Carmel Area
Wastewater District
Pension plan

2023 Actuary's Report

Actuarially Determined Contribution for Plan Year 2022/24

Valuation Date:	**July 1, 2023**
Plan Year Ending:	**June 30, 2024**
Tax Year Ending:	**June 30, 2024**

NICOLAY CONSULTING

Nicolay Consulting Group

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January 15, 2024

Ms. Barbara Buikema
Carmel Area Wastewater District
P0 Box 221428
Carmel, CA 93922

Dear Ms. Buikema:

Re: Carmel Area Wastewater District Pension Plan - July 1, 2023 Actuary's Report

We have performed an actuarial valuation of the Carmel Area Wastewater District Pension Plan (the "Plan") for the purpose of determining the plan's funding status as of July 1, 2023 and Actuarially Determined Contribution (ADC) for the 2023/24 Plan Year. This report is provided solely for this purpose and should not be used or relied upon for other purposes. It also should not be disclosed or distributed to a third party, unless we provide written permission.

This report is based on actual experience through June 30, 2023 and plan provisions in effect on July 1, 2023. The valuation and cost calculations for the 2023/24 Plan Year, as summarized in this report, are based on participant data and un-audited Plan financial information provided by Carmel Area Wastewater District (the "District") as of July 1, 2023.

All costs, liabilities, and other factors under the plan were determined in accordance with generally accepted actuarial principles and procedures. Actuarial assumptions were selected by the plan sponsor. Nicolay Consulting Group has reviewed the assumptions and believe them to be reasonable and suitable for the purposes of this measurement.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following:

- plan experience differing from that anticipated by the economic or demographic assumptions;
- changes in economic or demographic assumptions;
- increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and
- changes in plan provisions or applicable law.

Due to the limited scope of this assignment, we did not perform an analysis of the potential range of possible future measurements.

The valuation was based on results generated in ProVal, a third-party valuation system. Use of this software required us to code the plan provisions, assumptions, and methods outlined in this report. We reviewed the outputs for reasonableness at a high level and also reviewed sample calculations in detail. We are not aware of any material weaknesses or limitations in the software or its parameterization. We certify that the amounts presented in the accompanying report have been appropriately determined according to the actuarial assumptions stated herein.

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The actuarial calculations were completed under the supervision of Earlene L. Young and Sue Simon. They have met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. There is no relationship between the plan sponsor and our employer that would impair our objectivity in preparing this report.

We would be pleased to answer any questions on the material contained in this report or to provide explanation or further detail as may be appropriate.

Respectfully submitted,

Nicolay Consulting Group

Earlene L. Young

Sue Simon

Earlene L. Young, MAAA, FCA, EA	Sue Simon ASA, MAAA, EA, FCA
Senior Actuary	Vice President & Senior Actuary

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SECTION I
Summary

A. Highlights

Actuarially Determined Contribution for plan year ending June 30, 2024:		
Annual Contribution to fully amortize the Unfunded Actuarial Accrued Liability in five years (adjusted for monthly contributions)	$	0
Market Value of Asset on July 1, 2023	$	5,662,100
Actuarial Asset Value on July 1, 2023	$	6,081,734
Present Value of all Accrued Plan Benefits on July 1, 2023	$	5,644,720
Number of Participants at July 1, 2023:		
Retired participants receiving benefits		4
Terminated vested participants entitled to future benefits		3
Active participants		6
Total participants		13

B. Valuation Summary

The Carmel Area Wastewater District Pension Plan was established effective July 1, 1969 and has been amended from time to time since that date. The October 29, 2005 Plan amendment froze benefit service as of October 29, 2005, credited an additional 3 years of service for active employees and reduced normal retirement age from 65 to 62.

This section presents a summary of the valuation results and the funding status of the Plan at July 1, 2023:

1. Annual Cost

Based on funding the initial unfunded actuarial accrued liability over a period of five years from July 1, 2014 and each Gain/Loss over a 5 year period, the Actuarially Determined Contribution for the 2023/24 Plan Year is $0.

2. Change in Annual Cost

The Actuarially Determined Contribution remained at $0 for the 2023/24 Plan Year.

	2023/2024	2022/2023	2021/2022
(1) Actuarially Determined Contribution (ADC)	$0	$0	$0
(2) Covered Compensation	$843,629	$804,534	$784,366
(3) ADC as a Percentage of Covered Compensation	0%	0%	0%

B. Valuation Summary, continued

3. Funded Status

A plan's "funded status" is measured by comparing the Plan's assets with the Plan's actuarial liability. A ratio in excess of 100% means that the Plan's assets exceed the actuarial liability.

The Plan's actuarial liability may be measured in a variety of ways. Some of the alternatives are described below:

- Hard Frozen/Terminated Plan Basis:

  This actuarial liability represents the actuarial present value of all benefits accrued as of the valuation date, based on service and salary at that date.

- On-going Plan Basis:

  This actuarial liability represents the actuarial present value of all benefits allocated to plan years prior to the valuation date based on a particular actuarial cost method (i.e., Projected Unit Credit cost method). These calculations would include a projection of salary to the anticipated date of retirement/termination, based on the salary scale used for determining Plan cost.

- All Expected Future Plan Benefits:

  This actuarial liability represents the actuarial present value of all expected future benefits under the Plan as of the valuation date including benefits expected to be earned for future service based on future salary increases. Since service was frozen on October 29, 2005 this is equal to the On-going plan basis.

The Plan's funded status is described below, based on each of these measures of actuarial liability for the current year and the past two years.

	June 30, 2023	**June 30, 2022**	**June 30, 2021**
Actuarial Value of Assets	$6,081,734	$6,053,791	5,957,082
Actuarial Liabilities:			
Frozen Plan Basis	$5,180,005	$5,060,297	$5,003,436
On-Going Plan/All Expected Future Plan Benefits	$5,644,720	$5,500,816	$5,512,764
Funded Status:			
Frozen Plan Basis	117%	120%	119%
All Expected Future Plan Benefits	108%	110%	108%

C. Historical Summary

	2023/2024	2022/2023	2021/2022	2020/2021	2019/2020
ANNUAL COSTS					
Actuarially Determined Contribution	$0	$0	$0	$0	$0
Employer Contribution Made	Not Available	$0	$0	$0	$0
ASSETS AT BEGINNING OF PLAN YEAR					
Market Value of Assets	$5,662,100	$5,608,182	$6,705,582	$5,532,152	$5,432,101
Actuarial Value of Assets	$6,081,734	$6,053,791	$5,957,082	$5,496,670	$5,368,290
ACTUARIAL LIABILITIES AT BEGINNING OF PLAN YEAR					
Actuarial Accrued Liability	$5,644,720	$5,500,816	$5,512,764	$5,400,812	$5,211,326
Unfunded Actuarial Accrued Liability (Asset)	($437,014)	($552,975)	($444,318)	($95,858)	($156,964)
NUMBER OF PARTICIPANTS					
Retired	4	4	4	4	3
Disabled	0	0	0	0	0
Vested Termination	3	3	3	3	4
Active	6	6	6	6	6
Total	13	13	13	13	13

A. Development of the 2023/2024 Employer Contribution

Contribution required to amortize the July 1, 2023 unfunded actuarial accrued liability over a closed 5-year period plus gains and losses over 5 years.

(a)	Normal cost at July 1, 2023	$ 0
(b)	Amortization of Unfunded Actuarial Accrued liability since July 1, 2023 over 5 years, payable as of beginning of year [see Section II(C)]	0
(c)	Interest adjustment for monthly payments at 4.50%	0
(d)	Actuarially Determined Contribution for 2023/2024 plan year, payable monthly	$ 0

B. Development of the Unfunded Actuarial Accrued Liability

1. Projected Unit Credit actuarial accrued liability as of July 1, 2023	
(a) Active Participants	$2,761,516
(b) Retired Participants	2,464,690
(c) Disabled Participants	0
(d) Terminated Vested Participants	418,514
	$5,644,720
2. Actuarial Value of Assets as of July 1, 2023	$6,081,734
3. Unfunded Actuarial Accrued Liability (asset) as of July 1, 2023 (1) – (2)	($ 437,014)

C. Summary of Amortization Bases Used in Development of 2023/2024 Employer Contribution Range

Amortization bases for the District have been fully amortized as of June 30, 2023. Future actuarial gains and losses on/after July 1, 2023 will be amortized over a 5-year period beginning on the date established. Since the Plan is fully funded, the amortization payment is zero.

D. Funded Status: Low Default Risk Basis (ASOP 4)

Actuarial Standard of Practice (ASOP) No. 4, Measuring Pension Obligations and Determining Pension Plan Costs or Contributions, requires the disclosure of a low-default-risk obligation measure (LDROM) of benefit costs accrued as of the valuation date using a discount rate based on high quality fixed income securities with cash flows that replicate expected benefit payments. This measure approximates the cost to purchase low-default-risk fixed income securities to fund the accrued benefit.

As permitted in ASOP No. 4, the Actuarial Office uses the Entry Age Actuarial Cost Method to calculate the LDROM. This methodology is in line with the measure of "benefit entitlements" calculated by the Bureau of Economic Analysis (BEA) and used by the Federal Reserve to report the indebtedness due to pensions of plan sponsors and, conversely, the household wealth due to pensions of plan members.

The difference between the unfunded liabilities on a low-default-risk basis and on the funding policy basis is the market value of the future investment risk being used to reduce required contributions before the risk premium is earned. This hypothetical cost would be paid by future generations if annual returns fall short of the funding policy discount rate of 4.50% over the funding horizon.

Benefit security for members of the plan relies on a combination of the assets in the plan, the investment income generated from those assets, and the ability of the plan sponsor to make necessary future contributions. If future returns fall short of 6.8%, benefit security could be at risk without higher than currently anticipated future contributions.

The funded status on a low-default-risk basis is not appropriate for assessing the sufficiency of plan assets to cover the cost of settling the plan's benefit obligations (see page 3 - Hard Frozen/Terminated Plan Basis), nor is it appropriate for assessing the need for future contributions (see page 3 - Funded Status On-going Plan Basis).

1) Low Default Risk Obligation Measure (LDROM)[1]		
a) Discount Rate		3.86%
b) Actuarial Cost Method		Entry Age Normal
2) LDROM Accrued Liability		
a) Active	$2,970,870	
b) Terminated Vested	$ 440,069	
c) Retiree	$2,627,827	
d) Total		$6,038,766
3) Market Value of Assets		$5,662,100
4) Unfunded Accrued Liability		
a) LDROM Basis [2(d) – 3]		$376,666
b) Funding Policy Basis		($17,380)
5) Hypothetical Cost of Future Investment Risk [4(a) – 4(b)]		$394,046

1 LDROM Discount Rate is set using the Fidelity 20-Year Municipal Bond Index as of June 30, 2023. This measure was selected to align with GASB 68's requirement to use a "yield or index for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or better for benefits not covered by plan assets

SECTION III
Asset Information

A. Statement of Plan Assets at June 30, 2023

The assets of the Carmel Area Wastewater District Pension Plan are invested with Commonwealth Financial Network

Investments:	
Cash and Cash Equivalents	$ 17,456
Pooled Mutual Fund-Equity	3,493,975
Pooled Mutual Fund-Fixed Income	2,070,869
Participant Loans	0
Market value at June 30, 2023	$ 5,582300
Receivable from disbursement account	$79,800
Loan payment receivable	0
Market Value assets at June 30, 2023	$ 5,662,100

B. Changes in Assets during the 2022/2023 Plan Year

1. Market Value assets at July 1, 2022			$ 5,608,182
2. Changes during year			
(a) Credits			
(i)	Employer contributions	0	
(ii)	Participant contributions	0	
(iii)	Earned income	276,845	
(iv)	Investment gain (unrealized and realized)	(12,196)	
(v)	Total credits		264,649
(b) Charges			
(i)	Investment Expenses	$ 35,581	
(ii)	Retirement and Disability benefits	173,066	
(iii)	Lump sum benefits	0	
(iv)	Loan defaulted	0	
(v)	Administrative fees	2,084	
(vi)	Total charges		210,731
3. Market Value assets at June 30, 2023 = 1 + 2(a)(v) - 2(b)(vi)			$ 5,662,100

C. ACTUARIAL VALUE OF ASSETS – ASSET AVERAGING

(1) July 1, 2023 Market Value $ 5,662,100

(2)Previous Asset Gains and Losses

		(i) Amount	(ii) Weighting	(iii) (i) x (ii)
(a)	2022/23 Gain/(Loss)	($19,359)	2/3	($12,906)
(b)	2021/22 Gain/(Loss)	(1,220,183)	1/3	(406,728)
(c)	Total Asset Adjustment			($419,634)

(3) Adjusted Assets [(1) – (2)(c)(iii)]	$6,081,734
(4) Minimum Actuarial Value of Assets [85% x (1)]	4,766,955
(5) Maximum Actuarial Value of Assets [115% x (1)]	6,449,409
(6) Actuarial Value of Assets [(3); not less than (4) or more than (5)]	$6,081,734

SECTION IV
Census Data

A. Classification of Participants

	July 1, 2023	July 1, 2022
1. Active participants accruing benefits:		
(a) Under normal retirement age	5	5
(b) Over normal retirement age	1	1
(c) Total	6	6
2. Terminated participants with deferred vested benefits	3	3
3. Retired and disabled participants presently receiving benefit payments	4	4
4. Total = (1c) + (2) + (3)	13	13

B. Age and Service Profile of Active Participants

	Completed Years of Accrual Service July 1, 2023						
Age	1-4	5-9	10-14	15-19	20-30	30+	Total
0-24	-	-	-	-	-	-	-
25-29	-	-	-	-	-	-	-
30-34	-	-	-	-	-	-	-
35-39	-	-	-	-	-	-	-
40-44	-	-	-	-	-	-	-
45-49	-	-	-	1	-	-	1
50-54	-	-	-	-	3	-	3
55-59	-	-	-	-	1	-	1
60-64	-	-	-	-	-	-	-
65-69	-	-	-	-	1	-	1
70+	-	-	-	-	-	-	-
	-	-	-	1	5	-	6

Active Participants	July 1, 2023	July 1, 202
Average Age	54.93	53.93
Average Service Plan Participation:	24.97	23.97
Average Annual Salary:	$140 605	$134,089

A summary of the actuarial methods and assumptions used in the July 1, 2023 actuarial valuation of the Plan follows:

Actuarial Methods:

Actuarial Cost Method:	Projected Unit Credit Actuarial Cost Method.
Valuation of Assets:	Effective July 1, 2014, the Actuarial Value of Assets are determined based on the smoothed market value (without phasing). Under this method, a gain or loss for a year is determined by calculating the difference between the expected value of the assets for the year and the fair market value of assets at the valuation date. The actuarial value of assets is equal to the market value of plan's assets with gains subtracted or losses added at the rates described as follows: (1) 2/3 of the prior year's gain or loss, plus (2) 1/3 of the second preceding year's gain or loss The asset value determined under this method will be adjusted to be no greater than 115% and no less than 85% of the fair market value. Before July 1, 2014, assets are valued at fair market value on June 30 as reported by the District.

Actuarial Assumptions:

Investment Yield (CO):	4.50% per annum, net of investment expenses The investment return assumption is based on a blending of historical asset returns for a benchmark portfolio and a forward looking expected return based on the 2023 JP Morgan capital market assumptions. Both returns are based on the plan's investment policy of 60% equities, 38% fixed income and 2% cash. The single effective investment yield assumption is found by discounting projected cashflows during the first 10 years at the forward looking rate, and cashflows after 20 years using the historical asset returns. Between years 10 and 20, cashflows are discounted based on an interpolation of the two rates.
Salary Scale (FE):	3.5% per annum. The salary scale assumption is based on actual salary increases during the 5 year period ending June 30, 2023.
Rate of Retirement (FE):	Participants are expected to retire on their Normal Retirement Date.

	As the plan does not provide for early retirement, and late retirement benefits are actuarially equivalent to the Normal Retirement Benefit, assuming retirement at Normal Retirement Age is reasonable.
Rate of Employee Turnover (FE):	None Based on prior experience, and to be conservative, it is assumed that all participants will continue in employment until Normal Retirement Age.
Rate of Disability (FE):	None Based on prior experience, and to be conservative, it is assumed that all participants will continue in employment until Normal Retirement Age.
Rate of Mortality (FE):	(1) Pre-retirement: None (2) Post-retirement: For 2022 and 2023 Valuation: PubG(A)-2010 Healthy Annuitant Mortality table with Generational Improvements based on Scale MP-2021 Mortality rates are set in accordance with recent mortality studies completed by the SOA. Based on employee compensation, the above median mortality rates were selected. No pre-retirement mortality is selected to approximate the value of the death benefit under the plan.
Expenses:	It is assumed that expenses will be paid by investment returns greater than the assumed investment yield (i.e., investment return is net of expenses).
Payment Form (FE):	It is assumed that : (a) 50% participants elect lump sums, (b) 50% participants elect annuity payments. .
Amortization Period of Unfunded Liabilities	The unfunded actuarial accrued liabilities are fully amortized as of July, 1 2023. Gains and losses arising on/after July 1, 2023 will be amortized over a 5-year period.

FE: Indicates an assumption is an estimate of future experience.
MD: Indicates an assumption is an estimate inherent in market data.
CO: Indicates an assumption is based on a combination of estimated future experience and estimates inherent in market data.

SECTION VI
Plan Provisions

Effective Date:	July 1, 1969
Most Recent Restatement Date:	July 1, 2003
Most Recent Amendment Date:	Effective July 1, 2009
Plan Year:	July 1 to June 30
Eligibility for Coverage:	All employees hired prior to October 29, 2005.
Employee Contribution:	None required.
District Contribution:	Full cost of Plan.
Normal Retirement Date:	July 1 after reaching age 62 and completing five years of Plan participation.
Delayed Retirement Date:	First of any month following actual retirement after attaining age 62 and completion of five years of Plan participation. An employee can work beyond his normal retirement date and continue to earn pension benefits.
Early Retirement Date:	None
Disability	Total and permanent disability which lasts at least six months resulting in termination of employment.
Normal Form of Retirement Benefit:	The amount of annual retirement income determined by the benefit formula is payable monthly for life with 120 payments guaranteed.
Automatic Form of Distribution of Retirement Benefit:	Unless otherwise elected by the participant, the normal retirement benefit will be automatically paid to a married participant in the form of a reduced actuarial equivalent joint and 50% to survivor annuity.

Optional Forms of Distribution of Retirement Benefit:	If elected by the participant, his benefit, in an actuarial equivalent amount, may be paid in the form of: (a) a joint and survivor annuity with the reduced survivor annuity payable as 50%, 66-2/3% or 100% of the monthly benefit payable during the lifetime of the participant; (b) a straight life annuity; (c) a life only annuity; (d) a lump sum payment.
Formula for Annual, Normal Retirement Benefit:	2.5% of the average earnings paid to the employee during the highest one plan year, multiplied by the number of years of accrual service.
Accrual Service:	Total number of Years in which an employee is credited with at least 1,000 hours of service. No accrual service shall be credited after October 29, 2005. Participants employed on October 29, 2005 shall be credited with an additional 3 years plus 0.333 years for the period July1, 2005 through October 31, 2005.
Early Retirement Benefit:	None
Benefit at Deferred Retirement:	Greater of the accrued benefit, based on accrual service and compensation to late retirement date and the actuarially increased Normal Retirement Benefit.
Disability Benefit:	Immediate payment of actuarial equivalence of the accrued benefit calculated the same as a retirement benefit, based on average earnings and accrual service as of the disability retirement date.
Death Benefit:	
• Prior to Retirement:	The greater of the actuarial equivalent of the Vested Accrued Benefit (applicable to married or unmarried participants), or the benefit the participant's spouse would have received if the participant had terminated on his date of death and elected to begin receiving his benefit under the automatic joint and 50% to surviving spouse pension option commencing on his earliest retirement date
• After Retirement:	In accordance with the annuity payment form in effect.

Vesting: .

Years of Vesting Service	Vested Percent
0-2	0%
3	20%
4	40%
5	60%
6	80%
7 or more	100%

Vesting Service: Total number of Years in which an employee is credited with at least 1,000 hours of service. For participants employed on October 29, 2005, an additional three years is credited.

Benefit: Vested Accrued Benefit as of date of termination, payable as of Normal Retirement date. Immediate lump sum option available.

Plan Factors for Actuarial Equivalence:
Interest: 6.25%
Pre-Retirement Mortality: None
Post Retirement Mortality: 94 GAR (50% male 50% female)

Termination of Plan: In the event of termination of the Plan, funds are to be distributed, to the extent available, in the following order:

(a) benefits of participants who had retired prior to plan termination;

(b) benefits of participants who had reached Normal Retirement Age at termination, but had not yet retired;

(c) all other benefits;

Administration: The District is the Plan Administrator.

Funding of Plan: Through a Trust, assets are held at Commonwealth Financial Network.