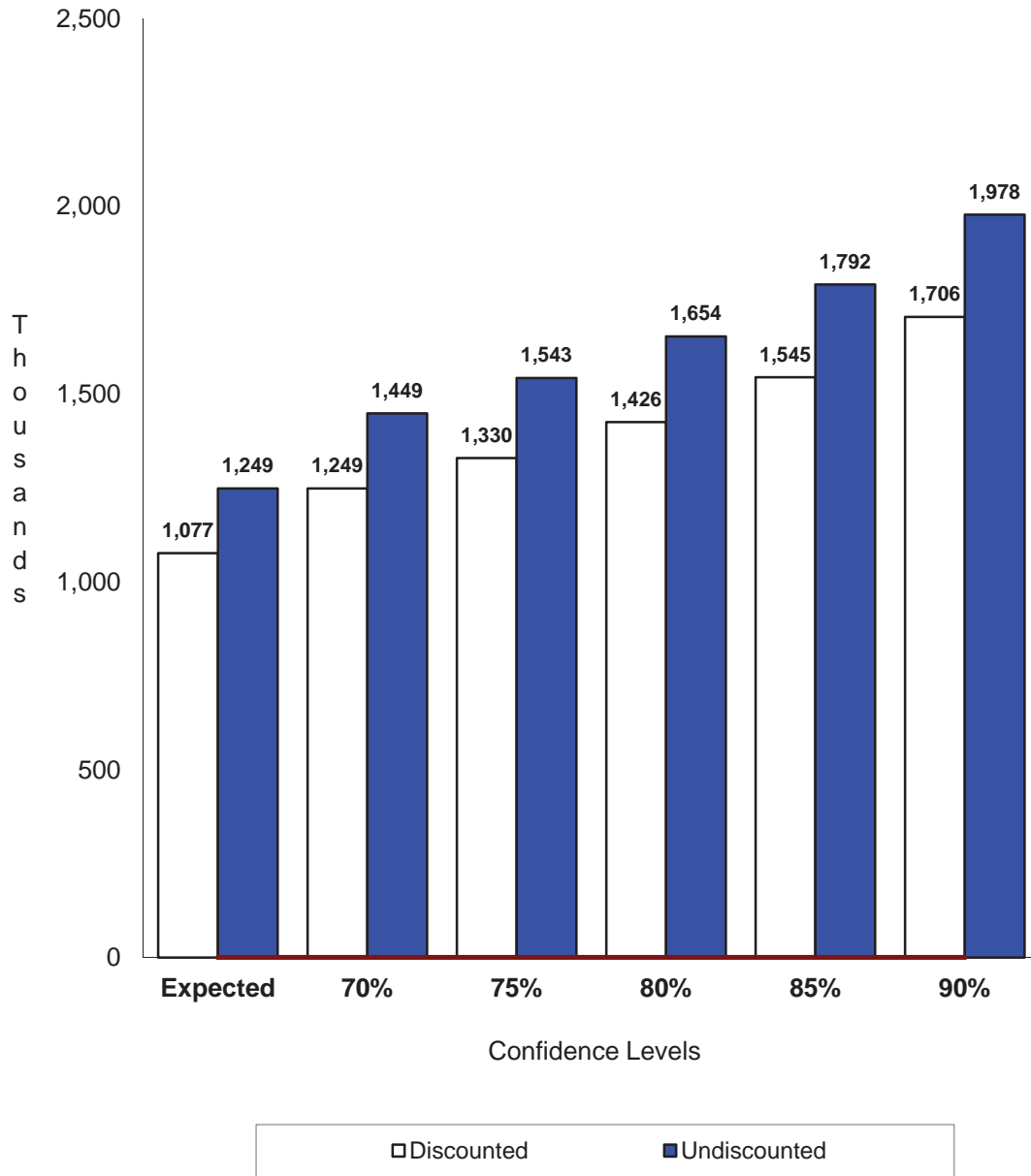
Our best estimate of the full value of the District's liability for outstanding claims within its self-insured retention (SIR) for the losses with the occurrence date prior to July 1, 2014 is \$1,249,000 as of June 30, 2020. This amount includes losses, allocated loss adjustment expenses (ALAE), and unallocated loss adjustment expenses (ULAE). ALAE is the direct cost associated with the defense of individual claims (e.g. legal fees, investigation fees, court charges). ULAE is the cost to administer claims to final settlement, which may be years in the future (e.g. claims adjusters' salaries, taxes).

There is some measure of uncertainty associated with our best estimate because of the random nature of much of the process that determines ultimate claims costs. For this reason, we generally recommend that a program such as this include some funding margin for the possibility that actual loss costs will be greater than the best estimate. We generally measure the amount of this margin by thinking in terms of the probability distribution of actual possible results around our best estimate. As the margin grows, the probability that the corresponding funding amount will be sufficient to meet actual claim liabilities increases. We typically refer to this probability as the "confidence level" of funding. Graph 1 shows the liabilities for outstanding claims at several confidence levels that are typically of interest to risk managers in formulating funding policies for self-insurance programs.

The District can earn investment income on the assets it holds until claims payments come due. Assuming a long-term average annual return on investments of 2.5%, we estimate the impact of investment income earnings to be about 14% if the program is funded within the range indicated in the graphs, resulting in a discounted liability for outstanding claims of \$1,077,000 as of June 30, 2020.

Investment income earnings will be less than this when the program does not maintain sufficient funding, and more when there is excess funding. Thus, thinking in terms of liabilities discounted for investment income can actually mask funding deficiencies and redundancies that might otherwise be obvious. However, the discounted liabilities do represent legitimate funding targets. The light-colored bars on Graph 1 shows our estimates of the District's discounted liability for outstanding claims.

Novato Fire Protection District -
Workers' Compensation
Outstanding Liability (\$000's)
at June 30, 2020



The table below displays a breakdown of the program's outstanding loss and LAE liabilities into case reserves and incurred but not reported (IBNR) reserves at June 30, 2020, before recognition of investment income.

Novato Fire Protection District
Self-Insured Workers' Compensation Program
Estimated Liability for Unpaid Loss and LAE at June 30, 2020

| Year | Case Reserves | IBNR Reserves | Total Outstanding |
|---------------|---------------|---------------|-------------------|
| Prior | \$70,784 | \$65,926 | \$136,710 |
| 2000-01 | 26,581 | 3,757 | 30,338 |
| 2001-02 | 17,496 | 2,787 | 20,283 |
| 2002-03 | 14,600 | 2,909 | 17,509 |
| 2003-04 | 0 | 0 | 0 |
| 2004-05 | 39,620 | 12,068 | 51,688 |
| 2005-06 | 8,143 | 3,467 | 11,610 |
| 2006-07 | 0 | 0 | 0 |
| 2007-08 | 0 | 0 | 0 |
| 2008-09 | 131,347 | 55,917 | 187,264 |
| 2009-10 | 33,601 | 72,324 | 105,925 |
| 2010-11 | 69,088 | 78,902 | 147,990 |
| 2011-12 | 53,244 | 102,954 | 156,198 |
| 2012-13 | 42,103 | 73,083 | 115,186 |
| 2013-14 | 0 | 178,433 | 178,433 |
| Loss and ALAE | \$506,607 | \$652,527 | \$1,159,134 |
| ULAE | | 90,394 | 90,394 |
| Total | \$506,607 | \$742,921 | \$1,249,528 |

B. PROGRAM FUNDING: GOALS AND OBJECTIVES

As self-insurance programs have proliferated among public entities, it has become apparent that there is a large measure of inconsistency in the way in which these programs recognize and account for their claims costs. This is the result of the fact that there have been several different sources of guidance available, none of which has been completely relevant to public entity self-insurance programs.

According to the Governmental Accounting Standards Board (GASB), the most relevant source of guidance on the subject is Financial Accounting Standards Board Statement #60. A liability for unpaid claim costs, including all loss adjustment expenses, should be accrued at the time the self-insured events occur. This liability should include an allowance for incurred but not reported claims. It may be discounted for investment income at an appropriate rate of return, provided the discounting is disclosed. The regulations detailing the way in which this must be done are outlined in GASB's statements #10 and #30. These regulations are required to be applied by the District.

GASB #10 and #30 do not address asset requirements. They do, however, allow a range of amounts to be recognized for accounting purposes; specifically, GASB #10 and #30 allow recognition of a risk margin for unexpectedly adverse loss experience. Thus, for accounting purposes, it is possible to formulate a funding policy from a range of alternatives. The uncertainty in any estimate of the program's liability for outstanding claims should be taken into consideration in determining funding policy, but it may be offset by recognizing anticipated investment income earnings. This usually means developing a funding program based on discounted claims costs with some risk margin for unexpected adverse loss experience.

The amount of the risk margin should be a question of long-term funding policy. We recommend that the risk margin be determined by thinking in terms of the probability that a given level of assets will prove to be adequate. For example, a reasonable goal might be to maintain assets at the 85% confidence level.

A key factor to consider in determining funding policy is the degree to which stability is required in the level of contributions to the program from year to year. If you elect to maintain assets at a low confidence level, the chances are much greater that future events will prove that additional contributions should have been made for old claims. The additional contributions for old claims may be required at the same time that costs are increasing dramatically on new claims. The burden of funding for increases on past years as well as on current years, may well be prohibitive.

We generally recommend maintaining program assets at the 80% confidence level, after recognition of investment income, with a recommended range of the 75% to 85% confidence levels. We tend to think of the 70% confidence level as marginally acceptable and of the 90% confidence level as conservative. We recommend the 75% to 85% confidence level range because the probabilities are reasonably high that resulting assets will be sufficient to meet claim liabilities, yet the required risk margins are not so large that they will cause most self-insured entities to experience undue financial hardship. In addition, within this range, anticipated investment income generally offsets the required risk margin for the most part, which means that assets are likely sufficient on an undiscounted basis.

We also strongly believe, however, that the confidence level to which any future year is funded should be evaluated in light of the relative certainty of the assumptions underlying the actuarial analysis, the District's other budgetary constraints, and the relative level of risk it is believed appropriate to assume. This means formulating both short and long-term funding goals, which may be the same in some years, but different in others.

In general, we recommend that you fund each year's claims costs in that year. When surpluses or deficits have developed on outstanding liabilities and funding adjustments are necessary, they should be clearly identified as such so that the habit of funding each year's claims costs that year is maintained. We also recommend that you reduce a surplus more slowly than you would accumulate funding to reduce a deficit.

C. COMPARISON WITH PREVIOUS RESULTS

The prior report for Novato Fire Protection District was dated July 10, 2019. In the table below we display actual versus expected development of incurred losses and ALAE by accident year between the 6/30/19 evaluation date of the prior report and the 6/30/20 evaluation date of the current report.

Actual Versus Expected Incurred Loss and ALAE Development

| Accident Year | Expected Incurred Development | Actual Incurred Development | Actual Minus Expected |
|---------------|-------------------------------|-----------------------------|-----------------------|
| Prior | \$2,000 | (\$14,000) | (\$16,000) |
| 2000-01 | 0 | 20,000 | 20,000 |
| 2001-02 | 0 | 14,000 | 14,000 |
| 2002-03 | 1,000 | 0 | (1,000) |
| 2003-04 | 0 | 0 | 0 |
| 2004-05 | 4,000 | 0 | (4,000) |
| 2005-06 | 1,000 | 0 | (1,000) |
| 2006-07 | 0 | 0 | 0 |
| 2007-08 | 0 | 0 | 0 |
| 2008-09 | 11,000 | 0 | (11,000) |
| 2009-10 | 14,000 | 3,000 | (11,000) |
| 2010-11 | 14,000 | 13,000 | (1,000) |
| 2011-12 | 22,000 | 27,000 | 5,000 |
| 2012-13 | 14,000 | (39,000) | (53,000) |
| 2013-14 | 38,000 | (20,000) | (58,000) |
| Total | \$121,000 | \$4,000 | (\$117,000) |

As shown, actual incurred development was less than anticipated since the prior report. Based on the assumptions from the prior report, it was expected that incurred losses would increase by \$121,000 between the two evaluation dates. However, actual development was approximately \$4,000; or about \$117,000 less than expected. All years except the 2000-01, 2001-02, and 2011-12 years developed less than expected.

In the table below we display actual versus expected development of paid losses and ALAE by accident year between the 6/30/19 evaluation date of the prior report and the 6/30/20 evaluation date of the current report.

Actual Versus Expected Paid Loss and ALAE Development

| Accident Year | Expected Paid Development | Actual Paid Development | Actual Minus Expected |
|---------------|---------------------------|-------------------------|-----------------------|
| Prior | \$17,000 | \$10,000 | (\$7,000) |
| 2000-01 | 1,000 | 1,000 | 0 |
| 2001-02 | 1,000 | 3,000 | 2,000 |
| 2002-03 | 6,000 | 0 | (6,000) |
| 2003-04 | 0 | 0 | 0 |
| 2004-05 | 6,000 | 3,000 | (3,000) |
| 2005-06 | 1,000 | 2,000 | 1,000 |
| 2006-07 | 0 | 0 | 0 |
| 2007-08 | 0 | 0 | 0 |
| 2008-09 | 20,000 | 2,000 | (18,000) |
| 2009-10 | 12,000 | 4,000 | (8,000) |
| 2010-11 | 15,000 | 6,000 | (9,000) |
| 2011-12 | 24,000 | 17,000 | (7,000) |
| 2012-13 | 27,000 | 2,000 | (25,000) |
| 2013-14 | 37,000 | 5,000 | (32,000) |
| Total | \$167,000 | \$55,000 | (\$112,000) |

As shown, actual paid development was less than anticipated since the prior report. Based on the assumptions from the prior report, it was expected that paid losses would increase by \$167,000 between the two evaluation dates. However, actual development was approximately \$55,000; or about \$112,000 less than expected.

In the table below we display the change in our estimates of the program's ultimate losses and ALAE by accident year since our prior report.

Change in Ultimate Loss and ALAE

| Accident Year | Prior Report | Current Report | Change In Ultimate |
|---------------|--------------|----------------|--------------------|
| Prior | \$4,762,000 | \$4,801,000 | \$39,000 |
| 2000-01 | 562,000 | 584,000 | 22,000 |
| 2001-02 | 1,064,000 | 1,080,000 | 16,000 |
| 2002-03 | 181,000 | 180,000 | (1,000) |
| 2003-04 | 2,004,000 | 2,004,000 | 0 |
| 2004-05 | 217,000 | 211,000 | (6,000) |
| 2005-06 | 263,000 | 261,000 | (2,000) |
| 2006-07 | 493,000 | 493,000 | 0 |
| 2007-08 | 92,000 | 92,000 | 0 |
| 2008-09 | 668,000 | 656,000 | (12,000) |
| 2009-10 | 710,000 | 698,000 | (12,000) |
| 2010-11 | 632,000 | 632,000 | 0 |
| 2011-12 | 712,000 | 700,000 | (12,000) |
| 2012-13 | 376,000 | 324,000 | (52,000) |
| 2013-14 | 662,000 | 594,000 | (68,000) |
| Total | \$13,398,000 | \$13,310,000 | (\$88,000) |

As shown, overall we have decreased our estimated ultimates by \$88,000 since our prior report. These changes track well with the changes in the tables above.

At the time of the prior report, we estimated the liability for outstanding claims as of June 30, 2019 to be \$1,193,000 at the discounted, expected level. Our current estimate as of June 30, 2020, is \$1,077,000, a decrease in our assessment of the District's outstanding liabilities, as shown below:

Outstanding Claim Liabilities for Loss and LAE

| | Prior Report at June 30, 2019 | Current Report at June 30, 2020 | Change |
|--|-------------------------------------|---------------------------------------|-------------|
| (A) Case Reserves: | \$557,000 | \$506,000 | (\$51,000) |
| (B) IBNR Reserves: | 745,000 | 653,000 | (92,000) |
| (C) Claims Administration Reserves: | 102,000 | 90,000 | (12,000) |
| (D) Total Reserves: | \$1,404,000 | \$1,249,000 | (\$155,000) |
| (E) Offset for Investment Income: | (211,000) | (172,000) | 39,000 |
| (F) Total Outstanding Claim Liabilities: | \$1,193,000 | \$1,077,000 | (\$116,000) |

As shown, our estimate of outstanding claims liabilities at the discounted, expected level has decreased between June 30, 2019 and June 30, 2020 as reflected in our prior and current reports respectively.

The decrease in claim reserves (case and IBNR) is driven primarily by the paying down of claims that are in runoff. Reserves for future claims administration expenses have decreased, resulting in a \$155,000 decrease in total claim reserves. This decrease in reserves leads to a smaller offset for investment income. The net change due to the above factors is an overall decrease of \$116,000 in our estimate of outstanding claim liabilities for loss and LAE.

D. DATA PROVIDED FOR THE ANALYSIS

Overall, the data utilized in preparing this report appears to be accurate.

Comments and issues regarding the data are as follows:

- We estimated ULAE at 7.5% of outstanding loss as of June 30, 2020.
- We received loss data evaluated as of 6/30/20 (See Appendix L). We also utilized the data from the District's most recent actuarial study for our assessment of loss development.

The data provided for the analysis appears to be reasonable for use in this actuarial valuation of liabilities and projection of loss costs.

III. ASSUMPTIONS AND LIMITATIONS

Any quantitative analysis is developed within a very specific framework of assumptions about conditions in the outside world, and actuarial analysis is no exception. We believe that it is important to review the assumptions we have made in developing the estimates presented in this report. By doing so, we hope you will gain additional perspective on the nature of the uncertainties involved in maintaining a self-insurance program. Our assumptions, and some observations about them, are as follows:

- Our analysis is based on loss experience, exposure data, and other general and specific information provided to us by the District. We have accepted all of this information without audit.
- We have also made use of loss statistics that have been developed from the information gathered and compiled from other public entities workers' compensation program.
- We have assumed that the future development of incurred and paid losses can be reasonably predicted on the basis of development of such losses in the recent past. We have also assumed that the historical development patterns for other California public entities workers' compensation program in the aggregate form a reasonable basis of comparison to the patterns from Novato Fire Protection District's data.
- We have made use of cost relationships for claims of various sizes derived from the most recent actuarial review of other California public entities workers' compensation program.
- We have assumed that there is a continuing relationship between past and future loss costs.
- It is not possible to predict future claim costs precisely. Most of the costs of workers' compensation claims arise from a small number of incidents involving serious injury. A relatively small number of such claims could generate enough loss dollars to significantly reduce, or even deplete, the self-insurance fund.
- We cannot predict and have not attempted to predict the impact of future law changes and court rulings on claims costs. This is one major reason why we believe our funding recommendations are reasonable now, but should not be extrapolated into the future.
- The changes in cost levels associated with benefit increases and administrative changes typically take place over a period of several years following their enactment, and these changes are very difficult to forecast in advance. We have based our benefit level factors on those produced by the Workers' Compensation Insurance Rating Bureau of California (WCIRB). See Appendix E for a display of the benefit level cost indices by fiscal year.

- We have assumed that the loss rate trend associated with claim costs increases at 4.6% per year. We have assumed that claim severity increases at 2.5% per year, and that claim frequency increases at 2.0% per year.
- We have assumed that payroll and other inflation-sensitive exposure measures increase 2.5% annually due to inflation.
- We have assumed that assets held for investment will generate an average annual return of 2.5% over the duration of payment of the loss liabilities. It should be noted that actual future investment returns may vary significantly from this assumption, depending upon the prevailing investment market conditions.
- The claims costs we have estimated include indemnity and medical payments, and all loss adjustment expenses. We have not included estimates for excess insurance contributions and other expenses associated with the program based upon information provided by the District.
- Our funding recommendations do not include provisions for catastrophic events not in the District's history, such as earthquakes, flooding, mass civil disorder, or mass occupational disease.
- Our estimates assume that all excess insurance is valid and collectible. Further, our funding recommendations do not include a provision for losses greater than the District's excess coverage.

IV. GLOSSARY OF ACTUARIAL TERMS

Accident Year - Year during which the accidents that generate a group of claims occurs, regardless of when the claims are reported, payments are made, or reserves are established.

Allocated Loss Adjustment Expenses (ALAE) - Expense incurred in settling claims that can be directly attributed to specific individual claims (e.g., legal fees, investigative fees, court charges, etc.)

Benefit Level Factor - Factor used to adjust historical losses to the current level of workers' compensation benefits.

Case Reserve - The amount left to be paid on a claim, as estimated by the claims administrator.

Claim Count Development Factor - A factor that is applied to the number of claims reported in a particular accident period in order to estimate the number of claims that will ultimately be reported.

Claim Frequency - Number of claims per \$1 million of payroll.

Confidence Level - An estimated probability that a given level of funding will be adequate to pay actual claims costs. For example, the 85% confidence level refers to an estimate for which there is an 85% chance that the amount will be sufficient to pay loss costs.

Discount Factor - A factor to adjust estimated loss costs to reflect anticipated investment income from assets held prior to actual claim payout.

Expected Losses - The best estimate of the full, ultimate value of loss costs.

Incurred but not Reported (IBNR) Losses - Losses for which the accident has occurred but the claim has not yet been reported. This is the ultimate value of losses, less any amount that has been set up as reported losses by the claims adjuster. It includes both amounts for claims incurred but not yet received by the administrator and loss development on already reported claims.

Loss Development Factor - A factor applied to losses for a particular accident period to reflect the fact that reported and paid losses do not reflect final values until all claims are settled (see Section IV).

Loss Rate - Ultimate losses per \$100 of payroll.

Non-Claims Related Expenses – Program expenses not directly associated with claims settlement and administration, such as excess insurance, safety program expenses, and general overhead. These exclude expenses associated with loss settlements (Indemnity/Medical, BI/PD), legal expenses associated with individual claims (ALAE), and claims administration (ULAE).

Outstanding Losses - Losses that have been incurred but not paid. This is the ultimate value of losses less any amount that has been paid.

Paid Losses - Losses actually paid on all reported claims.

Program Losses - Losses, including ALAE, limited to the SIR for each occurrence.

Reported Losses - The total expected value of losses as estimated by the claims administrator. This is the sum of paid losses and case reserves.

Self-Insured Retention (SIR) - The level at which an excess insurance policy is triggered to begin payments on a claim. Financially, this is similar to an insurance deductible.

Severity - Average claim cost.

Ultimate Losses - The value of claim costs at the time when all claims have been settled. This amount must be estimated until all claims are actually settled.

Unallocated Loss Adjustment Expenses (ULAE) – Claim settlement expenses that cannot be directly attributed to individual claims (e.g., claims adjusters' salaries, taxes, etc.)

Novato Fire Protection District - Workers' Compensation

Funding Guidelines for Outstanding Liabilities at
June 30, 2020

| | |
|--|--------------------|
| (A) Estimated Ultimate Losses Incurred through 6/30/20: (From Appendix G) | \$13,311,000 |
| (B) Estimated Paid Losses through 6/30/20: (From Appendix G) | 12,152,000 |
| (C) Estimated Liability for Claims Outstanding at 6/30/20: (From Appendix G) | <u>\$1,159,000</u> |
| (D) Estimated Liability for Outstanding Claims Administration Fees at 6/30/20: (From Appendix F) | 90,000 |
| (E) Total Outstanding Liability for Claims at 6/30/20: ((C) + (D)) | <u>\$1,249,000</u> |
| (F) Reserve Discount Factor (Based on a Discount Rate of 2.5%): (Appendix I, Page 1, (G)) | 0.862 |
| (G) Discounted Outstanding Liability for Claims at 6/30/20: ((E) x (F)) | <u>\$1,077,000</u> |

| | <u>Marginally Acceptable</u> | <u>75%</u> | <u>Recommended</u> | <u>85%</u> | <u>Conservative</u> |
|---|----------------------------------|--------------------|--------------------|--------------------|---------------------|
| Confidence Level of Adequacy: | 70% | 75% | 80% | 85% | 90% |
| (H) Confidence Level Factor: (From Appendix J) | 1.160 | 1.235 | 1.324 | 1.435 | 1.584 |
| (I) Margin for Adverse Experience: ((G) x [(H) - 1]) | 172,000 | 253,000 | 349,000 | 468,000 | 629,000 |
| (J) Total Required Assets at 6/30/20: ((G) + (I)) | <u>\$1,249,000</u> | <u>\$1,330,000</u> | <u>\$1,426,000</u> | <u>\$1,545,000</u> | <u>\$1,706,000</u> |

Novato Fire Protection District - Workers' Compensation

IBNR as of 6/30/21 at Expected Claims Level

| Accident Year | Estimated Ultimate (A) | Reported as of 6/30/20 (B) | Estimated IBNR as of 6/30/20 (C) | Estimated Percent of IBNR Reported Between 7/1/20 and 6/30/21 (D) | Estimated IBNR Reported (E) | Estimated IBNR as of 6/30/21 (F) |
|---------------|------------------------|----------------------------|----------------------------------|---|-----------------------------|----------------------------------|
| Prior | \$4,801,000 | \$4,735,074 | \$65,926 | 15.0% | \$10,000 | \$55,926 |
| 2000-2001 | 584,000 | 580,243 | 3,757 | 22.1% | 1,000 | 2,757 |
| 2001-2002 | 1,080,000 | 1,077,213 | 2,787 | 24.8% | 1,000 | 1,787 |
| 2002-2003 | 180,000 | 177,091 | 2,909 | 36.4% | 1,000 | 1,909 |
| 2003-2004 | 2,004,301 | 2,004,301 | 0 | 29.1% | 0 | 0 |
| 2004-2005 | 211,000 | 198,932 | 12,068 | 24.3% | 3,000 | 9,068 |
| 2005-2006 | 261,000 | 257,533 | 3,467 | 25.6% | 1,000 | 2,467 |
| 2006-2007 | 493,327 | 493,327 | 0 | 21.2% | 0 | 0 |
| 2007-2008 | 92,328 | 92,328 | 0 | 18.1% | 0 | 0 |
| 2008-2009 | 656,000 | 600,083 | 55,917 | 15.8% | 9,000 | 46,917 |
| 2009-2010 | 698,000 | 625,676 | 72,324 | 17.3% | 13,000 | 59,324 |
| 2010-2011 | 632,000 | 553,098 | 78,902 | 16.4% | 13,000 | 65,902 |
| 2011-2012 | 700,000 | 597,046 | 102,954 | 15.7% | 16,000 | 86,954 |
| 2012-2013 | 324,000 | 250,917 | 73,083 | 15.7% | 11,000 | 62,083 |
| 2013-2014 | 594,000 | 415,567 | 178,433 | 17.0% | 30,000 | 148,433 |
| Totals | \$13,310,956 | \$12,658,429 | \$652,527 | | \$109,000 | \$543,527 |

Notes:

- (A) From Exhibit 3, Page 1.
- (B) Provided by the District. These losses exclude amounts incurred above the District's SIR for each year.
- (C) (A) - (B).
- (D) Percentage of incurred but not reported (IBNR) expected to be reported between 7/1/20 and 6/30/21. The percentage is based on the development pattern selected in Appendix A.
- (E) ((A) - (B)) x (D).
- (F) (A) - (B) - (E).

This exhibit shows the calculation of the amount of incurred but not reported losses we expect as of 6/30/21. This amount is dependent on both the strength of the case reserves and the average frequency and severity of the losses incurred.

Novato Fire Protection District - Workers' Compensation

Estimated Ultimate Program Losses

| Accident Year | Reported Loss Development Method (A) | Paid Loss Development Method (B) | Exposure Method Based on Reported Losses (C) | Exposure Method Based on Paid Losses (D) | Frequency-Severity Method (E) | Selected Estimate of Ultimate Losses (F) |
|---------------|--------------------------------------|----------------------------------|--|--|-------------------------------|--|
| Prior | \$4,768,220 | \$4,944,147 | | | \$4,744,984 | \$4,801,000 |
| 2000-2001 | 585,465 | 596,294 | | | 584,044 | 584,000 |
| 2001-2002 | 1,090,140 | 1,156,151 | | | 1,080,117 | 1,080,000 |
| 2002-2003 | 180,456 | 184,752 | | | 179,763 | 180,000 |
| 2003-2004 | 2,058,417 | 2,310,959 | | | 2,004,301 | 2,004,301 |
| 2004-2005 | 206,094 | 186,236 | | | 211,452 | 211,000 |
| 2005-2006 | 270,152 | 296,525 | 278,635 | 320,778 | 260,920 | 261,000 |
| 2006-2007 | 524,407 | 596,926 | 521,158 | 575,405 | 493,327 | 493,327 |
| 2007-2008 | 99,530 | 113,933 | 104,092 | 123,371 | 92,328 | 92,328 |
| 2008-2009 | 656,491 | 592,482 | 668,221 | 634,328 | 691,895 | 656,000 |
| 2009-2010 | 698,254 | 770,290 | 709,850 | 779,037 | 653,094 | 698,000 |
| 2010-2011 | 631,638 | 650,025 | 636,722 | 655,978 | 618,663 | 632,000 |
| 2011-2012 | 700,335 | 759,148 | 709,295 | 760,665 | 654,709 | 700,000 |
| 2012-2013 | 304,111 | 309,462 | 323,452 | 343,522 | 299,925 | 324,000 |
| 2013-2014 | 526,523 | 680,283 | 572,253 | 704,434 | 415,567 | 594,000 |

Totals \$13,310,956

Notes:

- (A) From Appendix A, Page 1, Column (G).
- (B) From Appendix B, Page 1, Column (G).
- (C) From Appendix C, Page 1, Column (G).
- (D) From Appendix C, Page 2, Column (G).
- (E) From Appendix D, Page 1, Column (C).
- (F) Selected averages of (A), (B), (C), (D), and (E).
- (G) From Not Included, Page 1, Line .
- (H) From Not Included, Page 1, Line .

This exhibit summarizes the results of the actuarial methods we have applied to estimate ultimate losses for each year. It is important to apply a number of estimation methods because each one relies on specific assumptions about the claims process that tend to hold generally true, but that may be violated in specific situations. Thus, the more estimation methods that can be applied, the better.

Novato Fire Protection District - Workers' Compensation

Estimated Ultimate Limited Losses Capped at \$100,000 per Claim

| Accident Year | Reported Loss Development Method (A) | Paid Loss Development Method (B) | Exposure Method Based on Reported Losses (C) | Exposure Method Based on Paid Losses (D) | Frequency-Severity Method (E) | Selected Ultimate Limited Losses (F) |
|---------------|--------------------------------------|----------------------------------|--|--|-------------------------------|--------------------------------------|
| Prior | \$3,872,048 | \$3,845,760 | | | \$3,872,142 | \$3,872,000 |
| 2000-2001 | 362,634 | 338,535 | | | 363,012 | 363,000 |
| 2001-2002 | 598,677 | 604,023 | | | 593,928 | 593,926 |
| 2002-2003 | 178,862 | 165,578 | | | 179,010 | 179,000 |
| 2003-2004 | 440,418 | 444,335 | | | 435,209 | 435,196 |
| 2004-2005 | 201,717 | 162,976 | | | 202,000 | 202,000 |
| 2005-2006 | 261,911 | 255,874 | 261,987 | 255,940 | 262,008 | 262,000 |
| 2006-2007 | 276,180 | 278,617 | 276,181 | 278,347 | 270,756 | 270,765 |
| 2007-2008 | 94,452 | 95,282 | 94,358 | 95,189 | 92,322 | 92,328 |
| 2008-2009 | 439,988 | 430,055 | 439,836 | 430,469 | 439,990 | 440,000 |
| 2009-2010 | 442,365 | 432,139 | 442,273 | 432,713 | 442,000 | 442,000 |
| 2010-2011 | 361,903 | 322,790 | 361,905 | 324,326 | 362,007 | 362,000 |
| 2011-2012 | 403,237 | 395,531 | 403,329 | 395,952 | 403,009 | 403,000 |
| 2012-2013 | 214,799 | 200,293 | 214,726 | 201,141 | 215,004 | 215,000 |
| 2013-2014 | 388,540 | 402,958 | 387,799 | 400,367 | 369,690 | 369,686 |
| Totals | | | | | | \$8,501,901 |

Notes:

- (A) From Appendix A, Page 1, Column (D).
- (B) From Appendix B, Page 1, Column (D).
- (C) Based on results in Appendix C, Page 1.
- (D) Based on results in Appendix C, Page 2.
- (E) Based on results in Appendix D, Page 1.
- (F) Selected averages of (A), (B), (C), (D), and (E).
- (G) From Not Included, Page 1, Line / Line .
- (H) From Not Included, Page 1, Line / Line .

This exhibit summarizes the results of the actuarial methods we have applied to estimate limited losses for each year. These results are used to select a limited loss rate for future years.

Novato Fire Protection District - Workers' Compensation

Reported Loss Development

| Accident Year (A) | Limited Reported Losses as of 6/30/20 (B) | Reported Loss Development Factor (C) | Ultimate Limited Losses (D) | Program Reported Losses of 6/30/20 (E) | Reported Loss Development Factor (F) | Ultimate Program Losses (G) |
|-------------------|---|--------------------------------------|-----------------------------|--|--------------------------------------|-----------------------------|
| Prior | \$3,848,954 | 1.006 | \$3,872,048 | \$4,735,074 | 1.007 | \$4,768,220 |
| 2000-2001 | 360,113 | 1.007 | 362,634 | 580,243 | 1.009 | 585,465 |
| 2001-2002 | 593,926 | 1.008 | 598,677 | 1,077,213 | 1.012 | 1,090,140 |
| 2002-2003 | 177,091 | 1.010 | 178,862 | 177,091 | 1.019 | 180,456 |
| 2003-2004 | 435,196 | 1.012 | 440,418 | 2,004,301 | 1.027 | 2,058,417 |
| 2004-2005 | 198,932 | 1.014 | 201,717 | 198,932 | 1.036 | 206,094 |
| 2005-2006 | 257,533 | 1.017 | 261,911 | 257,533 | 1.049 | 270,152 |
| 2006-2007 | 270,765 | 1.020 | 276,180 | 493,327 | 1.063 | 524,407 |
| 2007-2008 | 92,328 | 1.023 | 94,452 | 92,328 | 1.078 | 99,530 |
| 2008-2009 | 428,838 | 1.026 | 439,988 | 600,083 | 1.094 | 656,491 |
| 2009-2010 | 429,898 | 1.029 | 442,365 | 625,676 | 1.116 | 698,254 |
| 2010-2011 | 350,681 | 1.032 | 361,903 | 553,098 | 1.142 | 631,638 |
| 2011-2012 | 389,225 | 1.036 | 403,237 | 597,046 | 1.173 | 700,335 |
| 2012-2013 | 206,339 | 1.041 | 214,799 | 250,917 | 1.212 | 304,111 |
| 2013-2014 | 369,686 | 1.051 | 388,540 | 415,567 | 1.267 | 526,523 |
| Totals | \$8,409,505 | | \$8,537,731 | \$12,658,429 | | \$13,300,233 |

Notes:

- (A) Years are 7/1 to 6/30.
- (B) Provided by the District. These losses exclude amounts over \$100,000 per occurrence.
- (C) From Appendix A, Page 2.
- (D) (B) x (C). These estimated losses exclude amounts over \$100,000 per occurrence.
- (E) Losses capped at the District's SIR. Amounts are provided by the District.
- (F) Derived from factors on Appendix A, Page 3.
- (G) (E) x (F).

This method tends to understate ultimate losses for the most recent several years because the large losses for those years generally have not yet emerged at the time of our review.

This exhibit shows the calculation of estimated ultimate losses for each year based on paid losses and case reserves as reported by the claims administrator. These losses tend to "develop" or change from period to period as more information becomes available about the cases. This development tends to follow quantifiable patterns over time.

Novato Fire Protection District - Workers' Compensation
Reported Loss Development

| Accident Year | <u>Limited Losses Reported as of:</u> | | | | | | | | | |
|---------------|---------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|
| | 12 Months | 24 Months | 36 Months | 48 Months | 60 Months | 72 Months | 84 Months | 96 Months | 108 Months | 120 Months |
| 1999-2000 | | | | | | | | | | |
| 2000-2001 | | | | | | | | | | 336,295 |
| 2001-2002 | | | | | | | | | 602,305 | 602,316 |
| 2002-2003 | | | | | | | | 155,191 | 155,323 | 177,069 |
| 2003-2004 | | | | | | | 435,196 | 435,196 | 435,196 | 435,196 |
| 2004-2005 | | | | | | 149,253 | 175,956 | 194,071 | 198,520 | 198,520 |
| 2005-2006 | | | | | 263,285 | 252,997 | 258,685 | 263,457 | 263,457 | 263,457 |
| 2006-2007 | | | | 199,119 | 199,163 | 195,834 | 191,002 | 269,969 | 270,420 | 270,420 |
| 2007-2008 | | | 90,329 | 103,531 | 101,166 | 92,328 | 92,328 | 92,328 | 92,328 | 92,328 |
| 2008-2009 | | 251,445 | 320,622 | 316,228 | 334,158 | 406,082 | 417,360 | 439,700 | 439,700 | 428,838 |
| 2009-2010 | 232,664 | 366,450 | 405,916 | 439,557 | 439,557 | 461,122 | 476,705 | 429,898 | 429,898 | 429,898 |
| 2010-2011 | 83,426 | 313,206 | 322,614 | 327,175 | 324,006 | 370,099 | 370,099 | 337,589 | 337,589 | 350,681 |
| 2011-2012 | 394,274 | 400,745 | 461,963 | 447,387 | 447,387 | 370,590 | 373,014 | 375,532 | 389,225 | |
| 2012-2013 | 143,788 | 205,320 | 196,673 | 232,387 | 232,387 | 220,305 | 220,362 | 206,339 | | |
| 2013-2014 | 192,931 | 301,220 | 387,667 | 385,495 | 390,027 | 390,027 | 369,686 | | | |
| 2014-2015 | | | | | | | | | | |
| 2015-2016 | | | | | | | | | | |
| 2016-2017 | | | | | | | | | | |
| 2017-2018 | | | | | | | | | | |
| 2018-2019 | | | | | | | | | | |
| 2019-2020 | | | | | | | | | | |

Reported Loss Development Factors:

| | 12-24 Months | 24-36 Months | 36-48 Months | 48-60 Months | 60-72 Months | 72-84 Months | 84-96 Months | 96-108 Months | 108-120 Months | 120-132 Months |
|-----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|----------------|----------------|
| 1999-2000 | | | | | | | | | | |
| 2000-2001 | | | | | | | | | | 0.972 |
| 2001-2002 | | | | | | | | | 1.000 | 1.000 |
| 2002-2003 | | | | | | | | 1.001 | 1.140 | 1.000 |
| 2003-2004 | | | | | | | 1.000 | 1.000 | 1.000 | 1.000 |
| 2004-2005 | | | | | | 1.179 | 1.103 | 1.023 | 1.000 | 1.000 |
| 2005-2006 | | | | | 0.961 | 1.022 | 1.018 | 1.000 | 1.000 | 0.978 |
| 2006-2007 | | | | 1.000 | 0.983 | 0.975 | 1.413 | 1.002 | 1.000 | 1.000 |
| 2007-2008 | | | 1.146 | 0.977 | 0.913 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| 2008-2009 | | 1.275 | 0.986 | 1.057 | 1.215 | 1.028 | 1.054 | 1.000 | 0.975 | 1.000 |
| 2009-2010 | 1.575 | 1.108 | 1.083 | 1.000 | 1.049 | 1.034 | 0.902 | 1.000 | 1.000 | 1.000 |
| 2010-2011 | 3.754 | 1.030 | 1.014 | 0.990 | 1.142 | 1.000 | 0.912 | 1.000 | 1.039 | |
| 2011-2012 | 1.016 | 1.153 | 0.968 | 1.000 | 0.828 | 1.007 | 1.007 | 1.036 | | |
| 2012-2013 | 1.428 | 0.958 | 1.182 | 1.000 | 0.948 | 1.000 | 0.936 | | | |
| 2013-2014 | 1.561 | 1.287 | 0.994 | 1.012 | 1.000 | 0.948 | | | | |
| 2014-2015 | | | | | | | | | | |
| 2015-2016 | | | | | | | | | | |
| 2016-2017 | | | | | | | | | | |
| 2017-2018 | | | | | | | | | | |
| 2018-2019 | | | | | | | | | | |

| | 12-24 Months | 24-36 Months | 36-48 Months | 48-60 Months | 60-72 Months | 72-84 Months | 84-96 Months | 96-108 Months | 108-120 Months | 120-132 Months |
|----------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|----------------|----------------|
| Average Dollar-Weighted Averages | 1.867 | 1.135 | 1.053 | 1.005 | 1.004 | 1.019 | 1.035 | 1.006 | 1.015 | 0.995 |
| 3-yr | | | | | | 0.982 | 0.954 | 1.012 | 1.002 | 1.000 |
| 4-yr | | | | | | 0.987 | 0.937 | 1.009 | 1.002 | 1.000 |
| Comparative Factors | | | | | | | | | | |
| Prior | 1.470 | 1.120 | 1.025 | 1.015 | 1.010 | 1.010 | 1.009 | 1.008 | 1.007 | 1.006 |
| Selected | 1.550 | 1.130 | 1.043 | 1.013 | 1.013 | 1.013 | 1.011 | 1.005 | 1.004 | 1.003 |
| Cumulated | 1.550 | 1.130 | 1.043 | 1.013 | 1.013 | 1.013 | 1.010 | 1.005 | 1.004 | 1.003 |
| Cumulated | 1.996 | 1.288 | 1.140 | 1.093 | 1.079 | 1.065 | 1.051 | 1.041 | 1.036 | 1.032 |

Novato Fire Protection District - Workers' Compensation

Paid Loss Development

| Accident Year (A) | Limited Paid Losses as of 6/30/20 (B) | Paid Loss Development Factor (C) | Ultimate Limited Losses (D) | Program Paid Losses of 6/30/20 (E) | Paid Loss Development Factor (F) | Ultimate Program Losses (G) |
|-------------------|---------------------------------------|----------------------------------|-----------------------------|------------------------------------|----------------------------------|-----------------------------|
| Prior | \$3,796,407 | 1.013 | \$3,845,760 | \$4,664,290 | 1.060 | \$4,944,147 |
| 2000-2001 | 333,532 | 1.015 | 338,535 | 553,662 | 1.077 | 596,294 |
| 2001-2002 | 593,926 | 1.017 | 604,023 | 1,059,717 | 1.091 | 1,156,151 |
| 2002-2003 | 162,491 | 1.019 | 165,578 | 162,491 | 1.137 | 184,752 |
| 2003-2004 | 435,196 | 1.021 | 444,335 | 2,004,301 | 1.153 | 2,310,959 |
| 2004-2005 | 159,312 | 1.023 | 162,976 | 159,312 | 1.169 | 186,236 |
| 2005-2006 | 249,390 | 1.026 | 255,874 | 249,390 | 1.189 | 296,525 |
| 2006-2007 | 270,765 | 1.029 | 278,617 | 493,327 | 1.210 | 596,926 |
| 2007-2008 | 92,328 | 1.032 | 95,282 | 92,328 | 1.234 | 113,933 |
| 2008-2009 | 415,512 | 1.035 | 430,055 | 468,736 | 1.264 | 592,482 |
| 2009-2010 | 415,918 | 1.039 | 432,139 | 592,075 | 1.301 | 770,290 |
| 2010-2011 | 309,482 | 1.043 | 322,790 | 484,010 | 1.343 | 650,025 |
| 2011-2012 | 377,415 | 1.048 | 395,531 | 543,802 | 1.396 | 759,148 |
| 2012-2013 | 189,313 | 1.058 | 200,293 | 208,814 | 1.482 | 309,462 |
| 2013-2014 | 369,686 | 1.090 | 402,958 | 415,567 | 1.637 | 680,283 |
| Totals | \$8,170,673 | | \$8,374,746 | \$12,151,822 | | \$14,147,613 |

Notes:

- (A) Years are 7/1 to 6/30.
- (B) Provided by the District. These losses exclude amounts over \$100,000 per occurrence.
- (C) From Appendix B, Page 2.
- (D) (B) x (C). These estimated losses exclude amounts over \$100,000 per occurrence.
- (E) Losses capped at the District's SIR. Amounts are provided by the District.
- (F) Derived from factors on Appendix B, Page 3.
- (G) (E) x (F).

This method tends to understate ultimate losses for the most recent several years because the large losses for those years generally have not yet emerged at the time of our review.

This exhibit shows the calculation of estimated ultimate losses for each year based on paid losses as reported by the claims administrator. These losses tend to "develop" or change from period to period as more information becomes available about the cases. This development tends to follow quantifiable patterns over time.

Novato Fire Protection District - Workers' Compensation
Paid Loss Development

Limited Losses Paid as of:

| Accident Year | 12 Months | 24 Months | 36 Months | 48 Months | 60 Months | 72 Months | 84 Months | 96 Months | 108 Months | 120 Months |
|---------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|
| 1999-2000 | | | | | | | | | | |
| 2000-2001 | | | | | | | | | | 326,958 |
| 2001-2002 | | | | | | | | | 593,110 | 593,121 |
| 2002-2003 | | | | | | | | 150,202 | 150,369 | 156,650 |
| 2003-2004 | | | | | | | 435,196 | 435,196 | 435,196 | 435,196 |
| 2004-2005 | | | | | | 147,433 | 148,858 | 149,769 | 150,458 | 151,422 |
| 2005-2006 | | | | | 235,294 | 238,984 | 239,531 | 244,930 | 245,226 | 245,304 |
| 2006-2007 | | | | 168,817 | 169,486 | 170,008 | 177,620 | 269,969 | 270,420 | 270,420 |
| 2007-2008 | | | 83,481 | 89,548 | 92,317 | 92,328 | 92,328 | 92,328 | 92,328 | 92,328 |
| 2008-2009 | | 210,080 | 256,345 | 290,708 | 300,987 | 369,391 | 393,070 | 408,858 | 409,566 | 410,956 |
| 2009-2010 | 124,420 | 310,072 | 383,196 | 384,354 | 385,613 | 396,044 | 415,883 | 415,898 | 415,898 | 415,898 |
| 2010-2011 | 69,290 | 250,949 | 273,840 | 283,239 | 296,222 | 297,090 | 297,618 | 297,638 | 304,014 | 309,482 |
| 2011-2012 | 204,347 | 308,818 | 317,510 | 365,887 | 369,577 | 370,590 | 373,014 | 375,532 | 377,415 | |
| 2012-2013 | 53,919 | 78,803 | 149,232 | 155,054 | 161,377 | 187,926 | 188,102 | 189,313 | | |
| 2013-2014 | 132,066 | 238,979 | 321,932 | 356,963 | 365,013 | 365,031 | 369,686 | | | |
| 2014-2015 | | | | | | | | | | |
| 2015-2016 | | | | | | | | | | |
| 2016-2017 | | | | | | | | | | |
| 2017-2018 | | | | | | | | | | |
| 2018-2019 | | | | | | | | | | |
| 2019-2020 | | | | | | | | | | |

Paid Loss Development Factors:

| | 12-24 Months | 24-36 Months | 36-48 Months | 48-60 Months | 60-72 Months | 72-84 Months | 84-96 Months | 96-108 Months | 108-120 Months | 120-132 Months |
|-----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|----------------|----------------|
| 1999-2000 | | | | | | | | | | |
| 2000-2001 | | | | | | | | | | 1.000 |
| 2001-2002 | | | | | | | | | 1.000 | 1.000 |
| 2002-2003 | | | | | | | | 1.001 | 1.042 | 1.002 |
| 2003-2004 | | | | | | | 1.000 | 1.000 | 1.000 | 1.000 |
| 2004-2005 | | | | | | 1.010 | 1.006 | 1.005 | 1.006 | 1.001 |
| 2005-2006 | | | | | 1.016 | 1.002 | 1.023 | 1.001 | 1.000 | 1.004 |
| 2006-2007 | | | | 1.004 | 1.003 | 1.045 | 1.520 | 1.002 | 1.000 | 1.000 |
| 2007-2008 | | | 1.073 | 1.031 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| 2008-2009 | | 1.220 | 1.134 | 1.035 | 1.227 | 1.064 | 1.040 | 1.002 | 1.003 | 1.008 |
| 2009-2010 | 2.492 | 1.236 | 1.003 | 1.003 | 1.027 | 1.050 | 1.000 | 1.000 | 1.000 | 1.000 |
| 2010-2011 | 3.622 | 1.091 | 1.034 | 1.046 | 1.003 | 1.002 | 1.000 | 1.021 | 1.018 | |
| 2011-2012 | 1.511 | 1.028 | 1.152 | 1.010 | 1.003 | 1.007 | 1.007 | 1.005 | | |
| 2012-2013 | 1.462 | 1.894 | 1.039 | 1.041 | 1.165 | 1.001 | 1.006 | | | |
| 2013-2014 | 1.810 | 1.347 | 1.109 | 1.023 | 1.000 | 1.013 | | | | |
| 2014-2015 | | | | | | | | | | |
| 2015-2016 | | | | | | | | | | |
| 2016-2017 | | | | | | | | | | |
| 2017-2018 | | | | | | | | | | |
| 2018-2019 | | | | | | | | | | |

| | 12-24 Months | 24-36 Months | 36-48 Months | 48-60 Months | 60-72 Months | 72-84 Months | 84-96 Months | 96-108 Months | 108-120 Months | 120-132 Months |
|----------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|----------------|----------------|
| Average Dollar-Weighted Averages | 2.179 | 1.303 | 1.078 | 1.024 | 1.049 | 1.019 | 1.060 | 1.004 | 1.007 | 1.002 |
| 3-yr | | | | | | 1.008 | 1.004 | 1.008 | 1.006 | 1.003 |
| 4-yr | | | | | | 1.006 | 1.003 | 1.006 | 1.006 | 1.003 |
| Comparative Factors | 2.500 | 1.400 | 1.170 | 1.090 | 1.050 | 1.033 | 1.020 | 1.015 | 1.012 | 1.010 |
| Prior | 2.150 | 1.300 | 1.100 | 1.045 | 1.040 | 1.040 | 1.040 | 1.012 | 1.005 | 1.004 |
| Selected | 2.150 | 1.300 | 1.100 | 1.045 | 1.040 | 1.035 | 1.030 | 1.010 | 1.005 | 1.004 |
| Cumulated | 3.771 | 1.754 | 1.349 | 1.226 | 1.173 | 1.128 | 1.090 | 1.058 | 1.048 | 1.043 |

Novato Fire Protection District - Workers' Compensation

Exposure and Development Method
Based on Reported Losses

| Accident Year | Trended Payroll (\$00) (A) | Reported Losses as of 6/30/20 (B) | Loss Development Factor (C) | Percentage of Losses Yet to Be Reported (D) | Program Rate (E) | Incurred but not Reported (IBNR) (F) | Ultimate Program Losses (G) |
|---------------|----------------------------|-----------------------------------|-----------------------------|---|------------------|--------------------------------------|-----------------------------|
| 2006-2007 | 138,292 | 493,327 | 1.063 | 0.059 | 3.411 | 27,831 | 521,158 |
| 2007-2008 | 163,056 | 92,328 | 1.078 | 0.072 | 1.002 | 11,764 | 104,092 |
| 2008-2009 | 170,315 | 600,083 | 1.094 | 0.086 | 4.652 | 68,138 | 668,221 |
| 2009-2010 | 150,383 | 625,676 | 1.116 | 0.104 | 5.382 | 84,174 | 709,850 |
| 2010-2011 | 128,479 | 553,098 | 1.142 | 0.124 | 5.249 | 83,624 | 636,722 |
| 2011-2012 | 129,074 | 597,046 | 1.173 | 0.147 | 5.916 | 112,249 | 709,295 |
| 2012-2013 | 127,026 | 250,917 | 1.212 | 0.175 | 3.263 | 72,535 | 323,452 |
| 2013-2014 | 126,765 | 415,567 | 1.267 | 0.211 | 5.858 | 156,686 | 572,253 |
| Totals | 1,259,899 | \$3,885,575 | | | | \$638,103 | \$4,523,678 |

Notes:

- (A) From Appendix M, Column (C).
- (B) Provided by the District. These losses exclude amounts incurred above the District's SIR for each year.
- (C) From Appendix A, Page 1, Column (F).
- (D) $1 - 1/(C)$.
- (E) From Appendix C, Page 3, Column (H).
- (F) $(A) \times (D) \times (E)$.
- (G) $(B) + (F)$.

This exhibit shows the calculation of ultimate losses based on the assumption that there is an underlying relationship between losses and exposure that changes in regular ways over time. The method relies on the premise that the losses that are currently unreported will cost what this relationship would suggest.

Novato Fire Protection District - Workers' Compensation

Exposure and Development Method
Based on Paid Losses

| Accident Year | Trended Payroll (\$00) (A) | Paid Losses as of 6/30/20 (B) | Loss Development Factor (C) | Percentage of Losses Yet to Be Paid (D) | Program Rate (E) | Incurred but not Paid (F) | Ultimate Program Losses (G) |
|---------------|----------------------------|-------------------------------|-----------------------------|---|------------------|---------------------------|-----------------------------|
| 2006-2007 | 138,292 | 493,327 | 1.210 | 0.174 | 3.411 | 82,078 | 575,405 |
| 2007-2008 | 163,056 | 92,328 | 1.234 | 0.190 | 1.002 | 31,043 | 123,371 |
| 2008-2009 | 170,315 | 468,736 | 1.264 | 0.209 | 4.652 | 165,592 | 634,328 |
| 2009-2010 | 150,383 | 592,075 | 1.301 | 0.231 | 5.382 | 186,962 | 779,037 |
| 2010-2011 | 128,479 | 484,010 | 1.343 | 0.255 | 5.249 | 171,968 | 655,978 |
| 2011-2012 | 129,074 | 543,802 | 1.396 | 0.284 | 5.916 | 216,863 | 760,665 |
| 2012-2013 | 127,026 | 208,814 | 1.482 | 0.325 | 3.263 | 134,708 | 343,522 |
| 2013-2014 | 126,765 | 415,567 | 1.637 | 0.389 | 5.858 | 288,867 | 704,434 |
| Totals | 1,259,899 | \$3,548,049 | | | | \$1,349,469 | \$4,897,518 |

Notes:

- (A) From Appendix M, Column (C).
- (B) Provided by the District. These losses exclude amounts paid above the District's SIR for each year.
- (C) From Appendix B, Page 1, Column (F).
- (D) $1 - 1/(C)$.
- (E) From Appendix C, Page 3, Column (H).
- (F) $(A) \times (D) \times (E)$.
- (G) $(B) + (F)$.

This exhibit shows the calculation of ultimate losses based on the assumption that there is an underlying relationship between losses and exposure that changes in regular ways over time. The method relies on the premise that the losses that are currently unpaid will cost what this relationship would suggest.

Novato Fire Protection District - Workers' Compensation

Exposure and Development Method

| Accident Year | Trended Payroll (\$00) (A) | Ultimate Limited Losses (B) | Trend Factor (C) | Trended Limited Losses (D) | Trended Limited Loss Rate (E) | Limited Loss Rate (F) | Factor to SIR (G) | Program Loss Rate (H) |
|---------------|----------------------------|-----------------------------|------------------|----------------------------|-------------------------------|-----------------------|-------------------|-----------------------|
| 2006-2007 | 138,292 | 270,765 | 2.341 | 633,861 | 4.583 | 1.958 | 1.742 | 3.411 |
| 2007-2008 | 163,056 | 92,328 | 2.096 | 193,519 | 1.187 | 0.566 | 1.770 | 1.002 |
| 2008-2009 | 170,315 | 440,000 | 1.830 | 805,200 | 4.728 | 2.583 | 1.801 | 4.652 |
| 2009-2010 | 150,383 | 442,000 | 1.597 | 705,874 | 4.694 | 2.939 | 1.831 | 5.382 |
| 2010-2011 | 128,479 | 362,000 | 1.472 | 532,864 | 4.147 | 2.818 | 1.863 | 5.249 |
| 2011-2012 | 129,074 | 403,000 | 1.393 | 561,379 | 4.349 | 3.122 | 1.895 | 5.916 |
| 2012-2013 | 127,026 | 215,000 | 1.358 | 291,970 | 2.299 | 1.693 | 1.927 | 3.263 |
| 2013-2014 | 126,765 | 369,686 | 1.325 | 489,834 | 3.864 | 2.916 | 2.009 | 5.858 |
| Total/Avg | 1,259,899 | \$2,856,779 | | \$4,885,745 | \$3.878 | | | |
| 09/10-13/14 | 661,727 | 1,791,686 | | 2,581,921 | 3.902 | | | |
| 10/11-13/14 | 511,344 | 1,349,686 | | 1,876,047 | 3.669 | | | |
| | | | | Selected Limited Rate: | \$4.000 | | | |
| | | | | Prior: | \$4.200 | | | |

Notes:

- (A) From Appendix M, Column (C).
- (B) Selected average of results from Appendices A and B.
- (C) From Appendix E, Page 1, Column (B).
- (D) (B) x (C).
- (E) (D) / (A).
- (F) Selected Limited Rate / (C). For 2014-2015 and prior (B) / (A).
- (G) Based on a Weibull distribution, a mathematical model of claim sizes.
- (H) (F) x (G).

This exhibit shows the calculation of the underlying historical relationship between losses and exposure that is needed to apply the estimation methods shown on pages 1 and 2 of this Appendix.

Novato Fire Protection District - Workers' Compensation

Frequency and Severity Method

| Accident Year | Ultimate Program Severity (A) | Adjusted Ultimate Claims (B) | Ultimate Program Losses (C) |
|---------------|-------------------------------|------------------------------|-----------------------------|
| Prior | \$12,400 | 398 | \$4,935,200 |
| 2000-2001 | 18,737 | 26 | 487,162 |
| 2001-2002 | 34,104 | 24 | 818,496 |
| 2002-2003 | 9,742 | 30 | 292,260 |
| 2003-2004 | 23,282 | 31 | 721,742 |
| 2004-2005 | 17,028 | 20 | 340,560 |
| 2005-2006 | 16,627 | 27 | 448,929 |
| 2006-2007 | 20,506 | 23 | 471,638 |
| 2007-2008 | 9,081 | 18 | 163,458 |
| 2008-2009 | 34,450 | 23 | 792,350 |
| 2009-2010 | 31,131 | 26 | 809,406 |
| 2010-2011 | 35,488 | 19 | 674,272 |
| 2011-2012 | 40,193 | 19 | 763,667 |
| 2012-2013 | 18,015 | 23 | 414,345 |
| 2013-2014 | 24,756 | 30 | 742,680 |
| Total | | 737 | \$12,876,165 |

Notes:

- (A) From Appendix D, Page 2, Column (H).
- (B) From Appendix D, Page 2, Column (B).
- (C) (A) x (B).

This exhibit shows the calculation of the estimated ultimate losses for each year based on the observed average frequency and severity of claims.

Novato Fire Protection District - Workers' Compensation

Frequency and Severity Method

| Accident Year | Ultimate Limited Losses (A) | Adjusted Ultimate Claims (B) | Ultimate Limited Severity (C) | Trend Factor (D) | Trended Limited Severity (E) | Limited Severity (F) | Factor to SIR (G) | Program Severity (H) |
|---------------|-----------------------------|------------------------------|-------------------------------|------------------|------------------------------|----------------------|-------------------|----------------------|
| Prior | \$3,872,000 | 398 | \$9,729 | 1.275 | \$12,404 | \$9,729 | 1.275 | \$12,400 |
| 2000-2001 | 363,000 | 26 | 13,962 | 1.172 | 16,363 | 13,962 | 1.342 | 18,737 |
| 2001-2002 | 593,926 | 24 | 24,747 | 1.145 | 28,335 | 24,747 | 1.378 | 34,104 |
| 2002-2003 | 179,000 | 30 | 5,967 | 1.173 | 6,999 | 5,967 | 1.633 | 9,742 |
| 2003-2004 | 435,196 | 31 | 14,039 | 1.414 | 19,851 | 14,039 | 1.658 | 23,282 |
| 2004-2005 | 202,000 | 20 | 10,100 | 1.782 | 17,998 | 10,100 | 1.686 | 17,028 |
| 2005-2006 | 262,000 | 27 | 9,704 | 1.889 | 18,331 | 9,704 | 1.713 | 16,627 |
| 2006-2007 | 270,765 | 23 | 11,772 | 1.762 | 20,742 | 11,772 | 1.742 | 20,506 |
| 2007-2008 | 92,328 | 18 | 5,129 | 1.610 | 8,258 | 5,129 | 1.770 | 9,081 |
| 2008-2009 | 440,000 | 23 | 19,130 | 1.434 | 27,432 | 19,130 | 1.801 | 34,450 |
| 2009-2010 | 442,000 | 26 | 17,000 | 1.277 | 21,709 | 17,000 | 1.831 | 31,131 |
| 2010-2011 | 362,000 | 19 | 19,053 | 1.201 | 22,883 | 19,053 | 1.863 | 35,488 |
| 2011-2012 | 403,000 | 19 | 21,211 | 1.161 | 24,626 | 21,211 | 1.895 | 40,193 |
| 2012-2013 | 215,000 | 23 | 9,348 | 1.154 | 10,788 | 9,348 | 1.927 | 18,015 |
| 2013-2014 | 369,686 | 30 | 12,323 | 1.149 | 14,159 | 12,323 | 2.009 | 24,756 |

Average Limited Severity: \$18,059
Average 09/10-13/14 Limited Severity: 18,833
Average 10/11-13/14 Limited Severity: 18,114

Selected Limited Severity: \$18,500
Prior: \$19,700

Notes:

- (A) Selected average of results from Appendices A, B, and C.
- (B) Appendix D, Page 3, Column (C).
- (C) (A) / (B).
- (D) From Appendix E, Page 1, Column (J).
- (E) (C) x (D).
- (F) Selected Limited Severity / (D).
- (G) Based on a Weibull distribution, a mathematical model of claim sizes.
- (H) (F) x (G).

This exhibit shows the calculation of the historical average cost per claim, or severity. The observed average severity is used in the method shown on page 1 of this Appendix.

Novato Fire Protection District - Workers' Compensation

Frequency and Severity Method
Projection of Ultimate Claims

| Accident Year | Reported Claim Development (A) | Closed Claim Development (B) | Selected Ultimate Claims (C) | Trended Payroll (\$000,000) (D) | Claim Frequency (E) | Trend Factor (F) | Trended Claim Frequency (G) |
|---------------|--------------------------------|------------------------------|------------------------------|---------------------------------|---------------------|-------------------------|-----------------------------|
| Prior | 398 | 393 | 398 | 0.0 | | 1.516 | |
| 2000-2001 | 26 | 25 | 26 | 0.0 | | 1.485 | |
| 2001-2002 | 24 | 23 | 24 | 0.0 | | 1.456 | |
| 2002-2003 | 30 | 29 | 30 | 0.0 | | 1.428 | |
| 2003-2004 | 31 | 31 | 31 | 0.0 | | 1.400 | |
| 2004-2005 | 20 | 19 | 20 | 0.0 | | 1.372 | |
| 2005-2006 | 27 | 26 | 27 | 12.7 | 2.134 | 1.345 | 2.870 |
| 2006-2007 | 23 | 23 | 23 | 13.8 | 1.663 | 1.319 | 2.193 |
| 2007-2008 | 18 | 18 | 18 | 16.3 | 1.104 | 1.293 | 1.427 |
| 2008-2009 | 23 | 21 | 23 | 17.0 | 1.350 | 1.268 | 1.712 |
| 2009-2010 | 26 | 24 | 26 | 15.0 | 1.729 | 1.243 | 2.149 |
| 2010-2011 | 19 | 16 | 19 | 12.8 | 1.479 | 1.219 | 1.803 |
| 2011-2012 | 19 | 17 | 19 | 12.9 | 1.472 | 1.195 | 1.759 |
| 2012-2013 | 23 | 22 | 23 | 12.7 | 1.811 | 1.172 | 2.122 |
| 2013-2014 | 30 | 31 | 30 | 12.7 | 2.367 | 1.149 | 2.720 |
| Total | 737 | 718 | 737 | 126.0 | | | 2.053 |
| 12/13-15/16 | 53 | 53 | 53 | 25.4 | | | 2.420 |
| | | | | | | (H) Selected Frequency: | 2.100 |
| | | | | | | Prior: | 2.100 |

Notes:

- (A) From Appendix D, Page 4, (C).
- (B) From Appendix D, Page 5, (C).
- (C) Selected from (A) and (B).
- (D) From Appendix M, Column (C) / 10,000.
- (E) (C) / (D).
- (F) From Appendix E, Page 1, Column (H).
- (G) (E) x (F).
- (H) The selected frequency of 2.100 is based on (G).
- (I) From Appendix E, Page 1, Column (H).
- (J) (H) x (I).
- (K) From Appendix M, Column (C) / 10,000.
- (L) (J) x (K).

This exhibit summarizes the estimated numbers of claims and shows the estimated frequencies per \$1,000,000 of trended payroll.

Novato Fire Protection District - Workers' Compensation

Frequency and Severity Method
Reported Claim Count Development

| Accident Year | Claims Reported as of 6/30/2020 (A) | Reported Claim Development Factor (B) | Ultimate Claims (C) | Trended Claim Frequency (D) |
|---------------|-------------------------------------|---------------------------------------|---------------------|-----------------------------|
| Prior | 398 | 1.000 | 398 | |
| 2000-2001 | 26 | 1.000 | 26 | |
| 2001-2002 | 24 | 1.000 | 24 | |
| 2002-2003 | 30 | 1.000 | 30 | |
| 2003-2004 | 31 | 1.000 | 31 | |
| 2004-2005 | 20 | 1.000 | 20 | |
| 2005-2006 | 27 | 1.000 | 27 | 2.871 |
| 2006-2007 | 23 | 1.000 | 23 | 2.194 |
| 2007-2008 | 18 | 1.000 | 18 | 1.427 |
| 2008-2009 | 23 | 1.000 | 23 | 1.712 |
| 2009-2010 | 26 | 1.000 | 26 | 2.149 |
| 2010-2011 | 19 | 1.000 | 19 | 1.803 |
| 2011-2012 | 19 | 1.000 | 19 | 1.759 |
| 2012-2013 | 23 | 1.000 | 23 | 2.122 |
| 2013-2014 | 30 | 1.001 | 30 | 2.719 |
| Total | 737 | | 737 | 2.053 |

Notes:

- (A) Provided by the District.
- (B) From Appendix D, Page 6.
- (C) (A) x (B).
- (D) (C) / [Appendix D, Page 3, (D)] x [Appendix D, Page 3, (F)].

This exhibit shows the calculation of estimated ultimate claims for each year based on reported claims as provided by the District. These numbers of claims tend to "develop" or change from period to period as more claims are filed. This development tends to follow quantifiable patterns over time.

Novato Fire Protection District - Workers' Compensation

Frequency and Severity Method
Closed Claim Count Development

| Accident Year | Claims Closed as of 6/30/2020 (A) | Closed Claim Development Factor (B) | Ultimate Claims (C) | Trended Claim Frequency (D) |
|---------------|-----------------------------------|-------------------------------------|---------------------|-----------------------------|
| Prior | 391 | 1.005 | 393 | |
| 2000-2001 | 25 | 1.006 | 25 | |
| 2001-2002 | 23 | 1.007 | 23 | |
| 2002-2003 | 29 | 1.008 | 29 | |
| 2003-2004 | 31 | 1.009 | 31 | |
| 2004-2005 | 19 | 1.010 | 19 | |
| 2005-2006 | 26 | 1.011 | 26 | 2.764 |
| 2006-2007 | 23 | 1.012 | 23 | 2.194 |
| 2007-2008 | 18 | 1.013 | 18 | 1.427 |
| 2008-2009 | 21 | 1.015 | 21 | 1.563 |
| 2009-2010 | 24 | 1.018 | 24 | 1.984 |
| 2010-2011 | 16 | 1.022 | 16 | 1.518 |
| 2011-2012 | 17 | 1.027 | 17 | 1.574 |
| 2012-2013 | 21 | 1.035 | 22 | 2.030 |
| 2013-2014 | 30 | 1.045 | 31 | 2.810 |
| Total | 714 | | 718 | 1.955 |

Notes:

- (A) Provided by the District.
- (B) From Appendix D, Page 7.
- (C) (A) x (B).
- (D) (C) / [Appendix D, Page 3, (D)] x [Appendix D, Page 3, (F)].

This exhibit shows the calculation of estimated ultimate claims for each year based on closed claims as provided by the District. These numbers of closed claims tend to "develop" or change from period to period as more claims are closed. This development tends to follow quantifiable patterns over time.

Novato Fire Protection District - Workers' Compensation
Reported Claim Count Development

| Accident Year | Claims Reported as of: | | | | | | | | | | | | | |
|---------------|------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|------------|----|
| | 12 Months | 24 Months | 36 Months | 48 Months | 60 Months | 72 Months | 84 Months | 96 Months | 108 Months | 120 Months | 132 Months | 144 Months | 156 Months | |
| 1999-2000 | | | | | | | | | | | | 31 | 31 | 31 |
| 2000-2001 | | | | | | | | | | 28 | 28 | 28 | 28 | |
| 2001-2002 | | | | | | | | | 25 | 25 | 25 | 25 | 24 | |
| 2002-2003 | | | | | | | | 30 | 30 | 30 | 30 | 30 | 30 | |
| 2003-2004 | | | | | | | 35 | 35 | 35 | 35 | 31 | 31 | 31 | |
| 2004-2005 | | | | | | 25 | 25 | 25 | 25 | 20 | 20 | 20 | 20 | |
| 2005-2006 | | | | | 29 | 29 | 29 | 29 | 27 | 27 | 27 | 27 | 27 | |
| 2006-2007 | | | | 24 | 24 | 25 | 25 | 23 | 23 | 23 | 23 | 23 | 23 | |
| 2007-2008 | | | 20 | 20 | 20 | 20 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | |
| 2008-2009 | | 22 | 22 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | |
| 2009-2010 | 24 | 26 | 26 | 27 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | | | |
| 2010-2011 | 24 | 25 | 25 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | | | | |
| 2011-2012 | 23 | 24 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | | | | | |
| 2012-2013 | 21 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | | | | | | |
| 2013-2014 | 28 | 28 | 29 | 29 | 30 | 30 | 30 | | | | | | | |
| 2014-2015 | | | | | | | | | | | | | | |
| 2015-2016 | | | | | | | | | | | | | | |
| 2016-2017 | | | | | | | | | | | | | | |
| 2017-2018 | | | | | | | | | | | | | | |
| 2018-2019 | | | | | | | | | | | | | | |
| 2019-2020 | | | | | | | | | | | | | | |

Reported Claim Count Development Factors:

| | 12-24 | 24-36 | 36-48 | 48-60 | 60-72 | 72-84 | 84-96 | 96-108 | 108-120 | 120-132 | 132-144 | 144-156 | 156-168 |
|---------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|
| | Months | Months | Months | Months | Months | Months | Months | Months | Months | Months | Months | Months | Months |
| 1999-2000 | | | | | | | | | | | 1.000 | 1.000 | 1.000 |
| 2000-2001 | | | | | | | | | | 1.000 | 1.000 | 1.000 | 0.929 |
| 2001-2002 | | | | | | | | | 1.000 | 1.000 | 1.000 | 0.960 | 1.000 |
| 2002-2003 | | | | | | | | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| 2003-2004 | | | | | | | 1.000 | 1.000 | 1.000 | 0.886 | 1.000 | 1.000 | 1.000 |
| 2004-2005 | | | | | | 1.000 | 1.000 | 1.000 | 0.800 | 1.000 | 1.000 | 1.000 | 1.000 |
| 2005-2006 | | | | | 1.000 | 1.000 | 1.000 | 0.931 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| 2006-2007 | | | | 1.000 | 1.042 | 1.000 | 0.920 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| 2007-2008 | | | 1.000 | 1.000 | 1.000 | 0.900 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | |
| 2008-2009 | | 1.000 | 1.045 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | | |
| 2009-2010 | 1.083 | 1.000 | 1.038 | 0.963 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | | | |
| 2010-2011 | 1.042 | 1.000 | 0.760 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | | | | |
| 2011-2012 | 1.043 | 0.792 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | | | | | |
| 2012-2013 | 1.095 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | | | | | | |
| 2013-2014 | 1.000 | 1.036 | 1.000 | 1.034 | 1.000 | 1.000 | | | | | | | |
| 2014-2015 | | | | | | | | | | | | | |
| 2015-2016 | | | | | | | | | | | | | |
| 2016-2017 | | | | | | | | | | | | | |
| 2017-2018 | | | | | | | | | | | | | |
| 2018-2019 | | | | | | | | | | | | | |
| Average Claim-Weighted Averages | 1.053 | 0.971 | 0.978 | 1.000 | 1.005 | 0.990 | 0.992 | 0.993 | 0.980 | 0.989 | 1.000 | 0.996 | 0.991 |
| 3-yr | | | | | | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| 4-yr | | | | | | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Comparative Factors | 1.100 | 1.007 | 1.004 | 1.003 | 1.002 | 1.001 | 1.001 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Prior | 1.080 | 1.007 | 1.004 | 1.003 | 1.002 | 1.001 | 1.001 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Selected | 1.080 | 1.007 | 1.004 | 1.003 | 1.002 | 1.001 | 1.001 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Cumulated | 1.099 | 1.018 | 1.011 | 1.007 | 1.004 | 1.002 | 1.001 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |

Novato Fire Protection District - Workers' Compensation
Closed Claim Development

| Accident Year | Claims Closed as of: | | | | | | | | | | | | |
|---------------|----------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|------------|
| | 12 Months | 24 Months | 36 Months | 48 Months | 60 Months | 72 Months | 84 Months | 96 Months | 108 Months | 120 Months | 132 Months | 144 Months | 156 Months |
| 1999-2000 | | | | | | | | | | | 31 | 31 | 31 |
| 2000-2001 | | | | | | | | | | 27 | 28 | 28 | 28 |
| 2001-2002 | | | | | | | | | 22 | 23 | 23 | 23 | 22 |
| 2002-2003 | | | | | | | | 29 | 29 | 29 | 29 | 29 | 29 |
| 2003-2004 | | | | | | | 32 | 32 | 32 | 32 | 30 | 30 | 30 |
| 2004-2005 | | | | | | 24 | 24 | 24 | 24 | 19 | 19 | 19 | 19 |
| 2005-2006 | | | | | 27 | 27 | 27 | 28 | 26 | 26 | 26 | 26 | 26 |
| 2006-2007 | | | | 21 | 21 | 23 | 24 | 22 | 23 | 23 | 23 | 23 | 23 |
| 2007-2008 | | | 18 | 18 | 19 | 20 | 18 | 18 | 18 | 18 | 18 | 18 | 18 |
| 2008-2009 | | 19 | 19 | 20 | 20 | 21 | 20 | 20 | 20 | 21 | 21 | 21 | |
| 2009-2010 | 17 | 21 | 22 | 24 | 23 | 23 | 23 | 24 | 24 | 24 | 24 | | |
| 2010-2011 | 19 | 20 | 21 | 15 | 16 | 16 | 16 | 17 | 17 | 16 | | | |
| 2011-2012 | 11 | 19 | 13 | 14 | 14 | 17 | 18 | 18 | 17 | | | | |
| 2012-2013 | 15 | 19 | 21 | 21 | 21 | 21 | 21 | 21 | | | | | |
| 2013-2014 | 23 | 23 | 24 | 27 | 28 | 29 | 30 | | | | | | |
| 2014-2015 | | | | | | | | | | | | | |
| 2015-2016 | | | | | | | | | | | | | |
| 2016-2017 | | | | | | | | | | | | | |
| 2017-2018 | | | | | | | | | | | | | |
| 2018-2019 | | | | | | | | | | | | | |
| 2019-2020 | | | | | | | | | | | | | |

Closed Claim Count Development Factors:

| | 12-24 Months | 24-36 Months | 36-48 Months | 48-60 Months | 60-72 Months | 72-84 Months | 84-96 Months | 96-108 Months | 108-120 Months | 120-132 Months | 132-144 Months | 144-156 Months | 156-168 Months |
|-----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|----------------|----------------|----------------|----------------|----------------|
| 1999-2000 | | | | | | | | | | | 1.000 | 1.000 | 0.968 |
| 2000-2001 | | | | | | | | | | 1.037 | 1.000 | 1.000 | 0.893 |
| 2001-2002 | | | | | | | | | 1.045 | 1.000 | 1.000 | 0.957 | 1.000 |
| 2002-2003 | | | | | | | | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| 2003-2004 | | | | | | | 1.000 | 1.000 | 1.000 | 0.938 | 1.000 | 1.000 | 1.000 |
| 2004-2005 | | | | | | 1.000 | 1.000 | 1.000 | 0.792 | 1.000 | 1.000 | 1.000 | 1.000 |
| 2005-2006 | | | | | 1.000 | 1.000 | 1.037 | 0.929 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| 2006-2007 | | | | 1.000 | 1.095 | 1.043 | 0.917 | 1.045 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| 2007-2008 | | | 1.000 | 1.056 | 1.053 | 0.900 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | |
| 2008-2009 | | 1.000 | 1.053 | 1.000 | 1.050 | 0.952 | 1.000 | 1.000 | 1.050 | 1.000 | 1.000 | | |
| 2009-2010 | 1.235 | 1.048 | 1.091 | 0.958 | 1.000 | 1.000 | 1.043 | 1.000 | 1.000 | 1.000 | | | |
| 2010-2011 | 1.053 | 1.050 | 0.714 | 1.067 | 1.000 | 1.000 | 1.063 | 1.000 | 0.941 | | | | |
| 2011-2012 | 1.727 | 0.684 | 1.077 | 1.000 | 1.214 | 1.059 | 1.000 | 0.944 | | | | | |
| 2012-2013 | 1.267 | 1.105 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | | | | | | |
| 2013-2014 | 1.000 | 1.043 | 1.125 | 1.037 | 1.036 | 1.034 | | | | | | | |
| 2014-2015 | | | | | | | | | | | | | |
| 2015-2016 | | | | | | | | | | | | | |
| 2016-2017 | | | | | | | | | | | | | |
| 2017-2018 | | | | | | | | | | | | | |
| 2018-2019 | | | | | | | | | | | | | |

| | 12-24 Months | 24-36 Months | 36-48 Months | 48-60 Months | 60-72 Months | 72-84 Months | 84-96 Months | 96-108 Months | 108-120 Months | 120-132 Months | 132-144 Months | 144-156 Months | 156-168 Months |
|---------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|----------------|----------------|----------------|----------------|----------------|
| Average Claim-Weighted Averages | 1.256 | 0.988 | 1.009 | 1.015 | 1.050 | 0.999 | 1.006 | 0.992 | 0.983 | 0.998 | 1.000 | 0.995 | 0.983 |
| 3-yr | | | | | | 1.030 | 1.018 | 0.983 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| 4-yr | | | | | | 1.024 | 1.026 | 0.987 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Comparative Factors | 1.600 | 1.080 | 1.050 | 1.030 | 1.025 | 1.015 | 1.010 | 1.008 | 1.005 | 1.004 | 1.003 | 1.002 | 1.001 |
| Prior | 1.550 | 1.080 | 1.050 | 1.030 | 1.025 | 1.015 | 1.010 | 1.008 | 1.005 | 1.004 | 1.003 | 1.002 | 1.001 |
| Selected | 1.550 | 1.080 | 1.050 | 1.030 | 1.025 | 1.015 | 1.010 | 1.008 | 1.005 | 1.004 | 1.003 | 1.002 | 1.001 |
| Cumulated | 1.970 | 1.271 | 1.177 | 1.121 | 1.088 | 1.061 | 1.045 | 1.035 | 1.027 | 1.022 | 1.018 | 1.015 | 1.013 |

Novato Fire Protection District - Workers' Compensation

Loss Trend Factors

| Accident Year | Benefit Level Factor (A) | Factor to 2020-2021 Loss Rate Level (B) | Factor to 2021-2022 Loss Rate Level (C) | Factor to 2022-2023 Loss Rate Level (D) | Factor to 2023-2024 Loss Rate Level (E) | Factor to 2020-2021 Frequency Level (F) | Factor to 2021-2022 Frequency Level (G) | Factor to 2022-2023 Frequency Level (H) | Factor to 2023-2024 Frequency Level (I) | Factor to 2020-2021 Severity Level (J) |
|---------------|--------------------------|---|---|---|---|---|---|---|---|--|
| Prior | 0.760 | 1.953 | 2.042 | 2.136 | 2.234 | 1.516 | 1.546 | 1.576 | 1.608 | 1.275 |
| 2000-2001 | 0.716 | 1.759 | 1.839 | 1.924 | 2.012 | 1.485 | 1.515 | 1.545 | 1.576 | 1.172 |
| 2001-2002 | 0.716 | 1.683 | 1.760 | 1.841 | 1.926 | 1.456 | 1.486 | 1.515 | 1.545 | 1.145 |
| 2002-2003 | 0.752 | 1.690 | 1.767 | 1.848 | 1.933 | 1.428 | 1.457 | 1.485 | 1.515 | 1.173 |
| 2003-2004 | 0.930 | 1.997 | 2.089 | 2.185 | 2.285 | 1.400 | 1.428 | 1.456 | 1.485 | 1.414 |
| 2004-2005 | 1.201 | 2.465 | 2.578 | 2.696 | 2.821 | 1.372 | 1.400 | 1.427 | 1.456 | 1.782 |
| 2005-2006 | 1.305 | 2.562 | 2.679 | 2.802 | 2.931 | 1.345 | 1.372 | 1.399 | 1.427 | 1.889 |
| 2006-2007 | 1.248 | 2.341 | 2.448 | 2.561 | 2.679 | 1.319 | 1.345 | 1.372 | 1.399 | 1.762 |
| 2007-2008 | 1.168 | 2.096 | 2.192 | 2.293 | 2.398 | 1.293 | 1.319 | 1.345 | 1.372 | 1.610 |
| 2008-2009 | 1.066 | 1.830 | 1.913 | 2.001 | 2.093 | 1.268 | 1.293 | 1.319 | 1.345 | 1.434 |
| 2009-2010 | 0.973 | 1.597 | 1.670 | 1.747 | 1.827 | 1.243 | 1.268 | 1.293 | 1.319 | 1.277 |
| 2010-2011 | 0.938 | 1.472 | 1.539 | 1.609 | 1.683 | 1.219 | 1.243 | 1.268 | 1.293 | 1.201 |
| 2011-2012 | 0.929 | 1.393 | 1.457 | 1.524 | 1.594 | 1.195 | 1.219 | 1.243 | 1.268 | 1.161 |
| 2012-2013 | 0.948 | 1.358 | 1.420 | 1.486 | 1.554 | 1.172 | 1.195 | 1.219 | 1.243 | 1.154 |
| 2013-2014 | 0.966 | 1.325 | 1.385 | 1.449 | 1.515 | 1.149 | 1.172 | 1.195 | 1.219 | 1.149 |
| 2014-2015 | 0.963 | 1.262 | 1.320 | 1.381 | 1.444 | 1.126 | 1.149 | 1.172 | 1.195 | 1.117 |
| 2015-2016 | 0.994 | 1.245 | 1.302 | 1.362 | 1.424 | 1.105 | 1.127 | 1.149 | 1.172 | 1.125 |
| 2016-2017 | 1.034 | 1.239 | 1.295 | 1.355 | 1.417 | 1.083 | 1.105 | 1.126 | 1.149 | 1.142 |
| 2017-2018 | 1.023 | 1.172 | 1.225 | 1.281 | 1.340 | 1.061 | 1.083 | 1.104 | 1.126 | 1.102 |
| 2018-2019 | 1.007 | 1.102 | 1.152 | 1.205 | 1.261 | 1.041 | 1.062 | 1.082 | 1.104 | 1.058 |
| 2019-2020 | 1.003 | 1.049 | 1.097 | 1.147 | 1.200 | 1.020 | 1.040 | 1.061 | 1.082 | 1.028 |
| 2020-2021 | 1.000 | 1.000 | 1.046 | 1.094 | 1.144 | 1.000 | 1.020 | 1.040 | 1.061 | 1.000 |
| 2021-2022 | 1.000 | -- | 1.000 | 1.046 | 1.094 | -- | 1.000 | 1.020 | 1.040 | -- |
| 2022-2023 | 1.000 | -- | -- | 1.000 | 1.046 | -- | -- | 1.000 | 1.020 | -- |
| 2023-2024 | 1.000 | -- | -- | -- | 1.000 | -- | -- | -- | 1.000 | -- |

Notes:

- (A) Based on WCIRB.
- (B) - (E) (A) adjusted for a 4.6% annual loss rate trend.
- (F) - (I) (A) adjusted for a 2.0% annual frequency trend.
- (J) (A) adjusted for a 2.5% annual severity trend.

This exhibit shows the calculation of the ways in which we expect claims costs to have changed over the past twenty years due to changes in statutory workers' compensation benefit levels and changes in actual claims costs in excess of changes in payroll. Changes in the ways in which claims are filed as a result of greater awareness of workers' compensation benefits are not generally reflected in the statutory benefit level factors shown above, but may be part of the reason for changes in actual claims costs in excess of payroll changes.

Novato Fire Protection District - Workers' Compensation

Residual Trend Factors

| Accident Year | Initial Estimate of Ultimate Limited Losses (A) | Ultimate Reported Claims (B) | BLF (C) | Adjusted Limited Severity (D) | Trended Payroll (\$00) (E) | Ultimate Frequency (F) |
|---------------|---|------------------------------|---------|-------------------------------|----------------------------|------------------------|
| Prior | \$3,872,000 | 398 | 0.760 | 7,390 | | |
| 2000-2001 | 363,000 | 26 | 0.716 | 9,990 | | |
| 2001-2002 | 593,926 | 24 | 0.716 | 17,728 | | |
| 2002-2003 | 179,000 | 30 | 0.752 | 4,488 | | |
| 2003-2004 | 435,196 | 31 | 0.930 | 13,056 | | |
| 2004-2005 | 202,000 | 20 | 1.201 | 12,127 | | |
| 2005-2006 | 262,000 | 27 | 1.305 | 12,662 | 126,509 | 2.134 |
| 2006-2007 | 270,765 | 23 | 1.248 | 14,687 | 138,292 | 1.663 |
| 2007-2008 | 92,328 | 18 | 1.168 | 5,992 | 163,056 | 1.104 |
| 2008-2009 | 440,000 | 23 | 1.066 | 20,398 | 170,315 | 1.350 |
| 2009-2010 | 442,000 | 26 | 0.973 | 16,549 | 150,383 | 1.729 |
| 2010-2011 | 362,000 | 19 | 0.938 | 17,878 | 128,479 | 1.479 |
| 2011-2012 | 403,000 | 19 | 0.929 | 19,714 | 129,074 | 1.472 |
| 2012-2013 | 215,000 | 23 | 0.948 | 8,858 | 127,026 | 1.811 |
| 2013-2014 | 369,686 | 30 | 0.966 | 11,909 | 126,765 | 2.367 |
| 2014-2015 | | 0 | 0.963 | | | |
| 2015-2016 | | 0 | 0.994 | | | |

| | <u>Severity Trend Factors</u> | <u>Frequency Trend Factors</u> |
|-------------------------|-------------------------------|--------------------------------|
| Latest 9 | 1.008 | 1.022 |
| Latest 5 | 0.873 | 1.087 |
| Prior | 1.025 | 1.020 |
| Default | 1.025 | 0.980 |
| Selected Residual Trend | 1.025 | 1.020 |

Notes:

- (A) Selected average of results from Appendix A and Appendix B.
- (B) Appendix D, Page 3, Column (C).
- (C) Appendix E, Page 1, (A).
- (D) $(A) \times (C) / (B)$.
- (E) From Appendix M, Column (C).
- (F) $(B) / (E) \times 10,000$.

Novato Fire Protection District - Workers' Compensation

Outstanding Liability for
Unallocated Loss Adjustment Expenses
as of 6/30/20

| Fiscal Year (A) | Number of Claims Active During Fiscal Year (B) | Average ULAE Charge per Active Claim (C) | Inflation Trend Factor (D) | Trended ULAE Charge per Active Claim (E) | ULAE Paid During Year (F) |
|--------------------|---|---|-------------------------------|---|------------------------------|
| 2020-2021 | 15.0 | \$1,150 | 1.000 | \$1,150 | \$17,250 |
| 2021-2022 | 10.9 | 1,150 | 1.050 | 1,208 | 13,167 |
| 2022-2023 | 9.4 | 1,150 | 1.103 | 1,268 | 11,919 |
| 2023-2024 | 7.6 | 1,150 | 1.158 | 1,332 | 10,123 |
| 2024-2025 | 6.3 | 1,150 | 1.216 | 1,398 | 8,807 |
| 2025-2026 | 5.8 | 1,150 | 1.277 | 1,469 | 8,520 |
| 2026-2027 | 5.3 | 1,150 | 1.341 | 1,542 | 8,173 |
| 2027-2028 | 3.7 | 1,150 | 1.408 | 1,619 | 5,990 |
| 2028-2029 | 2.3 | 1,150 | 1.478 | 1,700 | 3,910 |
| 2029-2030 | 1.0 | 1,150 | 1.552 | 1,785 | 1,785 |
| 2030-2031 | 0.4 | 1,150 | 1.630 | 1,875 | 750 |
| 2031-2032 | 0.0 | 1,150 | 1.712 | 1,969 | 0 |
| 2032-2033 | 0.0 | 1,150 | 1.798 | 2,068 | 0 |
| 2033-2034 | 0.0 | 1,150 | 1.888 | 2,171 | 0 |
| 2034-2035 | 0.0 | 1,150 | 1.982 | 2,279 | 0 |
| 2035-2036 | 0.0 | 1,150 | 2.081 | 2,393 | 0 |
| 2036-2037 | 0.0 | 1,150 | 2.185 | 2,513 | 0 |
| 2037-2038 | 0.0 | 1,150 | 2.294 | 2,638 | 0 |

(G) Total ULAE Outstanding as of 6/30/20: \$90,394

Notes:

- (A) We assume fiscal years will be 7/1 to 6/30.
- (B) Based on an estimated claim closing pattern.
- (C) Based on claims administration payment information provided by the District.
- (D) We assume ULAE costs will increase at 5.0% per year.
- (E) (C) x (D).
- (F) (B) x (E).
- (G) Total of Column (F).

This exhibit shows the calculation of the outstanding ULAE based on the expected pattern of claims closings and assumptions about future claims administration costs per open claim.

Novato Fire Protection District - Workers' Compensation

Outstanding Liability for
Unallocated Loss Adjustment Expenses
as of 6/30/21

| Fiscal Year (A) | Number of Claims Active During Fiscal Year (B) | Average ULAE Charge per Active Claim (C) | Inflation Trend Factor (D) | Trended ULAE Charge per Active Claim (E) | ULAE Paid During Year (F) |
|--------------------|---|---|-------------------------------|---|------------------------------|
| 2021-2022 | 10.9 | \$1,150 | 1.050 | \$1,208 | \$13,167 |
| 2022-2023 | 9.4 | 1,150 | 1.103 | 1,268 | 11,919 |
| 2023-2024 | 7.6 | 1,150 | 1.158 | 1,332 | 10,123 |
| 2024-2025 | 6.3 | 1,150 | 1.216 | 1,398 | 8,807 |
| 2025-2026 | 5.8 | 1,150 | 1.277 | 1,469 | 8,520 |
| 2026-2027 | 5.3 | 1,150 | 1.341 | 1,542 | 8,173 |
| 2027-2028 | 3.7 | 1,150 | 1.408 | 1,619 | 5,990 |
| 2028-2029 | 2.3 | 1,150 | 1.478 | 1,700 | 3,910 |
| 2029-2030 | 1.0 | 1,150 | 1.552 | 1,785 | 1,785 |
| 2030-2031 | 0.4 | 1,150 | 1.630 | 1,875 | 750 |
| 2031-2032 | 0.0 | 1,150 | 1.712 | 1,969 | 0 |
| 2032-2033 | 0.0 | 1,150 | 1.798 | 2,068 | 0 |
| 2033-2034 | 0.0 | 1,150 | 1.888 | 2,171 | 0 |
| 2034-2035 | 0.0 | 1,150 | 1.982 | 2,279 | 0 |
| 2035-2036 | 0.0 | 1,150 | 2.081 | 2,393 | 0 |
| 2036-2037 | 0.0 | 1,150 | 2.185 | 2,513 | 0 |
| 2037-2038 | 0.0 | 1,150 | 2.294 | 2,638 | 0 |
| 2038-2039 | 0.0 | 1,150 | 2.409 | 2,770 | 0 |

(G) Total ULAE Outstanding as of 6/30/21: \$73,144

Notes:

- (A) We assume fiscal years will be 7/1 to 6/30.
- (B) Based on an estimated claim closing pattern.
- (C) Based on claims administration payment information provided by the District.
- (D) We assume ULAE costs will increase at 5.0% per year.
- (E) (C) x (D).
- (F) (B) x (E).
- (G) Total of Column (F).

This exhibit shows the calculation of the outstanding ULAE based on the expected pattern of claims closings and assumptions about future claims administration costs per open claim.

Novato Fire Protection District - Workers' Compensation
Payment and Reserve Forecast

| | Calendar Period | | | | | | | | | | |
|------------------------------------|--------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| | As of 6/30/2020 | 7/1/2020 to 6/30/2021 | 7/1/2021 to 6/30/2022 | 7/1/2022 to 6/30/2023 | 7/1/2023 to 6/30/2024 | 7/1/2024 to 6/30/2025 | 7/1/2025 to 6/30/2026 | 7/1/2026 to 6/30/2027 | 7/1/2027 to 6/30/2028 | 7/1/2028 to 6/30/2029 | 7/1/2029 to 6/30/2030 |
| Prior | | | | | | | | | | | |
| Ultimate Loss | \$8,649,301 | \$8,649,301 | \$8,649,301 | \$8,649,301 | \$8,649,301 | \$8,649,301 | \$8,649,301 | \$8,649,301 | \$8,649,301 | \$8,649,301 | \$8,649,301 |
| Paid in Calendar Period | - | 34,563 | 26,019 | 21,165 | 18,170 | 15,511 | 13,226 | 11,328 | 9,653 | 8,221 | 7,001 |
| Paid to Date | 8,444,461 | 8,479,024 | 8,505,043 | 8,526,208 | 8,544,378 | 8,559,889 | 8,573,115 | 8,584,443 | 8,594,096 | 8,602,317 | 8,609,318 |
| Undiscounted Outstanding Liability | 204,840 | 170,277 | 144,258 | 123,093 | 104,923 | 89,412 | 76,186 | 64,858 | 55,205 | 46,984 | 39,983 |
| 2004-2005 | | | | | | | | | | | |
| Ultimate Loss | \$211,000 | \$211,000 | \$211,000 | \$211,000 | \$211,000 | \$211,000 | \$211,000 | \$211,000 | \$211,000 | \$211,000 | \$211,000 |
| Paid in Calendar Period | - | 4,238 | 4,365 | 13,270 | 4,264 | 3,692 | 3,191 | 2,744 | 2,341 | 2,010 | 1,713 |
| Paid to Date | 159,312 | 163,550 | 167,915 | 181,185 | 185,449 | 189,141 | 192,332 | 195,076 | 197,417 | 199,427 | 201,140 |
| Undiscounted Outstanding Liability | 51,688 | 47,450 | 43,085 | 29,815 | 25,551 | 21,859 | 18,668 | 15,924 | 13,583 | 11,573 | 9,860 |
| 2005-2006 | | | | | | | | | | | |
| Ultimate Loss | \$261,000 | \$261,000 | \$261,000 | \$261,000 | \$261,000 | \$261,000 | \$261,000 | \$261,000 | \$261,000 | \$261,000 | \$261,000 |
| Paid in Calendar Period | - | 1,057 | 865 | 1,889 | 2,402 | 772 | 668 | 578 | 497 | 424 | 364 |
| Paid to Date | 249,390 | 250,447 | 251,312 | 253,201 | 255,603 | 256,375 | 257,043 | 257,621 | 258,118 | 258,542 | 258,906 |
| Undiscounted Outstanding Liability | 11,610 | 10,553 | 9,688 | 7,799 | 5,397 | 4,625 | 3,957 | 3,379 | 2,882 | 2,458 | 2,094 |
| 2006-2007 | | | | | | | | | | | |
| Ultimate Loss | \$493,327 | \$493,327 | \$493,327 | \$493,327 | \$493,327 | \$493,327 | \$493,327 | \$493,327 | \$493,327 | \$493,327 | \$493,327 |
| Paid in Calendar Period | - | 493,327 | 493,327 | 493,327 | 493,327 | 493,327 | 493,327 | 493,327 | 493,327 | 493,327 | 493,327 |
| Paid to Date | 493,327 | 493,327 | 493,327 | 493,327 | 493,327 | 493,327 | 493,327 | 493,327 | 493,327 | 493,327 | 493,327 |
| Undiscounted Outstanding Liability | - | - | - | - | - | - | - | - | - | - | - |
| 2007-2008 | | | | | | | | | | | |
| Ultimate Loss | \$92,328 | \$92,328 | \$92,328 | \$92,328 | \$92,328 | \$92,328 | \$92,328 | \$92,328 | \$92,328 | \$92,328 | \$92,328 |
| Paid in Calendar Period | - | 92,328 | 92,328 | 92,328 | 92,328 | 92,328 | 92,328 | 92,328 | 92,328 | 92,328 | 92,328 |
| Paid to Date | 92,328 | 92,328 | 92,328 | 92,328 | 92,328 | 92,328 | 92,328 | 92,328 | 92,328 | 92,328 | 92,328 |
| Undiscounted Outstanding Liability | - | - | - | - | - | - | - | - | - | - | - |
| 2008-2009 | | | | | | | | | | | |
| Ultimate Loss | \$656,000 | \$656,000 | \$656,000 | \$656,000 | \$656,000 | \$656,000 | \$656,000 | \$656,000 | \$656,000 | \$656,000 | \$656,000 |
| Paid in Calendar Period | - | 17,228 | 14,453 | 13,069 | 12,969 | 10,623 | 23,190 | 29,485 | 9,473 | 8,204 | 7,091 |
| Paid to Date | 468,736 | 485,964 | 500,417 | 513,486 | 526,455 | 537,078 | 560,268 | 589,753 | 599,226 | 607,430 | 614,521 |
| Undiscounted Outstanding Liability | 187,264 | 170,036 | 155,583 | 142,514 | 129,545 | 118,922 | 95,732 | 66,247 | 56,774 | 48,570 | 41,479 |
| 2009-2010 | | | | | | | | | | | |
| Ultimate Loss | \$698,000 | \$698,000 | \$698,000 | \$698,000 | \$698,000 | \$698,000 | \$698,000 | \$698,000 | \$698,000 | \$698,000 | \$698,000 |
| Paid in Calendar Period | - | 10,275 | 8,800 | 7,382 | 6,675 | 6,624 | 5,426 | 11,845 | 15,061 | 4,839 | 4,190 |
| Paid to Date | 592,075 | 602,350 | 611,150 | 618,532 | 625,207 | 631,831 | 637,257 | 649,102 | 664,163 | 669,002 | 673,192 |
| Undiscounted Outstanding Liability | 105,925 | 95,650 | 86,850 | 79,468 | 72,793 | 66,169 | 60,743 | 48,898 | 33,837 | 28,998 | 24,808 |

Novato Fire Protection District - Workers' Compensation
Payment and Reserve Forecast

| Accident Year | Calendar Period | | | | | | | | | | |
|------------------------------------|--------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| | As of 6/30/2020 | 7/1/2020 to 6/30/2021 | 7/1/2021 to 6/30/2022 | 7/1/2022 to 6/30/2023 | 7/1/2023 to 6/30/2024 | 7/1/2024 to 6/30/2025 | 7/1/2025 to 6/30/2026 | 7/1/2026 to 6/30/2027 | 7/1/2027 to 6/30/2028 | 7/1/2028 to 6/30/2029 | 7/1/2029 to 6/30/2030 |
| 2010-2011 | | | | | | | | | | | |
| Ultimate Loss | \$632,000 | \$632,000 | \$632,000 | \$632,000 | \$632,000 | \$632,000 | \$632,000 | \$632,000 | \$632,000 | \$632,000 | \$632,000 |
| Paid in Calendar Period | - | 13,911 | 13,006 | 11,018 | 9,355 | 8,459 | 8,394 | 6,875 | 15,010 | 19,084 | 6,132 |
| Paid to Date | 484,010 | 497,921 | 510,927 | 521,945 | 531,300 | 539,759 | 548,153 | 555,028 | 570,038 | 589,122 | 595,254 |
| Undiscounted Outstanding Liability | 147,990 | 134,079 | 121,073 | 110,055 | 100,700 | 92,241 | 83,847 | 76,972 | 61,962 | 42,878 | 36,746 |
| 2011-2012 | | | | | | | | | | | |
| Ultimate Loss | \$700,000 | \$700,000 | \$700,000 | \$700,000 | \$700,000 | \$700,000 | \$700,000 | \$700,000 | \$700,000 | \$700,000 | \$700,000 |
| Paid in Calendar Period | - | 15,620 | 13,214 | 12,354 | 10,466 | 8,886 | 8,035 | 7,974 | 6,531 | 14,258 | 18,129 |
| Paid to Date | 543,802 | 559,422 | 572,636 | 584,990 | 595,456 | 604,342 | 612,377 | 620,351 | 626,882 | 641,140 | 659,269 |
| Undiscounted Outstanding Liability | 156,198 | 140,578 | 127,364 | 115,010 | 104,544 | 95,658 | 87,623 | 79,649 | 73,118 | 58,860 | 40,731 |
| 2012-2013 | | | | | | | | | | | |
| Ultimate Loss | \$324,000 | \$324,000 | \$324,000 | \$324,000 | \$324,000 | \$324,000 | \$324,000 | \$324,000 | \$324,000 | \$324,000 | \$324,000 |
| Paid in Calendar Period | - | 14,744 | 10,044 | 8,497 | 7,944 | 6,730 | 5,714 | 5,167 | 5,127 | 4,200 | 9,169 |
| Paid to Date | 208,814 | 223,558 | 233,602 | 242,099 | 250,043 | 256,773 | 262,487 | 267,654 | 272,781 | 276,981 | 286,150 |
| Undiscounted Outstanding Liability | 115,186 | 100,442 | 90,398 | 81,901 | 73,957 | 67,227 | 61,513 | 56,346 | 51,219 | 47,019 | 37,850 |
| 2013-2014 | | | | | | | | | | | |
| Ultimate Loss | \$594,000 | \$594,000 | \$594,000 | \$594,000 | \$594,000 | \$594,000 | \$594,000 | \$594,000 | \$594,000 | \$594,000 | \$594,000 |
| Paid in Calendar Period | - | 29,263 | 19,094 | 13,008 | 11,004 | 10,288 | 8,716 | 7,400 | 6,691 | 6,640 | 5,439 |
| Paid to Date | 415,567 | 444,830 | 463,924 | 476,932 | 487,936 | 498,224 | 506,940 | 514,340 | 521,031 | 527,671 | 533,110 |
| Undiscounted Outstanding Liability | 178,433 | 149,170 | 130,076 | 117,068 | 106,064 | 95,776 | 87,060 | 79,660 | 72,969 | 66,329 | 60,890 |

Novato Fire Protection District - Workers' Compensation

Payment and Reserve Forecast

| Accident Year | Calendar Period | | | | | | | | | | | |
|--|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|--------------|
| | 7/1/2020 to 6/30/2020 | 7/1/2021 to 6/30/2021 | 7/1/2022 to 6/30/2022 | 7/1/2023 to 6/30/2023 | 7/1/2024 to 6/30/2024 | 7/1/2025 to 6/30/2025 | 7/1/2026 to 6/30/2026 | 7/1/2027 to 6/30/2027 | 7/1/2028 to 6/30/2028 | 7/1/2029 to 6/30/2029 | 7/1/2029 to 6/30/2030 | |
| As of 6/30/2020 | \$13,310,956 | \$13,310,956 | \$13,310,956 | \$13,310,956 | \$13,310,956 | \$13,310,956 | \$13,310,956 | \$13,310,956 | \$13,310,956 | \$13,310,956 | \$13,310,956 | \$13,310,956 |
| Ultimate Loss | 13,687,000 | 13,687,000 | 13,687,000 | 13,687,000 | 13,687,000 | 13,687,000 | 13,687,000 | 13,687,000 | 13,687,000 | 13,687,000 | 13,687,000 | 13,687,000 |
| Ultimate Loss at 80% | - | 140,899 | 109,860 | 101,652 | 83,249 | 71,585 | 76,560 | 83,396 | 70,384 | 67,880 | 59,228 | 78,418 |
| Paid at Expected in Calendar Period | 187,035 | 145,455 | 134,587 | 110,222 | 94,779 | 101,365 | 110,416 | 93,188 | 89,873 | 89,873 | 78,418 | 78,418 |
| Paid at 80% in Calendar Period | 12,151,822 | 12,402,581 | 12,504,233 | 12,587,482 | 12,659,067 | 12,735,627 | 12,819,023 | 12,889,407 | 12,957,287 | 12,957,287 | 13,016,515 | 13,016,515 |
| Total Paid to Date at Expected | 12,338,857 | 12,484,312 | 12,618,899 | 12,729,120 | 12,823,899 | 12,925,264 | 13,035,681 | 13,128,869 | 13,218,742 | 13,218,742 | 13,297,160 | 13,297,160 |
| Total Paid to Date at 80% | 1,159,134 | 1,018,235 | 806,723 | 723,474 | 651,889 | 575,329 | 491,933 | 421,549 | 353,669 | 353,669 | 294,441 | 294,441 |
| Undiscounted Outstanding Liability at Expected | 1,534,693 | 1,348,143 | 1,068,101 | 957,880 | 863,101 | 761,736 | 651,319 | 558,131 | 468,258 | 468,258 | 389,840 | 389,840 |
| Undiscounted Outstanding Liability at 80% | 90,394 | 73,144 | 48,058 | 37,935 | 29,944 | 23,637 | 18,658 | 14,728 | 11,626 | 11,626 | 9,177 | 9,177 |
| Total Undiscounted Outstanding ULAE at Expected | 119,682 | 96,843 | 63,629 | 50,226 | 39,646 | 31,295 | 24,703 | 19,500 | 15,392 | 15,392 | 12,150 | 12,150 |
| Total Undiscounted Outstanding ULAE at 80% | 1,249,528 | 1,091,379 | 854,781 | 761,409 | 681,833 | 598,966 | 510,591 | 436,277 | 365,295 | 365,295 | 303,618 | 303,618 |
| Total Undiscounted Outstanding Liability at Expected | 1,654,375 | 1,444,986 | 1,131,730 | 1,008,106 | 902,747 | 793,031 | 676,022 | 577,630 | 483,650 | 483,650 | 401,990 | 401,990 |
| Total Undiscounted Outstanding Liability at 80% | | | | | | | | | | | | |

Notes appear on the next page.

Novato Fire Protection District - Workers' Compensation

Payment and Reserve Forecast

Notes to previous page:

- Accident Year is associated with date of loss. Calendar Period is associated with date of transaction. For example, for the losses which occurred during 2013-2014, \$594,000 is expected to be paid between 7/1/20 and 6/30/21, \$444,830 will have been paid by 6/30/21, and the reserve for remaining payments on these claims should be \$149,170.
- Ultimate Losses for each accident year are from Exhibit 3, Page 1.
- Paid in Calendar Period is a proportion of the Undiscounted Outstanding Liability from the previous calendar period. These proportions are derived from the paid loss development pattern selected in Appendix B. For example, $\$29,263 = \$178,433 \times 16.4\%$.
- Paid to Date is Paid in Calendar Period plus Paid to Date from previous calendar period. For example, $\$444,830 = \$29,263 + \$415,567$.
- Outstanding Liability is Ultimate Loss minus Paid to Date. For example, $\$149,170 = \$178,433 - \$29,263$.

This exhibit shows the calculation of the liability for outstanding claims as of the date of evaluation, the end of the current fiscal year, and the end of the coming fiscal year. It also shows the expected claims payout during the remainder of the current fiscal year and the coming fiscal year. Refer to the Totals at the end of the exhibit for the balance sheet information. The top parts of the exhibit show information for each program year.

Novato Fire Protection District - Workers' Compensation

Short- and Long-Term Liabilities

| <u>Liabilities as of 6/30/20:</u> | | <u>Expected</u> | <u>Discounted</u> |
|-----------------------------------|--------------------------|--------------------|--------------------|
| <u>Current (Short Term)</u> | Loss and ALAE: | \$140,899 | \$139,170 |
| | ULAE: | 17,250 | 17,038 |
| | Short-Term Loss and LAE: | <u>\$158,149</u> | <u>\$156,208</u> |
| <u>Non-Current (Long Term)</u> | Loss and ALAE: | \$1,018,235 | \$860,330 |
| | ULAE: | 73,144 | 60,907 |
| | Long-Term Loss and LAE: | <u>\$1,091,379</u> | <u>\$921,237</u> |
| <u>Total Liability</u> | Loss and ALAE: | \$1,159,134 | \$999,500 |
| | ULAE: | 90,394 | 77,945 |
| | Total Loss and LAE: | <u>\$1,249,528</u> | <u>\$1,077,445</u> |

| <u>Liabilities as of 6/30/21:</u> | | | |
|-----------------------------------|--------------------------|--------------------|------------------|
| <u>Current (Short Term)</u> | Loss and ALAE: | \$109,860 | \$108,512 |
| | ULAE: | 13,167 | 13,005 |
| | Short-Term Loss and LAE: | <u>\$123,027</u> | <u>\$121,517</u> |
| <u>Non-Current (Long Term)</u> | Loss and ALAE: | \$908,375 | \$775,551 |
| | ULAE: | 59,977 | 50,501 |
| | Long-Term Loss and LAE: | <u>\$968,352</u> | <u>\$826,052</u> |
| <u>Total Liability</u> | Loss and ALAE: | \$1,018,235 | \$884,063 |
| | ULAE: | 73,144 | 63,506 |
| | Total Loss and LAE: | <u>\$1,091,379</u> | <u>\$947,569</u> |

| | | <u>Discounted with a Margin for Contingencies</u> | | | | |
|-----------------------------------|--------------------------|---|--------------------|--------------------|--------------------|--------------------|
| | | <u>70%</u> | <u>75%</u> | <u>80%</u> | <u>85%</u> | <u>90%</u> |
| | | <u>Confidence</u> | <u>Confidence</u> | <u>Confidence</u> | <u>Confidence</u> | <u>Confidence</u> |
| <u>Liabilities as of 6/30/20:</u> | | | | | | |
| <u>Current (Short Term)</u> | Loss and ALAE: | \$161,437 | \$171,875 | \$184,261 | \$199,709 | \$220,445 |
| | ULAE: | 19,764 | 21,042 | 22,558 | 24,450 | 26,988 |
| | Short-Term Loss and LAE: | <u>\$181,201</u> | <u>\$192,917</u> | <u>\$206,819</u> | <u>\$224,159</u> | <u>\$247,433</u> |
| <u>Non-Current (Long Term)</u> | Loss and ALAE: | \$997,983 | \$1,062,508 | \$1,139,077 | \$1,234,574 | \$1,362,763 |
| | ULAE: | 70,652 | 75,220 | 80,641 | 87,401 | 96,477 |
| | Long-Term Loss and LAE: | <u>\$1,068,635</u> | <u>\$1,137,728</u> | <u>\$1,219,718</u> | <u>\$1,321,975</u> | <u>\$1,459,240</u> |
| <u>Total Liability</u> | Loss and ALAE: | \$1,159,420 | \$1,234,383 | \$1,323,338 | \$1,434,283 | \$1,583,208 |
| | ULAE: | 90,416 | 96,262 | 103,199 | 111,851 | 123,465 |
| | Total Loss and LAE: | <u>\$1,249,836</u> | <u>\$1,330,645</u> | <u>\$1,426,537</u> | <u>\$1,546,134</u> | <u>\$1,706,673</u> |
| <u>Liabilities as of 6/30/21:</u> | | | | | | |
| <u>Current (Short Term)</u> | Loss and ALAE: | \$125,874 | \$134,012 | \$143,670 | \$155,715 | \$171,883 |
| | ULAE: | 15,086 | 16,061 | 17,219 | 18,662 | 20,600 |
| | Short-Term Loss and LAE: | <u>\$140,960</u> | <u>\$150,073</u> | <u>\$160,889</u> | <u>\$174,377</u> | <u>\$192,483</u> |
| <u>Non-Current (Long Term)</u> | Loss and ALAE: | \$899,639 | \$957,806 | \$1,026,829 | \$1,112,915 | \$1,228,473 |
| | ULAE: | 58,581 | 62,369 | 66,863 | 72,470 | 79,993 |
| | Long-Term Loss and LAE: | <u>\$958,220</u> | <u>\$1,020,175</u> | <u>\$1,093,692</u> | <u>\$1,185,385</u> | <u>\$1,308,466</u> |
| <u>Total Liability</u> | Loss and ALAE: | \$1,025,513 | \$1,091,818 | \$1,170,499 | \$1,268,630 | \$1,400,356 |
| | ULAE: | 73,667 | 78,430 | 84,082 | 91,132 | 100,593 |
| | Total Loss and LAE: | <u>\$1,099,180</u> | <u>\$1,170,248</u> | <u>\$1,254,581</u> | <u>\$1,359,762</u> | <u>\$1,500,949</u> |

Note: Current (short term) liabilities are the portion of the total estimated liability shown on Appendix G that is expected to be paid out within the coming year. Totals may vary from Exhibit 1, due to rounding.

Novato Fire Protection District - Workers' Compensation

Discount Factors to be Applied to Overall Reserves

| Accident Year | Full Value of Reserve at 6/30/20 (A) | Discount Factor (B) | Discounted Reserve at 6/30/20 (C) | Full Value of Reserve at 6/30/21 (D) | Discount Factor (E) | Discounted Reserve at 6/30/21 (F) |
|---------------|--------------------------------------|---------------------|-----------------------------------|--------------------------------------|---------------------|-----------------------------------|
| Prior | \$136,710 | 0.988 | \$135,033 | \$116,750 | 1.000 | \$116,750 |
| 2000-2001 | 30,338 | 0.966 | 29,304 | 24,028 | 0.988 | 23,733 |
| 2001-2002 | 20,283 | 0.946 | 19,195 | 17,383 | 0.966 | 16,790 |
| 2002-2003 | 17,509 | 0.928 | 16,254 | 12,116 | 0.946 | 11,466 |
| 2003-2004 | 0 | 0.911 | 0 | 0 | 0.928 | 0 |
| 2004-2005 | 51,688 | 0.895 | 46,275 | 47,450 | 0.911 | 43,251 |
| 2005-2006 | 11,610 | 0.881 | 10,234 | 10,553 | 0.895 | 9,448 |
| 2006-2007 | 0 | 0.868 | 0 | 0 | 0.881 | 0 |
| 2007-2008 | 0 | 0.857 | 0 | 0 | 0.868 | 0 |
| 2008-2009 | 187,264 | 0.847 | 158,611 | 170,036 | 0.857 | 145,657 |
| 2009-2010 | 105,925 | 0.839 | 88,919 | 95,650 | 0.847 | 81,015 |
| 2010-2011 | 147,990 | 0.832 | 123,195 | 134,079 | 0.839 | 112,553 |
| 2011-2012 | 156,198 | 0.827 | 129,135 | 140,578 | 0.832 | 117,024 |
| 2012-2013 | 115,186 | 0.827 | 95,239 | 100,442 | 0.827 | 83,039 |
| 2013-2014 | 178,433 | 0.830 | 148,106 | 149,170 | 0.827 | 123,337 |
| 2014-2015 | 0 | 0.830 | 0 | 0 | 0.830 | 0 |
| 2015-2016 | 0 | 0.829 | 0 | 0 | 0.830 | 0 |
| 2016-2017 | 0 | 0.825 | 0 | 0 | 0.829 | 0 |
| 2017-2018 | 0 | 0.822 | 0 | 0 | 0.825 | 0 |
| 2018-2019 | 0 | 0.824 | 0 | 0 | 0.822 | 0 |
| 2019-2020 | 0 | 0.832 | 0 | 0 | 0.824 | 0 |
| 2020-2021 | 0 | - | - | 0 | 0.832 | 0 |
| Totals | \$1,159,134 | | \$999,500 | \$1,018,235 | | \$884,063 |

(G) Discount Factor at 6/30/20 for Overall Reserve: 0.862

(H) Discount Factor at 6/30/21 for Overall Reserve: 0.868

Notes:

- (A) From Appendix G, Outstanding Liability at 6/30/20.
- (B) Based on Appendix I, Page 2, Column (E).
- (C) (A) x (B).
- (D) From Appendix G, Outstanding Liability at 6/30/21.
- (E) Based on Appendix I, Page 2, Column (E).
- (F) (D) x (E).
- (G) Total of (C) / Total of (A).
- (H) Total of (F) / Total of (D).

This exhibit shows the expected impact of anticipated investment income on the liability for outstanding claims at the date of evaluation and the end of the current fiscal year. For example, if the discount factor in item (G) is 0.862, the discounted liability for outstanding claims is 86.2% of the full value.

Novato Fire Protection District - Workers' Compensation

Calculation of Discount Factors

| Payment Year (A) | Payment Pattern (B) | Return on Investment (C) | Discounted Reserves (D) | Undiscounted Reserves (E) | Discount Factor (F) |
|---|------------------------|-----------------------------|----------------------------|------------------------------|------------------------|
| 22 | 12.9% | 2.5% | 0.127 | 0.129 | 0.988 |
| 21 | 1.3% | 2.5% | 0.138 | 0.142 | 0.966 |
| 20 | 1.4% | 2.5% | 0.148 | 0.156 | 0.946 |
| 19 | 1.3% | 2.5% | 0.157 | 0.169 | 0.928 |
| 18 | 1.3% | 2.5% | 0.166 | 0.182 | 0.911 |
| 17 | 1.2% | 2.5% | 0.174 | 0.194 | 0.895 |
| 16 | 1.5% | 2.5% | 0.184 | 0.209 | 0.881 |
| 15 | 1.4% | 2.5% | 0.194 | 0.223 | 0.868 |
| 14 | 1.7% | 2.5% | 0.205 | 0.240 | 0.857 |
| 13 | 1.9% | 2.5% | 0.219 | 0.259 | 0.847 |
| 12 | 2.3% | 2.5% | 0.236 | 0.282 | 0.839 |
| 11 | 2.4% | 2.5% | 0.255 | 0.306 | 0.832 |
| 10 | 2.8% | 2.5% | 0.276 | 0.334 | 0.827 |
| 9 | 4.2% | 2.5% | 0.311 | 0.376 | 0.827 |
| 8 | 5.6% | 2.5% | 0.358 | 0.431 | 0.830 |
| 7 | 5.4% | 2.5% | 0.403 | 0.485 | 0.830 |
| 6 | 6.0% | 2.5% | 0.452 | 0.545 | 0.829 |
| 5 | 5.4% | 2.5% | 0.494 | 0.599 | 0.825 |
| 4 | 6.2% | 2.5% | 0.543 | 0.661 | 0.822 |
| 3 | 8.8% | 2.5% | 0.617 | 0.749 | 0.824 |
| 2 | 13.6% | 2.5% | 0.736 | 0.885 | 0.832 |
| 1 | 11.5% | 2.5% | 0.832 | 1.000 | 0.832 |
| (G) Discount Factor for Future Funding: | | | | 2020-2021 | 0.842 |
| | | | | 2021-2022 | 0.842 |

Notes:

- (A) This is the year of payment relative to the accident year. For example, year 7 refers to payments made in the seventh year after the inception of the accident year. We assume that payments are made at midyear.
- (B) Percent of ultimate loss paid this year. This payment pattern is based on the paid loss development pattern selected in Appendix B, Page 2.
- (C) Assumed Investment Income Rates.
- (D) Discounted Reserves at the beginning of this year is next year's Discounted Reserves discounted one year plus this year's payments discounted six months. For example, in year 2, $73.6\% = [61.7\% / 1.025] + [13.6\% / (1.012)]$.
- (E) Summation of future (B) values. This is the percent of ultimate loss unpaid at the beginning of the year.
- (F) (D) / (E).
- (G) (F) at year 1, with interest accumulated for six months. We assume that the required funding is deposited at the middle of the first year.

This exhibit shows the calculation of the effect of anticipated investment income on future claims costs. Thus, if the discount factor in item (F) is 0.84, on a discounted basis, \$0.84 must be budgeted for every \$1 that will actually be paid on claims that will be incurred in the next fiscal year.

Novato Fire Protection District - Workers' Compensation

Confidence Level Table

| Probability | Projected Losses | Outstanding Losses |
|-------------|------------------|--------------------|
| 95% | 3.341 | 1.832 |
| 90% | 2.339 | 1.584 |
| 85% | 1.828 | 1.435 |
| 80% | 1.495 | 1.324 |
| 75% | 1.253 | 1.235 |
| 70% | 1.065 | 1.160 |
| 65% | 0.912 | 1.093 |
| 60% | 0.785 | 1.033 |
| 55% | 0.675 | 0.978 |
| 50% | 0.580 | 0.926 |
| 45% | 0.496 | 0.876 |
| 40% | 0.421 | 0.828 |
| 35% | 0.353 | 0.780 |
| 30% | 0.291 | 0.732 |
| 25% | 0.234 | 0.682 |

To read table: For the above retention, there is a 90% chance that final loss settlements will be less than 2.339 times the average expected amount of losses.

This exhibit shows the loads that must be applied to bring estimated losses at the expected level to the various indicated confidence levels.

Novato Fire Protection District - Workers' Compensation

Program History

| Policy Year Start Date | Policy Year End Date | Policy Year | Self-Insured Retention | |
|---------------------------|-------------------------|-------------|------------------------|-----------|
| | | | Per Occurrence | Aggregate |
| 7/1/1987 | 6/30/2000 | Prior | \$275,000 | (none) |
| 7/1/2000 | 6/30/2001 | 2000-2001 | 275,000 | (none) |
| 7/1/2001 | 6/30/2002 | 2001-2002 | 300,000 | (none) |
| 7/1/2002 | 6/30/2003 | 2002-2003 | 1,000,000 | (none) |
| 7/1/2003 | 6/30/2004 | 2003-2004 | 1,000,000 | (none) |
| 7/1/2004 | 6/30/2005 | 2004-2005 | 1,000,000 | (none) |
| 7/1/2005 | 6/30/2006 | 2005-2006 | 1,000,000 | (none) |
| 7/1/2006 | 6/30/2007 | 2006-2007 | 1,000,000 | (none) |
| 7/1/2007 | 6/30/2008 | 2007-2008 | 1,000,000 | (none) |
| 7/1/2008 | 6/30/2009 | 2008-2009 | 1,000,000 | (none) |
| 7/1/2009 | 6/30/2010 | 2009-2010 | 1,000,000 | (none) |
| 7/1/2010 | 6/30/2011 | 2010-2011 | 1,000,000 | (none) |
| 7/1/2011 | 6/30/2012 | 2011-2012 | 1,000,000 | (none) |
| 7/1/2012 | 6/30/2013 | 2012-2013 | 1,000,000 | (none) |
| 7/1/2013 | 6/30/2014 | 2013-2014 | 1,250,000 | (none) |

| Third Party Claims Administrator | Begin Date | End Date |
|--|---------------|-------------|
| Athens | 7/1/1987 | Current |

This exhibit summarizes some of the key facts about the history of the program.

Novato Fire Protection District - Workers' Compensation

Incurred Losses as of 6/30/20

| Accident Year (A) | Unlimited Incurred (B) | Additions to Losses (C) | Subtractions from Losses (D) | Adjusted Incurred (E) | Incurred Over SIR (F) | Incurred Over \$100,000 (G) | Incurred Capped at \$100,000 (H) | Incurred \$100,000 to SIR Layer (I) | Incurred Capped at SIR (J) | Incurred Capped at SIR & Aggregate (K) |
|-------------------|------------------------|-------------------------|------------------------------|-----------------------|-----------------------|-----------------------------|----------------------------------|-------------------------------------|----------------------------|--|
| Prior | \$4,755,436 | \$0 | \$20,361 | \$4,735,074 | \$0 | \$886,121 | \$3,848,954 | \$886,121 | \$4,735,074 | \$4,735,074 |
| 2000-2001 | 585,910 | 0 | 0 | 585,910 | 5,667 | 225,797 | 360,113 | 220,129 | 580,243 | 580,243 |
| 2001-2002 | 1,124,402 | 0 | 694 | 1,123,707 | 46,495 | 529,782 | 593,926 | 483,287 | 1,077,213 | 1,077,213 |
| 2002-2003 | 177,091 | 0 | 0 | 177,091 | 0 | 0 | 177,091 | 0 | 177,091 | 177,091 |
| 2003-2004 | 2,004,301 | 0 | 0 | 2,004,301 | 0 | 1,569,106 | 435,196 | 1,569,106 | 2,004,301 | 2,004,301 |
| 2004-2005 | 198,932 | 0 | 0 | 198,932 | 0 | 0 | 198,932 | 0 | 198,932 | 198,932 |
| 2005-2006 | 257,533 | 0 | 0 | 257,533 | 0 | 0 | 257,533 | 0 | 257,533 | 257,533 |
| 2006-2007 | 493,327 | 0 | 0 | 493,327 | 0 | 222,562 | 270,765 | 222,562 | 493,327 | 493,327 |
| 2007-2008 | 92,328 | 0 | 0 | 92,328 | 0 | 0 | 92,328 | 0 | 92,328 | 92,328 |
| 2008-2009 | 600,083 | 0 | 0 | 600,083 | 0 | 171,245 | 428,838 | 171,245 | 600,083 | 600,083 |
| 2009-2010 | 625,676 | 0 | 0 | 625,676 | 0 | 195,778 | 429,898 | 195,778 | 625,676 | 625,676 |
| 2010-2011 | 553,098 | 0 | 0 | 553,098 | 0 | 202,417 | 350,681 | 202,417 | 553,098 | 553,098 |
| 2011-2012 | 597,046 | 0 | 0 | 597,046 | 0 | 207,821 | 389,225 | 207,821 | 597,046 | 597,046 |
| 2012-2013 | 250,917 | 0 | 0 | 250,917 | 0 | 44,578 | 206,339 | 44,578 | 250,917 | 250,917 |
| 2013-2014 | 415,567 | 0 | 0 | 415,567 | 0 | 45,881 | 369,686 | 45,881 | 415,567 | 415,567 |
| Total | \$12,731,648 | \$0 | \$21,055 | \$12,710,592 | \$52,162 | \$4,301,087 | \$8,409,505 | \$4,248,925 | \$12,658,430 | \$12,658,430 |

Notes:

- (A) Years are 7/1 to 6/30.
- (B) Provided by the District.
- (C)
- (D) Recoveries.
- (E) (B) + (C) - (D).
- (F) Sum of incurred losses in excess of SIR.
- (G) Sum of incurred losses in excess of \$100,000.
- (H) (E) - (G).
- (I) (G) - (F).
- (J) (E) - (F).
- (K) Minimum of (J) and the aggregate stop loss. See Appendix K.

Novato Fire Protection District - Workers' Compensation

Paid Losses as of 6/30/20

| Accident Year (A) | Unlimited Paid (B) | Additions to Losses (C) | Subtractions from Losses (D) | Adjusted Paid (E) | Paid Over SIR (F) | Paid Over \$100,000 (G) | Paid Capped at \$100,000 (H) | Paid \$100,000 to SIR Layer (I) | Paid Capped at SIR (J) | Paid Capped at SIR & Aggregate (K) |
|-------------------|---------------------|-------------------------|------------------------------|---------------------|-------------------|-------------------------|------------------------------|---------------------------------|------------------------|------------------------------------|
| Prior | \$4,684,651 | \$0 | \$20,361 | \$4,664,290 | \$0 | \$867,882 | \$3,796,407 | \$867,882 | \$4,664,290 | \$4,664,290 |
| 2000-2001 | 559,329 | 0 | 0 | 559,329 | 5,667 | 225,797 | 333,532 | 220,129 | 553,662 | 553,662 |
| 2001-2002 | 1,060,411 | 0 | 694 | 1,059,717 | 0 | 465,791 | 593,926 | 465,791 | 1,059,717 | 1,059,717 |
| 2002-2003 | 162,491 | 0 | 0 | 162,491 | 0 | 0 | 162,491 | 0 | 162,491 | 162,491 |
| 2003-2004 | 2,004,301 | 0 | 0 | 2,004,301 | 0 | 1,569,106 | 435,196 | 1,569,106 | 2,004,301 | 2,004,301 |
| 2004-2005 | 159,312 | 0 | 0 | 159,312 | 0 | 0 | 159,312 | 0 | 159,312 | 159,312 |
| 2005-2006 | 249,390 | 0 | 0 | 249,390 | 0 | 0 | 249,390 | 0 | 249,390 | 249,390 |
| 2006-2007 | 493,327 | 0 | 0 | 493,327 | 0 | 222,562 | 270,765 | 222,562 | 493,327 | 493,327 |
| 2007-2008 | 92,328 | 0 | 0 | 92,328 | 0 | 0 | 92,328 | 0 | 92,328 | 92,328 |
| 2008-2009 | 468,736 | 0 | 0 | 468,736 | 0 | 53,224 | 415,512 | 53,224 | 468,736 | 468,736 |
| 2009-2010 | 592,075 | 0 | 0 | 592,075 | 0 | 176,157 | 415,918 | 176,157 | 592,075 | 592,075 |
| 2010-2011 | 484,010 | 0 | 0 | 484,010 | 0 | 174,528 | 309,482 | 174,528 | 484,010 | 484,010 |
| 2011-2012 | 543,802 | 0 | 0 | 543,802 | 0 | 166,387 | 377,415 | 166,387 | 543,802 | 543,802 |
| 2012-2013 | 208,814 | 0 | 0 | 208,814 | 0 | 19,501 | 189,313 | 19,501 | 208,814 | 208,814 |
| 2013-2014 | 415,567 | 0 | 0 | 415,567 | 0 | 45,881 | 369,686 | 45,881 | 415,567 | 415,567 |
| Total | \$12,178,546 | \$0 | \$21,055 | \$12,157,490 | \$5,667 | \$3,986,815 | \$8,170,675 | \$3,981,148 | \$12,151,823 | \$12,151,823 |

Notes:

- (A) Years are 7/1 to 6/30.
- (B) Provided by the District.
- (C)
- (D) Recoveries.
- (E) (B) + (C) - (D).
- (F) Sum of paid losses in excess of SIR.
- (G) Sum of paid losses in excess of \$100,000.
- (H) (E) - (G).
- (I) (G) - (F).
- (J) (E) - (F).
- (K) Minimum of (J) and the aggregate stop loss. See Appendix K.

Novato Fire Protection District - Workers' Compensation

Case Reserves as of 6/30/20

| Accident Year (A) | Unlimited Reserves (B) | Additions to Losses (C) | Subtractions from Losses (D) | Adjusted Reserves (E) | Reserves Over SIR (F) | Reserves Over \$100,000 (G) | Reserves Capped at \$100,000 (H) | Reserves \$100,000 to SIR Layer (I) | Reserves Capped at SIR (J) | Reserves Capped at SIR & Aggregate (K) |
|-------------------|------------------------|-------------------------|------------------------------|-----------------------|-----------------------|-----------------------------|----------------------------------|-------------------------------------|----------------------------|--|
| Prior | \$70,784 | \$0 | \$0 | \$70,784 | \$0 | \$18,238 | \$52,546 | \$18,238 | \$70,784 | \$70,784 |
| 2000-2001 | 26,581 | 0 | 0 | 26,581 | 0 | 0 | 26,581 | 0 | 26,581 | 26,581 |
| 2001-2002 | 63,991 | 0 | 0 | 63,991 | 46,495 | 63,991 | 0 | 17,496 | 17,496 | 17,496 |
| 2002-2003 | 14,599 | 0 | 0 | 14,599 | 0 | 0 | 14,599 | 0 | 14,599 | 14,599 |
| 2003-2004 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2004-2005 | 39,620 | 0 | 0 | 39,620 | 0 | 0 | 39,620 | 0 | 39,620 | 39,620 |
| 2005-2006 | 8,143 | 0 | 0 | 8,143 | 0 | 0 | 8,143 | 0 | 8,143 | 8,143 |
| 2006-2007 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2007-2008 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2008-2009 | 131,347 | 0 | 0 | 131,347 | 0 | 118,021 | 13,326 | 118,021 | 131,347 | 131,347 |
| 2009-2010 | 33,602 | 0 | 0 | 33,602 | 0 | 19,622 | 13,980 | 19,622 | 33,602 | 33,602 |
| 2010-2011 | 69,088 | 0 | 0 | 69,088 | 0 | 27,889 | 41,199 | 27,889 | 69,088 | 69,088 |
| 2011-2012 | 53,244 | 0 | 0 | 53,244 | 0 | 41,434 | 11,810 | 41,434 | 53,244 | 53,244 |
| 2012-2013 | 42,103 | 0 | 0 | 42,103 | 0 | 25,077 | 17,026 | 25,077 | 42,103 | 42,103 |
| 2013-2014 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | \$553,102 | \$0 | \$0 | \$553,102 | \$46,495 | \$314,272 | \$238,829 | \$267,777 | \$506,607 | \$506,607 |

Notes:

- (A) Years are 7/1 to 6/30.
- (B) Appendix L, Page 1, Column (B) - Appendix L, Page 2, Column (B).
- (C) Appendix L, Page 1, Column (C) - Appendix L, Page 2, Column (C).
- (D) Appendix L, Page 1, Column (D) - Appendix L, Page 2, Column (D).
- (E) (B) + (C) - (D).
- (F) Sum of case reserves in excess of SIR.
- (G) Sum of case reserves in excess of \$100,000.
- (H) (E) - (G).
- (I) (G) - (F).
- (J) (E) - (F).
- (K) Minimum of (J) and the aggregate stop loss. See Appendix K.

Novato Fire Protection District - Workers' Compensation

Claim Counts as of 6/30/20

| Accident Year (A) | Reported Claims (B) | Additions to Reported Claims (C) | Subtractions from Reported Claims (D) | Adjusted Reported Claims (E) | Closed Claims (F) | Additions to Closed Claims (G) | Subtractions from Closed Claims (H) | Adjusted Closed Claims (I) | Open Claims (J) | Adjusted Open Claims (K) |
|-------------------|---------------------|----------------------------------|---------------------------------------|------------------------------|-------------------|--------------------------------|-------------------------------------|----------------------------|-----------------|--------------------------|
| Prior | 431 | 0 | 33 | 398 | 424 | 0 | 33 | 391 | 7 | 7 |
| 2000-2001 | 28 | 0 | 2 | 26 | 27 | 0 | 2 | 25 | 1 | 1 |
| 2001-2002 | 25 | 0 | 1 | 24 | 24 | 0 | 1 | 23 | 1 | 1 |
| 2002-2003 | 30 | 0 | 0 | 30 | 29 | 0 | 0 | 29 | 1 | 1 |
| 2003-2004 | 35 | 0 | 4 | 31 | 35 | 0 | 4 | 31 | 0 | 0 |
| 2004-2005 | 25 | 0 | 5 | 20 | 24 | 0 | 5 | 19 | 1 | 1 |
| 2005-2006 | 29 | 0 | 2 | 27 | 28 | 0 | 2 | 26 | 1 | 1 |
| 2006-2007 | 25 | 0 | 2 | 23 | 25 | 0 | 2 | 23 | 0 | 0 |
| 2007-2008 | 20 | 0 | 2 | 18 | 20 | 0 | 2 | 18 | 0 | 0 |
| 2008-2009 | 24 | 0 | 1 | 23 | 22 | 0 | 1 | 21 | 2 | 2 |
| 2009-2010 | 27 | 0 | 1 | 26 | 25 | 0 | 1 | 24 | 2 | 2 |
| 2010-2011 | 25 | 0 | 6 | 19 | 22 | 0 | 6 | 16 | 3 | 3 |
| 2011-2012 | 24 | 0 | 5 | 19 | 22 | 0 | 5 | 17 | 2 | 2 |
| 2012-2013 | 24 | 0 | 1 | 23 | 22 | 0 | 1 | 21 | 2 | 2 |
| 2013-2014 | 34 | 0 | 4 | 30 | 34 | 0 | 4 | 30 | 0 | 0 |
| Total | 806 | 0 | 69 | 737 | 783 | 0 | 69 | 714 | 23 | 23 |

Notes:

- (A) Years are 7/1 to 6/30.
- (B) Provided by the District.
- (C)
- (D) Closed claims with no payment
- (E) (B) + (C) - (D).
- (F) Provided by the District.
- (G)
- (H) Closed claims with no payment
- (I) (F) + (G) - (H).
- (J) (B) - (F).
- (K) (E) - (I).

Novato Fire Protection District - Workers' Compensation

Exposure Measures

| Accident Year | Total Payroll (\$00) (A) | Inflation Trend Factor (B) | Trended Payroll (\$00) (C) |
|------------------|-----------------------------------|-------------------------------------|-------------------------------------|
| 2006-2007 | 97,871 | 1.413 | 138,292 |
| 2007-2008 | 118,242 | 1.379 | 163,056 |
| 2008-2009 | 126,628 | 1.345 | 170,315 |
| 2009-2010 | 114,621 | 1.312 | 150,383 |
| 2010-2011 | 100,374 | 1.280 | 128,479 |
| 2011-2012 | 103,342 | 1.249 | 129,074 |
| 2012-2013 | 104,205 | 1.219 | 127,026 |
| 2013-2014 | 106,615 | 1.189 | 126,765 |

Notes:

- (A) Provided by the District.
- (B) Based on WCIRB.
- (C) (A) x (B).