Catherine Benediktsson, President
Richard Snyder, Vice President
John Carapiet, Secretary

Omar Arias-Montez, Director
Tod Moody, Director

NOTICE AND AGENDA
Regular Board Meeting
at Sanitary District No. 5 of Marin County
Thursday October 15th, 2026

5:00 P.M. REGULAR BOARD MEETING

Teleconference Location:

Director Richard Snyder	Director Catherine Benediktsson
10 Pomander Walk	2352 Mar East Street
Belvedere CA 94920	Tiburon CA 94920

PURSUANT TO THE RALPH M. BROWN ACT, ALL VOTES SHALL BE BY ROLL CALL DUE TO DIRECTOR SNYDER TELECONFERENCE FROM 10 Pomander Walk Belvedere CA 94920 & DIRECTOR BENEDIKTSSON FROM 2352 Mar East Street Tiburon CA 94920

ROLL CALL:

PUBLIC COMMENTS: The public is invited to address the Board on items that do not appear on the agenda and are within the subject matter jurisdiction of the Board. The Brown Act does not allow the Board to take action on any public comment. Please limit public comments to no more than three minutes.

DIRECTORS' COMMENTS AND/OR AGENDA REQUESTS:

CONSENT CALENDAR:

1. Approval of September 17th, 2026 Regular Board Meeting Minutes
2. Review and receive all electronic fund transfers (EFTs) and approve warrants from September 11th, 2026, through October 8th, 2026, (JP Morgan Chase Bank, check no.12193 through check no. 12243, all transactions totaling $361,387.85 and receive September 2026 payroll, in the sum of $177,167.27 (Rubio)
3. Receipt of Financial Reports through October 8th, 2026 (Rubio)

MANAGEMENT REPORTS:

4. District Manager Summary Report (Rubio)

NEW BUSINESS

5. Verbal discussion regarding "Odor Control System Upgrade Alternatives" technical memorandum and report from staff on current status of Odor Control System and recommended next steps for continued system reliability and improvements.- Action (Rubio)

UNFINISHED BUSINESS:

COMMITTEE REPORTS:

7. Capital Improvement Program Committee (Moody/Carapiet)

8. Finance & Fiscal Oversight Committee (Benediktsson/Carapiet)

9. Governance Committee (No Meeting)

10. Personnel Committee (No Meeting)

11. Solar Ad-Hoc Meeting (No Meeting)

OTHER BUSINESS:

ENVIRONMENTAL:

CORRESPONDENCE:

INFORMATIONAL ITEMS:

12. CalPERS Actuarial Valuation for the Rate Plans of the Sanitary District No.5 of Marin County in the Miscellaneous Risk Poll as of June 30, 2024

ADJOURNMENT:

The Board will be asked to adjourn the meeting to a Regular Board Meeting on November 19, 2026, at 5:00 P.M.

At its discretion, the Board of Directors may consider the above-agenda items out of the order in which they appear currently. Accessible public meetings: Upon request, the District will provide written agenda materials in appropriate alternate formats, or disability-related modification or accommodation, including auxiliary aids or services to enable individual with disabilities to participate in public meetings. Please submit written requests to the District at P.O. Box 227, Tiburon, CA 94920 or hr@sani5.org at least two days prior to the meeting.

Catherine Benediktsson, President
Richard Snyder, Vice President
John Carapiet, Secretary

Omar Arias-Montez, Director
Tod Moody, Director

NOTICE AND AGENDA
Regular Board Meeting
at Sanitary District No. 5 of Marin County
Thursday September 17th, 2026

5:00 P.M. REGULAR BOARD MEETING

Teleconference Location:

Director Richard Snyder	Director Catherine Benediktsson
10 Pomander Walk	2352 Mar East Street
Belvedere CA 94920	Tiburon CA 94920

PURSUANT TO THE RALPH M. BROWN ACT, ALL VOTES SHALL BE BY ROLL CALL DUE TO DIRECTOR SNYDER TELECONFERENCE FROM 10 Pomander Walk Belvedere CA 94920 & DIRECTOR BENEDIKTSSON FROM 2352 Mar East Street Tiburon CA 94920

ROLL CALL: Directors Snyder, Carapiet, Moody, Arias-Montez & Benediktsson

PUBLIC COMMENTS: The public is invited to address the Board on items that do not appear on the agenda and are within the subject matter jurisdiction of the Board. The Brown Act does not allow the Board to take action on any public comment. Please limit public comments to no more than three minutes.

1. Matt Hochstetler -22 Racoon Ln- Tiburon, gave comment on odors encountered on September 10 and phone call into the District about Odor concerns, interested in the upcoming Odor Control Upgrades & Technical Memo on the Agenda. Also requested for the board to consider perimeter monitoring of Odors.
2. Mark Freiberg – 408 Paradise Drive- Pt. Tiburon, gave comment regarding access to grey water/recycle water for use in landscape irrigation due to upcoming state restrictions on decorative turf.

DIRECTORS' COMMENTS AND/OR AGENDA REQUESTS:

Director Snyder requested that an agenda item be brought to the October meeting to discuss Odor Control Systems evaluation and next steps

CONSENT CALENDAR:

1. Approval of August 20th, 2026 Regular Board Meeting Minutes
2. Review and receive all electronic fund transfers (EFTs) and approve warrants from August 14th, 2026, through September 10th, 2026, (JP Morgan Chase Bank, check no.12122 through check no. 12192, all transactions totaling $1,736,448.72 and receive August 2026 payroll, in the sum of $173,732.15 (Rubio)
3. Receipt of Financial Reports through September 10th, 2026 (Rubio)

Motion to approve consent calendar items 1-3

(M/S Snyder/Arias-Montez 5-0-0-0)
Ayes: Carapiet, Moody, Snyder, Arias-Montez, Benediktsson

Nos: None
Absent: None
Abstain: None

MANAGEMENT REPORTS:

4. District Manager Summary Report (Rubio)

NEW BUSINESS:

5. Review and Consideration to adopt Resolution 2026-13 "A Resolution approving the completion of the 2024 Sewer Rehabilitation Project" and directing the District Manager to file a notice of completion with the County of Marin (Rubio) – Action

   Motion to adopt Resolution 2026-13 "A Resolution approving the completion of the 2024 Sewer Rehabilitation Project" and directing the District Manager to file a notice of completion with the County of Marin

   (M/S Snyder/Arias-Montez 5-0-0-0)
   Ayes: Carapiet, Moody, Snyder, Arias-Montez, Benediktsson
   Nos: None
   Absent: None
   Abstain: None

6. Review and accept Carollo Engineers "Odor Control System Upgrade Alternatives" technical memorandum dated June 2026 – Action (Rubio)

   Motion to accept Carollo Engineers "Odor Control System Upgrade Alternatives" technical memorandum dated June 2026 and Direction to District Manager to evaluate next steps with Capital Improvement Program Committee.

   (M/S Snyder/Carapiet 5-0-0-0)
   Ayes: Carapiet, Moody, Snyder, Arias-Montez, Benediktsson
   Nos: None
   Absent: None
   Abstain: None

UNFINISHED BUSINESS:

COMMITTEE REPORTS:

7. Capital Improvement Program Committee (Moody/Carapiet)

8. Finance & Fiscal Oversight Committee (Benediktsson/Carapiet)

9. Governance Committee (No Meeting)

10. Personnel Committee (No Meeting)

11. Solar Ad-Hoc Meeting (No Meeting)

OTHER BUSINESS:

ENVIRONMENTAL:

CORRESPONDENCE:

INFORMATIONAL ITEMS:

ADJOURNMENT: 5:39pm

The Board will be asked to adjourn the meeting to a Regular Board Meeting on October 15, 2026, at 5:00 P.M.

Approved:

Catherine Benediktsson
President

Attest:

John Carapiet
Board Secretary

At its discretion, the Board of Directors may consider the above-agenda items out of the order in which they appear currently. Accessible public meetings: Upon request, the District will provide written agenda materials in appropriate alternate formats, or disability-related modification or accommodation, including auxiliary aids or services to enable individual with disabilities to participate in public meetings. Please submit written requests to the District at P.O. Box 227, Tiburon, CA 94920 or hr@sani5.org at least two days prior to the meeting.

Sanitary District No.5 of Marin County
Warrant List Summary
September 11 through October 8, 2026

Date	Num	Name	Memo	Amount
JP Morgan Chase - Primary 7399				
10/02/202	EFT	CalPERS (Pension)	GASB-68 Reports and Schedules	-350.00
10/02/202	EFT	CalPERS (Health Premium)	Health Insurance Premium - Oct 2026	-23,807.33
10/02/202	EFT	CalPERS (Pension)	Pension - Aug 2026	-31,742.74
10/02/202	EFT	CalPERS (457 Def Comp)	457 Contributions, semi-monthly, 9/15/26	-6,370.17
10/06/202	EFT	CalPERS (457 Def Comp)	457 Contributions, semi-monthly, 9/30/26	-5,837.03
10/06/202	EFT	CalPERS (Pension)	Admin Fee-Late Payroll Reporting, 9/15/26	-200.00
10/08/202	12193	Access Answering Service	Answering Service - Oct 2026	-120.46
10/08/202	12194	Alameda Electrical Distributors, Inc.	parts for Tesla charger install	-94.45
10/08/202	12195	Amazon Capital Services (Amazon B...	Stmt Date 9/30/26: battery backup units for computers, office ...	-1,204.70
10/08/202	12196	AT&T Calnet *4692 (Ops/Main Bldg & ...	Phones: Operators Control Center & Paradise Cove - Aug 2026	-91.42
10/08/202	12197	Banshee Networks, Inc.	computer network services - Aug 2026, computer hardware Sy...	-11,489.42
10/08/202	12198	Bay Alarm Company	monitoring fees - fire and security alarms, Oct-Dec 2026	-258.00
10/08/202	12199	Bay City Boiler	boiler cleaning post digester rehab	-5,659.29
10/08/202	12200	Brelje and Race Laboratories, Inc.	samples submitted - Aug 2026	-3,102.00
10/08/202	12201	Burke, Williams & Sorensen, LLP	District Counsel Services - Aug 2026	-7,042.00
10/08/202	12202	Caltest Analytical Laboratory	Lab Monitoring - Aug 2026	-4,322.50
10/08/202	12203	Cintas Corporation	weekly: scraper, towels, traffic mats - Sept 2026	-483.72
10/08/202	12204	Comcast Bus (Internet/Voice/Cable) *...	Business Internet, Voice, Cable - Oct 2026	-747.01
10/08/202	12205	Core & Main LP	new mud valves, stem guides, and bushings for both AB tanks	-15,464.60
10/08/202	12206	DKF Solutions Group, LLC	TrainingLink monthly subscription - Oct 2026	-462.00
10/08/202	12207	Fastenal Company	chemical feed supplies/parts, and wedge anchors-shop stock	-903.89
10/08/202	12208	FlexTG, LLC	office copier: product shipping, 6/12/26-9/11/26	-5.00
10/08/202	12209	Fort Bragg Electric Inc	Cove Rd Pump Station Improv, Progress Applic 9, Sept 2026	-125,304.03
10/08/202	12210	General Code	eCode360 Annual Maintenance, Oct 2026-Sept 2027	-1,278.90
10/08/202	12211	Goodman Building Supply Co.	Stmt Date 9/25/26:materials to make repairs at Seafirth PS #1, ...	-1,055.29
10/08/202	12212	Grainger	pipe insulation for PC air lines-blower shed	-104.33
10/08/202	12213	Home Depot Credit Services *2889	green plants and Main Plant supplies	-548.34
10/08/202	12214	Jackson's Hardware, Inc.	fire extinguishers, boots for employee	-338.62
10/08/202	12215	Jill Kalehua, DMMS	Accounting Services - Sept 2026	-3,575.00
10/08/202	12216	JM Integration, LLC	VFD (American Industrial) repairs	-4,974.00
10/08/202	12217	John's Dairy & Pool Supply	Paradise Cove chemical for pH control	-2,052.82
10/08/202	12218	Keegin Harrison LLP	Land Acquisition, June-Aug 2026	-2,555.00
10/08/202	12219	McCampbell Analytical, Inc.	Chronic Rox, July 2026	-2,920.00
10/08/202	12220	MidAmerica (Admin Fee)	2nd Qtr 2026 Admin & Platform Fee, for current FSAs and retir...	-234.00
10/08/202	12221	Mill Valley Refuse Serv (Garbage) *29...	Garbage service - Oct 2026	-558.02
10/08/202	12222	Mill Valley Refuse Service (Sludge) *3...	Sludge Exchanges - Aug & Sept 2026	-3,800.00
10/08/202	12223	Natl Assn of Clean Water Agencies (...	FY 2027 membership dues, Oct 2026-Sept 2027	-800.00
10/08/202	12224	NorCalEVI	emergency lighting install for Admin Lightning truck	-6,631.05
10/08/202	12225	Nute Engineering Corp.	Cove Rd Pump Station Improvements - Aug 2026	-8,510.00
10/08/202	12226	Pacific Gas & Electric	Stmt Date 9/28/26: gas & electric	-35,450.45
10/08/202	12227	Peterson CAT	annual service checks for (13) generators, repairs to generator...	-17,526.73
10/08/202	12228	Polydyne Inc	screw press polymer	-4,612.75
10/08/202	12229	Primo Brands	drinking water - Sept 2026	-211.28
10/08/202	12230	T-Mobile *8704 SIM	(6) SIM cards for pump stations - Sept 2026	-60.00
10/08/202	12231	USA Blue Book	foam buster (Aquafix) for filamentous bacterial growth in AT @...	-631.93
10/08/202	12232	Vector Process Solutions Inc	AB air valve replacements	-3,609.71
10/08/202	12233	Waste Management, Redwood Landfill	Garbage service - Aug 2026	-270.35
10/08/202	12234	WorkSmart Automation, Inc.	W3331 FTV Development	-6,412.50
10/08/202	12235	AT&T *5559 (Pump Stations)	Pump station telephone lines: Oct 2026, minus vendor credit	-2.42
10/08/202	12236	Comcast Business (VOIP) *9079	Business Voice Edge - Oct 2026	-468.90
10/08/202	12237	FlexTG, LLC	Ops Copier, base rate & usage charge - Sept 2026	-209.72
10/08/202	12238	InSource Software Solutions Inc	TopView Software Support annual renewal	-1,153.00
10/08/202	12239	Medical Center of Marin	new hire employee testing, Sept 2026	-242.00
10/08/202	12240	Omar Arias	CASA Conference for Director, hotel lodging reimb, Aug 2026	-853.30
10/08/202	12241	Special Dist Risk Mgmt Authority (SD...	Dental, Vision, Basic Life & ADD, LTD, STD, EAP - Nov 2026	-2,641.15
10/08/202	12242	T-Mobile *1446 cell	cell phones - Sept 2026	-407.14
10/08/202	12243	U.S. Bank cc *3611	Stmt Date 9/25/26: ISCO 4700/5800 sampler tubing, CSDA conf ...	-1,627.39
Total JP Morgan Chase - Primary 7399				-361,387.85
TOTAL				-361,387.85

Sanitary District No.5 of Marin County
Warrant List Detail
September 11 through October 8, 2026

Num	Type	Date	Name	Memo	Account	Paid Amo...
EFT	**Check**	**10/02/2**	**CalPERS (Pensio...**	**GASB-68 Reports and Schedules**	**JP Morgan Chase - ...**	
				GASB-68 Reports and Schedules, Misc F...	8019.05 · PERS Retir...	-350.00
TOTAL						-350.00
EFT	**Check**	**10/02/2**	**CalPERS (Health...**	**Health Insurance Premium - Oct 2026**	**JP Morgan Chase - ...**	
				Active Employee Health Insurance Premi...	8020.05 · Employee ...	-22,828.61
				Retiree Health Insurance Premium, plus ...	8022.05 · Retiree He...	-978.72
TOTAL						-23,807.33
EFT	**Check**	**10/02/2**	**CalPERS (Pensio...**	**Pension - Aug 2026**	**JP Morgan Chase - ...**	
				Pepra, Aug 2026	8019.05 · PERS Retir...	-12,986.97
				Classic, Aug 2026	8019.05 · PERS Retir...	-18,755.77
TOTAL						-31,742.74
EFT	**Check**	**10/02/2**	**CalPERS (457 De...**	**457 Contributions, semi-monthly, 9/15/...**	**JP Morgan Chase - ...**	
				457 Contributions, semi-monthly, 9/15/26	8008 · Deferred Com...	-6,370.17
TOTAL						-6,370.17

Sanitary District No.5 of Marin County
Warrant List Detail
September 11 through October 8, 2026

Num	Type	Date	Name	Memo	Account	Paid Amo...
EFT	**Check**	**10/06/2**	**CalPERS (457 De...**	**457 Contributions, semi-monthly, 9/30/...**	**JP Morgan Chase - ...**	
				457 Contributions, semi-monthly, 9/30/26	8008 · Deferred Com...	-5,837.03
TOTAL						-5,837.03
EFT	**Check**	**10/06/2**	**CalPERS (Pensio...**	**Admin Fee-Late Payroll Reporting, 9/1...**	**JP Morgan Chase - ...**	
				Admin Fee-Late Payroll Reporting, 9/15/26	8019.05 · PERS Retir...	-200.00
TOTAL						-200.00
12193	**Bill Pmt -...**	**10/08/2**	**Access Answeri...**	**Answering Service - Oct 2026**	**JP Morgan Chase - ...**	
35993	Bill	10/05/2		Answering Service - Oct 2026	8510 · Data/Alarms/I...	-120.46
TOTAL						-120.46
12194	**Bill Pmt -...**	**10/08/2**	**Alameda Electric...**	**parts for Tesla charger install**	**JP Morgan Chase - ...**	
S63...	Bill	09/09/2		parts for Tesla charger install, PO M-26-0...	7021 · Plant Mainten...	-94.45
TOTAL						-94.45

Sanitary District No.5 of Marin County
Warrant List Detail
September 11 through October 8, 2026

Num	Type	Date	Name	Memo	Account	Paid Amo...
12195	**Bill Pmt -...**	**10/08/2**	**Amazon Capital ...**	**Stmt Date 9/30/26: battery backup unit...**	**JP Morgan Chase - ...**	
Stmt...	Bill	09/30/2		Inv 1Y7D-1P9C-1QCW, PO M-26-091, la...	6047 · Office Supplies	-46.84
				Inv 1Y7D-1P9C-1QCW, PO M-26-091, pa...	7023 · Janitorial Sup...	-335.38
				Inv 1GNY-9NGN-36HX, PO M-26-095, (4...	6047 · Office Supplies	-822.48
TOTAL						-1,204.70
12196	**Bill Pmt -...**	**10/08/2**	**AT&T Calnet *46...**	**Phones: Operators Control Center & P...**	**JP Morgan Chase - ...**	
000...	Bill	09/12/2		Operators Control Center phones - 8/12/2...	8531 · Main Plant Tel...	-61.24
				Paradise Cove phones - 8/12/26-9/11/26, ...	8532 · Paradise Cov...	-30.18
TOTAL						-91.42
12197	**Bill Pmt -...**	**10/08/2**	**Banshee Networ...**	**computer network services - Aug 2026,...**	**JP Morgan Chase - ...**	
17093	Bill	09/16/2		computer network services - Aug 2026	8510 · Data/Alarms/I...	-2,165.94
17094	Bill	09/16/2		computer hardware Synology & warranty	8510 · Data/Alarms/I...	-9,323.48
TOTAL						-11,489.42
12198	**Bill Pmt -...**	**10/08/2**	**Bay Alarm Comp...**	**monitoring fees - fire and security alar...**	**JP Morgan Chase - ...**	
232...	Bill	09/04/2		monitoring fees - fire, Oct-Dec 2026	8510 · Data/Alarms/I...	-201.00

Sanitary District No.5 of Marin County
Warrant List Detail
September 11 through October 8, 2026

Num	Type	Date	Name	Memo	Account	Paid Amo...
				monitoring fees - security alarms, Oct-De...	8510 · Data/Alarms/I...	-57.00
TOTAL						-258.00
12199	**Bill Pmt -...**	**10/08/2**	**Bay City Boiler**	**boiler cleaning post digester rehab**	**JP Morgan Chase - ...**	
45253	Bill	09/28/2		boiler cleaning post digester rehab. PO O...	7022 · Plant Maint. P...	-5,659.29
TOTAL						-5,659.29
12200	**Bill Pmt -...**	**10/08/2**	**Brelje and Race ...**	**samples submitted - Aug 2026**	**JP Morgan Chase - ...**	
173...	Bill	09/04/2		samples submitted - Aug 2026	7051 · Main Plant La...	-3,102.00
TOTAL						-3,102.00
12201	**Bill Pmt -...**	**10/08/2**	**Burke, Williams ...**	**District Counsel Services - Aug 2026**	**JP Morgan Chase - ...**	
376...	Bill	09/25/2		District Counsel Services - Aug 2026	6039 · Legal	-7,042.00
TOTAL						-7,042.00
12202	**Bill Pmt -...**	**10/08/2**	**Caltest Analytica...**	**Lab Monitoring - Aug 2026**	**JP Morgan Chase - ...**	
743...	Bill	09/15/2		Main Plant Lab Monitoring - Aug 2026	7051 · Main Plant La...	-3,120.75
				Paradise Cove Monitoring - Aug 2026	7052 · Paradise Cov...	-1,201.75
TOTAL						-4,322.50

Sanitary District No.5 of Marin County
Warrant List Detail
September 11 through October 8, 2026

Num	Type	Date	Name	Memo	Account	Paid Amo...
12203	**Bill Pmt -...**	**10/08/2**	**Cintas Corporati...**	**weekly: scraper, towels, traffic mats - ...**	**JP Morgan Chase - ...**	
NEE...	Bill	09/30/2		weekly: scraper, towels, traffic mats - Inv ...	7023 · Janitorial Sup...	-120.93
				weekly: scraper, towels, traffic mats - Inv ...	7023 · Janitorial Sup...	-120.93
				weekly: scraper, towels, traffic mats - Inv ...	7023 · Janitorial Sup...	-120.93
				weekly: scraper, towels, traffic mats - Inv ...	7023 · Janitorial Sup...	-120.93
TOTAL						-483.72
12204	**Bill Pmt -...**	**10/08/2**	**Comcast Bus (In...**	**Business Internet, Voice, Cable - Oct 2...**	**JP Morgan Chase - ...**	
Bill ...	Bill	09/26/2		Business Cable, Internet, Voice - Oct 2026	8531 · Main Plant Tel...	-747.01
TOTAL						-747.01
12205	**Bill Pmt -...**	**10/08/2**	**Core & Main LP**	**new mud valves, stem guides, and bus...**	**JP Morgan Chase - ...**	
Z71...	Bill	09/25/2		new mud valves, stem guides and bushin...	7022 · Plant Maint. P...	-15,464.60
TOTAL						-15,464.60
12206	**Bill Pmt -...**	**10/08/2**	**DKF Solutions G...**	**TrainingLink monthly subscription - O...**	**JP Morgan Chase - ...**	
23727	Bill	10/01/2		TrainingLink monthly subscription - Oct 2...	8515 · Safety	-462.00
TOTAL						-462.00

Sanitary District No.5 of Marin County
Warrant List Detail
September 11 through October 8, 2026

Num	Type	Date	Name	Memo	Account	Paid Amo...
12207	**Bill Pmt -...**	**10/08/2**	**Fastenal Company**	**chemical feed supplies/parts, and wed...**	**JP Morgan Chase - ...**	
CAP...	Bill	09/03/2		chemical feed supplies/parts. PO O-26-13...	7022 · Plant Maint. P...	-406.88
CAP...	Bill	09/11/2		wedge anchors - shop stock. PO O-26-09...	7022 · Plant Maint. P...	-238.94
CAP...	Bill	09/21/2		wedge anchors - shop stock. PO O-26-09...	7022 · Plant Maint. P...	-258.07
TOTAL						-903.89
12208	**Bill Pmt -...**	**10/08/2**	**FlexTG, LLC**	**office copier: product shipping, 6/12/2...**	**JP Morgan Chase - ...**	
INV...	Bill	09/23/2		KON-C450i Office Copier product shippin...	6047 · Office Supplies	-5.00
TOTAL						-5.00
12209	**Bill Pmt -...**	**10/08/2**	**Fort Bragg Electr...**	**Cove Rd Pump Station Improv, Progre...**	**JP Morgan Chase - ...**	
J001...	Bill	09/23/2		Cove Road Pump, Progress Application 9...	9109.2 · Bel PS#1 R...	-125,304.03
TOTAL						-125,304.03
12210	**Bill Pmt -...**	**10/08/2**	**General Code**	**eCode360 Annual Maintenance, Oct 20...**	**JP Morgan Chase - ...**	
GC0...	Bill	09/28/2		eCode360 Annual Maintenance, 10/1/26-...	8510 · Data/Alarms/I...	-959.18
				eCode360 Annual Maintenance, 7/1/27-9/...	8510 · Data/Alarms/I...	-319.72
TOTAL						-1,278.90

Sanitary District No.5 of Marin County
Warrant List Detail
September 11 through October 8, 2026

Num	Type	Date	Name	Memo	Account	Paid Amo...
12211	**Bill Pmt -...**	**10/08/2**	**Goodman Buildi...**	**Stmt Date 9/25/26:materials to make re...**	**JP Morgan Chase - ...**	
Stmt...	Bill	09/25/2		Inv 938121, materials to make repairs at ...	7011 · Pumps & Line...	-374.87
				Inv 938274, materials to make repairs at ...	7011 · Pumps & Line...	-227.34
				Inv 938431, Shop Vac drill bits, PO 0-26-...	7022 · Plant Maint. P...	-234.87
				Inv 938973, materials to make repairs at ...	7011 · Pumps & Line...	-218.21
TOTAL						-1,055.29
12212	**Bill Pmt -...**	**10/08/2**	**Grainger**	**pipe insulation for PC air lines-blower ...**	**JP Morgan Chase - ...**	
906...	Bill	09/03/2		pipe insulation for PC air lines-blower she...	7041 · Paradise Part...	-104.33
TOTAL						-104.33
12213	**Bill Pmt -...**	**10/08/2**	**Home Depot Cre...**	**green plants and Main Plant supplies**	**JP Morgan Chase - ...**	
Stmt...	Bill	09/13/2		green plants	7028 · Grounds Main...	-434.02
				Main Plant supplies	7021 · Plant Mainten...	-114.32
TOTAL						-548.34
12214	**Bill Pmt -...**	**10/08/2**	**Jackson's Hardw...**	**fire extinguishers, boots for employee**	**JP Morgan Chase - ...**	
207...	Bill	09/02/2		fire extinguishers, PO O-26-148	8515 · Safety	-131.06

Sanitary District No.5 of Marin County
Warrant List Detail
September 11 through October 8, 2026

Num	Type	Date	Name	Memo	Account	Paid Amo...
207...	Bill	09/04/2		P. Collodi, boot allowance FY 26/27, PO ...	8520.01 · Boot Allow...	-207.56
TOTAL						-338.62
12215	**Bill Pmt -...**	**10/08/2**	**Jill Kalehua, DM...**	**Accounting Services - Sept 2026**	**JP Morgan Chase - ...**	
Sept...	Bill	10/01/2		Accounting Services - Sept 2026	6008 · Audit & Accou...	-3,575.00
TOTAL						-3,575.00
12216	**Bill Pmt -...**	**10/08/2**	**JM Integration, L...**	**VFD (American Industrial) repairs**	**JP Morgan Chase - ...**	
23678	Bill	09/11/2		VFD (American Industrial) repairs	7022 · Plant Maint. P...	-4,974.00
TOTAL						-4,974.00
12217	**Bill Pmt -...**	**10/08/2**	**John's Dairy & P...**	**Paradise Cove chemical for pH control**	**JP Morgan Chase - ...**	
SAL...	Bill	09/11/2		Paradise Cove chemical for pH control, P...	7042 · Paradise Sup...	-2,052.82
TOTAL						-2,052.82
12218	**Bill Pmt -...**	**10/08/2**	**Keegin Harrison ...**	**Land Acquisition, June-Aug 2026**	**JP Morgan Chase - ...**	
14805	Bill	09/21/2		Land Acquisition, June-Aug 2026. Balanc...	6039 · Legal	-2,555.00
TOTAL						-2,555.00

Sanitary District No.5 of Marin County
Warrant List Detail
September 11 through October 8, 2026

Num	Type	Date	Name	Memo	Account	Paid Amo...
12219	**Bill Pmt -...**	**10/08/2**	**McCampbell Ana...**	**Chronic Rox, July 2026**	**JP Morgan Chase - ...**	
260...	Bill	08/14/2		Chronic Rox, July 2026. PO O-26-165	7025 · Lab Supplies ...	-2,920.00
TOTAL						-2,920.00
12220	**Bill Pmt -...**	**10/08/2**	**MidAmerica (Ad...**	**2nd Qtr 2026 Admin & Platform Fee, fo...**	**JP Morgan Chase - ...**	
037...	Bill	09/18/2		7 current FSAs, 2nd Qtr 2026 (Apr-June) ...	8020.05 · Employee ...	-126.00
				6 Retirees HRAs, 2nd Qtr 2026 (Apr-June...	8022.05 · Retiree He...	-108.00
TOTAL						-234.00
12221	**Bill Pmt -...**	**10/08/2**	**Mill Valley Refus...**	**Garbage service - Oct 2026**	**JP Morgan Chase - ...**	
000...	Bill	10/01/2		Garbage service - Oct 2026	7028 · Grounds Main...	-558.02
TOTAL						-558.02
12222	**Bill Pmt -...**	**10/08/2**	**Mill Valley Refus...**	**Sludge Exchanges - Aug & Sept 2026**	**JP Morgan Chase - ...**	
Inv ...	Bill	09/01/2		Exchanges: (1) Sludges, (0) Debris - Aug ...	7029 · Main Plant Slu...	-400.00
Inv ...	Bill	10/01/2		Exchanges: (5) Sludges, (0) Debris - Sept...	7029 · Main Plant Slu...	-3,400.00
TOTAL						-3,800.00

Sanitary District No.5 of Marin County
Warrant List Detail
September 11 through October 8, 2026

Num	Type	Date	Name	Memo	Account	Paid Amo...
12223	**Bill Pmt -...**	**10/08/2**	**Natl Assn of Cle...**	**FY 2027 membership dues, Oct 2026-S...**	**JP Morgan Chase - ...**	
92597	Bill	09/10/2		FY 2027 membership dues, Oct 2026-Jun...	6025 · Dues & Subsc...	-600.00
				FY 2027 membership dues, July-Sept 2027	6025 · Dues & Subsc...	-200.00
TOTAL						-800.00
12224	**Bill Pmt -...**	**10/08/2**	**NorCalEVI**	**emergency lighting install for Admin Li...**	**JP Morgan Chase - ...**	
Job ...	Bill	09/10/2		emergency lighting install for Admin Light...	7072 · Maintenance	-6,631.05
TOTAL						-6,631.05
12225	**Bill Pmt -...**	**10/08/2**	**Nute Engineerin...**	**Cove Rd Pump Station Improvements -...**	**JP Morgan Chase - ...**	
28499	Bill	09/09/2		Cove Rd Pump Station Improvements - A...	9109.2 · Bel PS#1 R...	-8,510.00
TOTAL						-8,510.00
12226	**Bill Pmt -...**	**10/08/2**	**Pacific Gas & Ele...**	**Stmt Date 9/28/26: gas & electric**	**JP Morgan Chase - ...**	
NEE...	Bill	09/28/2		Stmt Date 9/28/26. GET BILL	8542 · Main Plant Util...	-35,450.43
				Stmt Date 9/28/26. GET BILL	8543 · Paradise Cov...	-0.01
				Stmt Date 9/28/26. GET BILL	8544 · Pump Station ...	-0.01
TOTAL						-35,450.45

Sanitary District No.5 of Marin County

Warrant List Detail

September 11 through October 8, 2026

Num	Type	Date	Name	Memo	Account	Paid Amo...
12227	**Bill Pmt -...**	**10/08/2**	**Peterson CAT**	**annual service checks for (13) generat...**	**JP Morgan Chase - ...**	
Stmt...	Bill	08/31/2		Paco annual generator service check, Inv...	7011 · Pumps & Line...	-1,108.49
				P Cove annual generator service check, I...	7041 · Paradise Part...	-1,220.74
				Seafirth annual generator service check, I...	7011 · Pumps & Line...	-1,144.83
				Belv 2 annual generator service check, In...	7011 · Pumps & Line...	-1,105.74
				Belv 3 annual generator service check, In...	7011 · Pumps & Line...	-1,105.21
				Tib 7 annual generator service check, Inv ...	7011 · Pumps & Line...	-1,105.21
				Main Plant annual generator service chec...	7022 · Plant Maint. P...	-2,069.67
				Tib 5 annual generator service check, Inv ...	7011 · Pumps & Line...	-1,566.67
				P. 35 annual generator service check, Inv...	7011 · Pumps & Line...	-1,130.42
				P. 100 annual generator service check, In...	7011 · Pumps & Line...	-1,223.08
				Tib 6 annual generator service check, Inv ...	7011 · Pumps & Line...	-1,108.47
				Tib 2 annual generator service check, Inv ...	7011 · Pumps & Line...	-1,106.03
				Tib 3 annual generator service check, Inv ...	7011 · Pumps & Line...	-1,107.20
SW2...	Bill	09/24/2		repairs to generator at Belvedere #3. PO ...	7011 · Pumps & Line...	-1,424.97
TOTAL						-17,526.73
12228	**Bill Pmt -...**	**10/08/2**	**Polydyne Inc**	**screw press polymer**	**JP Morgan Chase - ...**	
206...	Bill	09/23/2		screw press polymer. PO O-26-158	7024 · Main Plant Ch...	-4,612.75
TOTAL						-4,612.75

Sanitary District No.5 of Marin County
Warrant List Detail
September 11 through October 8, 2026

Num	Type	Date	Name	Memo	Account	Paid Amo...
12229	**Bill Pmt -...**	**10/08/2**	**Primo Brands**	**drinking water - Sept 2026**	**JP Morgan Chase - ...**	
061...	Bill	09/26/2		drinking water: 8/25/26-9/24/26, Sept 2026	7023 · Janitorial Sup...	-211.28
TOTAL						-211.28
12230	**Bill Pmt -...**	**10/08/2**	**T-Mobile *8704 S...**	**(6) SIM cards for pump stations - Sept ...**	**JP Morgan Chase - ...**	
202...	Bill	09/20/2		(6) SIM cards for pump stations - Bill peri...	8533 · Pumps & Line...	-60.00
TOTAL						-60.00
12231	**Bill Pmt -...**	**10/08/2**	**USA Blue Book**	**foam buster (Aquafix) for filamentous ...**	**JP Morgan Chase - ...**	
INV...	Bill	09/08/2		foam buster (Aquafix) for filamentous bact...	7042 · Paradise Sup...	-631.93
TOTAL						-631.93
12232	**Bill Pmt -...**	**10/08/2**	**Vector Process ...**	**AB air valve replacements**	**JP Morgan Chase - ...**	
14903	Bill	09/28/2		AB air valve replacements. PO O-26-159	7022 · Plant Maint. P...	-3,609.71
TOTAL						-3,609.71

Sanitary District No.5 of Marin County
Warrant List Detail
September 11 through October 8, 2026

Num	Type	Date	Name	Memo	Account	Paid Amo...
12233	**Bill Pmt -...**	**10/08/2**	**Waste Managem...**	**Garbage service - Aug 2026**	**JP Morgan Chase - ...**	
011...	Bill	09/01/2		Garbage service - Aug 2026	7029 · Main Plant Slu...	-270.35
TOTAL						-270.35
12234	**Bill Pmt -...**	**10/08/2**	**WorkSmart Auto...**	**W3331 FTV Development**	**JP Morgan Chase - ...**	
5675	Bill	10/01/2		W3331 FTV Development	9313.2 · SCADA Ser...	-6,412.50
TOTAL						-6,412.50
12235	**Bill Pmt -...**	**10/08/2**	**AT&T *5559 (Pu...**	**Pump station telephone lines: Oct 202...**	**JP Morgan Chase - ...**	
Bill ...	Bill	09/28/2		Pump Stations Tel Lines: 9/28/26-10/27/2...	8533 · Pumps & Line...	-2.42
TOTAL						-2.42
12236	**Bill Pmt -...**	**10/08/2**	**Comcast Busine...**	**Business Voice Edge - Oct 2026**	**JP Morgan Chase - ...**	
001...	Bill	10/01/2		Business Voice Edge - Oct 2026	8531 · Main Plant Tel...	-468.90
TOTAL						-468.90

Sanitary District No.5 of Marin County
Warrant List Detail
September 11 through October 8, 2026

Num	Type	Date	Name	Memo	Account	Paid Amo...
12237	**Bill Pmt -...**	**10/08/2**	**FlexTG, LLC**	**Ops Copier, base rate & usage charge ...**	**JP Morgan Chase - ...**	
INV...	Bill	10/02/2		Ops copier: base rate - Sept 2026	6047 · Office Supplies	-132.54
				Ops copier: usage charge - Sept 2026	6047 · Office Supplies	-77.18
TOTAL						-209.72
12238	**Bill Pmt -...**	**10/08/2**	**InSource Softwa...**	**TopView Software Support annual ren...**	**JP Morgan Chase - ...**	
#IN...	Bill	10/02/2		TopView Software Support annual renew...	8510 · Data/Alarms/I...	-672.58
				TopView Software Support annual renew...	8510 · Data/Alarms/I...	-480.42
TOTAL						-1,153.00
12239	**Bill Pmt -...**	**10/08/2**	**Medical Center o...**	**new hire employee testing, Sept 2026**	**JP Morgan Chase - ...**	
002...	Bill	10/02/2		new hire employee testing: G. Yang, Sept...	8020.05 · Employee ...	-242.00
TOTAL						-242.00
12240	**Bill Pmt -...**	**10/08/2**	**Omar Arias**	**CASA Conference for Director, hotel lo...**	**JP Morgan Chase - ...**	
Ema...	Bill	08/07/2		CASA Conference, Meritage Napa hotel l...	6018.1 · Meetings & ...	-853.30
TOTAL						-853.30

Sanitary District No.5 of Marin County
Warrant List Detail
September 11 through October 8, 2026

Num	Type	Date	Name	Memo	Account	Paid Amo...
12241	**Bill Pmt -...**	**10/08/2**	**Special Dist Risk...**	**Dental, Vision, Basic Life & ADD, LTD, ...**	**JP Morgan Chase - ...**	
H50...	Bill	10/05/2		Dental, Vision, Basic Life & ADD, LTD, S...	8020.05 · Employee ...	-2,501.23
				Adjustment: T. Dutra, Oct 2026	8020.05 · Employee ...	-139.92
TOTAL						-2,641.15
12242	**Bill Pmt -...**	**10/08/2**	**T-Mobile *1446 cell**	**cell phones - Sept 2026**	**JP Morgan Chase - ...**	
204...	Bill	09/20/2		cell phones: Bill period 8/21/26-8920/26. ...	8530 · Telephone	-407.14
TOTAL						-407.14
12243	**Bill Pmt -...**	**10/08/2**	**U.S. Bank cc *3611**	**Stmt Date 9/25/26: ISCO 4700/5800 sa...**	**JP Morgan Chase - ...**	
Stmt...	Bill	09/25/2		Marriott Desert Spring Palm Desert, CSD...	6018.1 · Meetings & ...	-328.01
				FasTrak reload, 9/4/26	6018.1 · Meetings & ...	-25.00
				Tap Plastics, plexiglass window/vent cove...	7021 · Plant Mainten...	-36.05
				Harbor Freight, lifting straps for service tr...	7072 · Maintenance	-147.41
				Convention Center Oakland, BACWA me...	6018.1 · Meetings & ...	-46.00
				CVS, 9V battteries to replace garage door...	7022 · Plant Maint. P...	-26.29
				Teledyne Instruments Inc, ISCO 4700/58...	7025 · Lab Supplies ...	-1,018.63
TOTAL						-1,627.39

Sanitary District No.5 of Marin County
Annual Budget vs Actual Expenses
July 1 through October 8, 2026

	Jul 1 - Oct 8, 26	Budget	$ Over Budget	% of Budget
Ordinary Income/Expense				
Income				
5000 · Property Taxes / AD VALOREM				
5001.2 · TEETER	7,256.14	1,050,000.00	-1,042,743.86	0.7%
5002 · UNSEC	0.00	16,000.00	-16,000.00	0.0%
5003 · PRIOR UNSECURED	0.00	100.00	-100.00	0.0%
5004 · DLNQ / REDEMPTIONS	186.16	500.00	-313.84	37.2%
5006 · SPLU	0.00	1,000.00	-1,000.00	0.0%
5041 · SUPSEC	1,055.73	100.00	955.73	1,055.7%
5043 · SECU / UNSECU	0.00	14,000.00	-14,000.00	0.0%
5046 · EXCESS ERAF	44,526.97	350,000.00	-305,473.03	12.7%
5280 · HOPTR	0.00	2,000.00	-2,000.00	0.0%
5483 · Other tax	37.34	100.00	-62.66	37.3%
5000 · Property Taxes / AD VALOREM - Other	0.00	0.00	0.00	0.0%
Total 5000 · Property Taxes / AD VALOREM	53,062.34	1,433,800.00	-1,380,737.66	3.7%
5007 · Sewer Service Charge				
5007.1 · Sewer Service - Ops	106,680.21	5,860,602.00	-5,753,921.79	1.8%
5007.2 · Sewer Service - Cap	0.00	2,099,774.00	-2,099,774.00	0.0%
5007 · Sewer Service Charge - Other	0.00	0.00	0.00	0.0%
Total 5007 · Sewer Service Charge	106,680.21	7,960,376.00	-7,853,695.79	1.3%
5201 · Interest				
5201.1 · Interest - County of Marin	2,554.57	2,000.00	554.57	127.7%
5201.2 · Interest - LAIF	158,223.84	500,000.00	-341,776.16	31.6%
5201.5 · Income Dividend Reinvest-CLASS	10,451.48	40,000.00	-29,548.52	26.1%
5201 · Interest - Other	0.00	0.00	0.00	0.0%
Total 5201 · Interest	171,229.89	542,000.00	-370,770.11	31.6%
5900.10 · Paradise Sewer Line Ext. Fees	0.00	0.00	0.00	0.0%
5900.3 · Connection Fees	185,777.00	300,000.00	-114,223.00	61.9%
5900.4 · Permit Inspection & Admin Fees	12,925.00	50,000.00	-37,075.00	25.9%
5900.5 · SASM Expense Reimb.	0.00	50,000.00	-50,000.00	0.0%
5900.9 · Other Income	4,383.37	0.00	4,383.37	100.0%
Total Income	534,057.81	10,336,176.00	-9,802,118.19	5.2%
Gross Profit	534,057.81	10,336,176.00	-9,802,118.19	5.2%
Expense				
6000 · Administrative Expenses				
6001 · Advertising	695.00	5,000.00	-4,305.00	13.9%
6008 · Audit & Accounting	9,950.85	90,000.00	-80,049.15	11.1%
6017 · Consulting Fees	1,242.38	100,000.00	-98,757.62	1.2%
6018 · Travel & Meetings				
6018.1 · Meetings & Travel	8,716.53	0.00	8,716.53	100.0%
6018.2 · Standby Mileage Expense Reimb	525.75	0.00	525.75	100.0%
6018 · Travel & Meetings - Other	75.00	26,000.00	-25,925.00	0.3%
Total 6018 · Travel & Meetings	9,317.28	26,000.00	-16,682.72	35.8%
6020 · Continuing Education	2,502.18	10,000.00	-7,497.82	25.0%
6021 · County Fees	0.00	20,000.00	-20,000.00	0.0%
6024 · Director Fees	0.00	10,000.00	-10,000.00	0.0%
6025 · Dues & Subscriptions	8,085.18	35,000.00	-26,914.82	23.1%
6026 · Elections	0.00	8,000.00	-8,000.00	0.0%
6033 · Insurance				
6033.1 · Insurance - SD5 Property	0.00	75,000.00	-75,000.00	0.0%
6033.2 · Insurance - SD5 Liability	61,846.53	100,000.00	-38,153.47	61.8%
6033.3 · Insurance - SD5 Auto	5,733.00	10,000.00	-4,267.00	57.3%
6033 · Insurance - Other	0.00	0.00	0.00	0.0%
Total 6033 · Insurance	67,579.53	185,000.00	-117,420.47	36.5%

Sanitary District No.5 of Marin County
Annual Budget vs Actual Expenses
July 1 through October 8, 2026

	Jul 1 - Oct 8, 26	Budget	$ Over Budget	% of Budget
6039 · Legal	16,878.00	45,000.00	-28,122.00	37.5%
6047 · Office Supplies	2,915.67	10,000.00	-7,084.33	29.2%
6056 · Postage	708.00	1,000.00	-292.00	70.8%
6059 · Pollution Prevention/Public Edu	1,366.00	6,000.00	-4,634.00	22.8%
6065 · Miscellaneous Expense	148.88	0.00	148.88	100.0%
6000 · Administrative Expenses - Other	0.00	0.00	0.00	0.0%
Total 6000 · Administrative Expenses	121,388.95	551,000.00	-429,611.05	22.0%
7000 · Ops & Maintenance Expenses				
7010 · Pumps & Lines Maintenance				
7011 · Pumps & Lines Maintenance	16,646.74	200,000.00	-183,353.26	8.3%
7013 · Emergency Line Repair	0.00	100,000.00	-100,000.00	0.0%
7010 · Pumps & Lines Maintenance - Other	0.00	0.00	0.00	0.0%
Total 7010 · Pumps & Lines Maintenance	16,646.74	300,000.00	-283,353.26	5.5%
7020 · Main Plant Maintenance				
7021 · Plant Maintenance Supplies	3,334.90	75,000.00	-71,665.10	4.4%
7022 · Plant Maint. Parts & Service	107,269.18	250,000.00	-142,730.82	42.9%
7023 · Janitorial Supplies & Service	2,687.23	10,000.00	-7,312.77	26.9%
7024 · Main Plant Chemicals	29,091.58	180,000.00	-150,908.42	16.2%
7025 · Lab Supplies & Chemicals	11,545.14	35,000.00	-23,454.86	33.0%
7026 · SASM Supplies & Chem	0.00	0.00	0.00	0.0%
7027 · Electrical & Instrument	7,703.02	25,000.00	-17,296.98	30.8%
7028 · Grounds Maintenance	4,816.41	15,000.00	-10,183.59	32.1%
7029 · Main Plant Sludge Disposal	6,796.50	60,000.00	-53,203.50	11.3%
7020 · Main Plant Maintenance - Other	0.00	0.00	0.00	0.0%
Total 7020 · Main Plant Maintenance	173,243.96	650,000.00	-476,756.04	26.7%
7040 · Paradise Cove Plant Maint				
7041 · Paradise Parts & Service	2,170.56	15,000.00	-12,829.44	14.5%
7042 · Paradise Supplies & Chemicals	4,737.57	10,000.00	-5,262.43	47.4%
7043 · Paradise Sludge Disposal	0.00	3,000.00	-3,000.00	0.0%
7040 · Paradise Cove Plant Maint - Other	0.00	0.00	0.00	0.0%
Total 7040 · Paradise Cove Plant Maint	6,908.13	28,000.00	-21,091.87	24.7%
7050 · Monitoring				
7051 · Main Plant Lab Monitoring	13,818.20	55,000.00	-41,181.80	25.1%
7052 · Paradise Cove Monitoring	3,227.15	10,000.00	-6,772.85	32.3%
7053 · Chronic Toxicity	5,645.92	5,000.00	645.92	112.9%
7050 · Monitoring - Other	0.00	0.00	0.00	0.0%
Total 7050 · Monitoring	22,691.27	70,000.00	-47,308.73	32.4%
7060 · Permits/Fees				
7062 · Permits/Fees - General	0.00	60,000.00	-60,000.00	0.0%
7063 · Paradise Cove Permits/Fees	0.00	10,000.00	-10,000.00	0.0%
7064 · Paradise Cove NPDES Renewal	14,697.50	0.00	14,697.50	100.0%
7060 · Permits/Fees - Other	0.00	0.00	0.00	0.0%
Total 7060 · Permits/Fees	14,697.50	70,000.00	-55,302.50	21.0%
7070 · Truck Maintenance				
7071 · Fuel	5,712.37	30,000.00	-24,287.63	19.0%
7072 · Maintenance	15,533.36	20,000.00	-4,466.64	77.7%
7070 · Truck Maintenance - Other	0.00	0.00	0.00	0.0%
Total 7070 · Truck Maintenance	21,245.73	50,000.00	-28,754.27	42.5%
7000 · Ops & Maintenance Expenses - Other	0.00	0.00	0.00	0.0%
Total 7000 · Ops & Maintenance Expenses	255,433.33	1,168,000.00	-912,566.67	21.9%

Sanitary District No.5 of Marin County
Annual Budget vs Actual Expenses
July 1 through October 8, 2026

	Jul 1 - Oct 8, 26	Budget	$ Over Budget	% of Budget
8000 · Salaries and Benefits Expenses				
8001 · Salaries	447,519.88	1,922,244.00	-1,474,724.12	23.3%
8003 · Overtime	26,100.39	75,000.00	-48,899.61	34.8%
8004 · Standby Pay	22,891.12	98,000.00	-75,108.88	23.4%
8005 · Employee Incentives	6,500.00	40,000.00	-33,500.00	16.3%
8006 · Vacation Buyout	39,225.60	80,000.00	-40,774.40	49.0%
8008 · Deferred Comp 457	43,092.98	140,000.00	-96,907.02	30.8%
8013 · Payroll Taxes	37,264.78	172,862.00	-135,597.22	21.6%
8015 · Payroll Service Processing Fees	2,953.20	10,000.00	-7,046.80	29.5%
8016 · Car Allowance	4,999.98	20,000.00	-15,000.02	25.0%
8019 · PERS Retirement				
8019.05 · PERS Retirement	85,945.93	369,320.00	-283,374.07	23.3%
8019.10 · PERS Retirement Trust	0.00	368,074.00	-368,074.00	0.0%
8019 · PERS Retirement - Other	70.00	0.00	70.00	100.0%
Total 8019 · PERS Retirement	86,015.93	737,394.00	-651,378.07	11.7%
8020 · Employee Health				
8020.05 · Employee Health	83,958.65	409,816.00	-325,857.35	20.5%
8021 · Employee Health Deductions	-165.00	0.00	-165.00	100.0%
8020 · Employee Health - Other	0.00	0.00	0.00	0.0%
Total 8020 · Employee Health	83,793.65	409,816.00	-326,022.35	20.4%
8022 · Retiree Health				
8022.05 · Retiree Health	3,044.16	88,284.00	-85,239.84	3.4%
8022.10 · CERBT/OPEB Annual Arc Contribtn	0.00	0.00	0.00	0.0%
8022 · Retiree Health - Other	0.00	0.00	0.00	0.0%
Total 8022 · Retiree Health	3,044.16	88,284.00	-85,239.84	3.4%
8023 · Workers Comp Insurance	41,488.00	64,381.00	-22,893.00	64.4%
8000 · Salaries and Benefits Expenses - Other	0.00	0.00	0.00	0.0%
Total 8000 · Salaries and Benefits Expenses	844,889.67	3,857,981.00	-3,013,091.33	21.9%
8500 · Other Operating Expenses				
8510 · Data/Alarms/IT Supp & Licensing	25,436.86	100,000.00	-74,563.14	25.4%
8515 · Safety	2,834.42	40,000.00	-37,165.58	7.1%
8520 · Personal Protection/Safety Wear				
8520.01 · Boot Allowance	1,732.83	0.00	1,732.83	100.0%
8520.02 · Eye Protection Allowance	150.00	0.00	150.00	100.0%
8520.03 · Uniform Allowance	1,795.60	0.00	1,795.60	100.0%
8520 · Personal Protection/Safety Wear - Other	472.91	15,000.00	-14,527.09	3.2%
Total 8520 · Personal Protection/Safety Wear	4,151.34	15,000.00	-10,848.66	27.7%
8530 · Telephone				
8531 · Main Plant Telephones	4,966.75	18,000.00	-13,033.25	27.6%
8532 · Paradise Cove Telephones	58.60	1,000.00	-941.40	5.9%
8533 · Pumps & Lines Telephones	182.42	6,000.00	-5,817.58	3.0%
8530 · Telephone - Other	1,217.52	0.00	1,217.52	100.0%
Total 8530 · Telephone	6,425.29	25,000.00	-18,574.71	25.7%
8540 · Utilities				
8541 · Water	3,173.75	20,000.00	-16,826.25	15.9%
8542 · Main Plant Utilities	97,189.78	275,000.00	-177,810.22	35.3%
8543 · Paradise Cove Utilities	5,602.75	35,000.00	-29,397.25	16.0%
8544 · Pump Station Utilities	10,441.47	70,000.00	-59,558.53	14.9%
8540 · Utilities - Other	0.00	0.00	0.00	0.0%
Total 8540 · Utilities	116,407.75	400,000.00	-283,592.25	29.1%

Sanitary District No.5 of Marin County
Annual Budget vs Actual Expenses
July 1 through October 8, 2026

	Jul 1 - Oct 8, 26	Budget	$ Over Budget	% of Budget
8500 · Other Operating Expenses - Other	0.00	0.00	0.00	0.0%
Total 8500 · Other Operating Expenses	155,255.66	580,000.00	-424,744.34	26.8%
Total Expense	1,376,967.61	6,156,981.00	-4,780,013.39	22.4%
Net Ordinary Income	-842,909.80	4,179,195.00	-5,022,104.80	-20.2%
Other Income/Expense				
Other Expense				
9000 · Capital Improvements CIP				
9100 · Collection System CIP				
9101 · Sewer Rehab Projects	0.00	1,250,000.00	-1,250,000.00	0.0%
9102 · Pump Replacement CIP	0.00	0.00	0.00	0.0%
9103 · Valve & Wet Well Improvements	0.00	0.00	0.00	0.0%
9104 · PS Generator Replacement CIP	0.00	0.00	0.00	0.0%
9106 · Manhole Replacement Project	0.00	0.00	0.00	0.0%
9109 · Large PS CIP Projects				
9109.2 · Bel PS#1 Rehabilitation Project	609,422.23	2,000,000.00	-1,390,577.77	30.5%
Total 9109 · Large PS CIP Projects	609,422.23	2,000,000.00	-1,390,577.77	30.5%
9100 · Collection System CIP - Other	0.00	0.00	0.00	0.0%
Total 9100 · Collection System CIP	609,422.23	3,250,000.00	-2,640,577.77	18.8%
9200 · Paradise Cove CIP				
9204 · Control Panel Replacement	0.00	0.00	0.00	0.0%
9208 · PC Building Rehabilitation	54,000.00	60,000.00	-6,000.00	90.0%
9200 · Paradise Cove CIP - Other	0.00	0.00	0.00	0.0%
Total 9200 · Paradise Cove CIP	54,000.00	60,000.00	-6,000.00	90.0%
9300 · Main Plant Equipment Capital				
9304 · Chemical Feed System Projects	0.00	0.00	0.00	0.0%
9308 · Digester Improvements				
9308.12 · Digester Rehab Project	489,531.04	0.00	489,531.04	100.0%
9308 · Digester Improvements - Other	0.00	0.00	0.00	0.0%
Total 9308 · Digester Improvements	489,531.04	0.00	489,531.04	100.0%
9309 · Solids Handling Improvements	0.00	0.00	0.00	0.0%
9310 · Facility Support CIP	0.00	0.00	0.00	0.0%
9311 · HVAC/Supply Fan Improvements	0.00	0.00	0.00	0.0%
9312 · MP Vehicle Replacements	0.00	0.00	0.00	0.0%
9313 · Controls/Electrical Improvement	0.00	0.00	0.00	0.0%
9314 · Building & Grounds Improvements	0.00	0.00	0.00	0.0%
Total 9300 · Main Plant Equipment Capital	489,531.04	0.00	489,531.04	100.0%
9500 · Undesignated Capital				
9510 · Undesignated Cap - M.P.	0.00	50,000.00	-50,000.00	0.0%
9520 · Undesignated Cap - P.C. Plant	0.00	25,000.00	-25,000.00	0.0%
9530 · Undesignated Cap - P & L	0.00	50,000.00	-50,000.00	0.0%
9500 · Undesignated Capital - Other	0.00	0.00	0.00	0.0%
Total 9500 · Undesignated Capital	0.00	125,000.00	-125,000.00	0.0%
9000 · Capital Improvements CIP - Other	0.00	0.00	0.00	0.0%
Total 9000 · Capital Improvements CIP	1,152,953.27	3,435,000.00	-2,282,046.73	33.6%

Sanitary District No.5 of Marin County
Annual Budget vs Actual Expenses
July 1 through October 8, 2026

	Jul 1 - Oct 8, 26	Budget	$ Over Budget	% of Budget
9700 · Debt Service				
9730 · Debt Service - MPR Project				
9730.01 · Zion Loan - Principal	655,000.00	655,000.00	0.00	100.0%
9730.02 · Zion Loan - Interest	51,956.00	103,912.00	-51,956.00	50.0%
9730 · Debt Service - MPR Project - Other	0.00	0.00	0.00	0.0%
Total 9730 · Debt Service - MPR Project	706,956.00	758,912.00	-51,956.00	93.2%
9700 · Debt Service - Other	0.00	0.00	0.00	0.0%
Total 9700 · Debt Service	706,956.00	758,912.00	-51,956.00	93.2%
Total Other Expense	1,859,909.27	4,193,912.00	-2,334,002.73	44.3%
Net Other Income	-1,859,909.27	-4,193,912.00	2,334,002.73	44.3%
Net Income	**-2,702,819.07**	**-14,717.00**	**-2,688,102.07**	**18,365.3%**

Sanitary District No.5 of Marin County
Comparative Balance Sheet
As of September 30, 2026

	Sep 30, 26	Aug 31, 26	$ Change
ASSETS			
Current Assets			
Checking/Savings			
JP Morgan Chase - Escrow 5213	1.00	1.00	0.00
JP Morgan Chase - Primary 7399	741,119.75	652,865.02	88,254.73
JP Morgan Chase - Payroll 7506	96,239.47	124,387.59	-28,148.12
JP Morgan Chase - Transfer 7522	62,527.15	62,413.38	113.77
Local Agency Investment Fund			
SD5 Capital & CIP Reserve	9,909,384.99	9,909,384.99	0.00
SD5 Operating	1,273,224.37	3,173,224.37	-1,900,000.00
SD5 Operating Reserve	1,577,661.05	1,577,661.05	0.00
Total Local Agency Investment Fund	12,760,270.41	14,660,270.41	-1,900,000.00
California CLASS			
CalPERS UAL Fund	570,779.58	570,779.58	0.00
Emergency Replacement Fund	1,083,416.21	1,083,416.21	0.00
Total California CLASS	1,654,195.79	1,654,195.79	0.00
Total Checking/Savings	15,314,353.57	17,154,133.19	-1,839,779.62
Accounts Receivable			
Accounts Receivable	320,347.47	320,347.47	0.00
Total Accounts Receivable	320,347.47	320,347.47	0.00
Other Current Assets	1,817.44	2,356.38	-538.94
Total Current Assets	15,636,518.48	17,476,837.04	-1,840,318.56
Fixed Assets	19,257,162.30	19,257,162.30	0.00
Other Assets			
1955 · Net Pension Asset	390,724.00	390,724.00	0.00
1950 · Pension - Deferred Outflows	982,849.00	982,849.00	0.00
1951 · Deferred Outflows - OPEB	570,430.00	570,430.00	0.00
Total Other Assets	1,944,003.00	1,944,003.00	0.00
TOTAL ASSETS	**36,837,683.78**	**38,678,002.34**	**-1,840,318.56**
LIABILITIES & EQUITY			
Liabilities			
Current Liabilities			
Accounts Payable			
2000 · Accounts Payable	510,519.66	1,128,429.50	-617,909.84
Total Accounts Payable	510,519.66	1,128,429.50	-617,909.84
Other Current Liabilities			
Compensated Absences Current	250,280.92	250,280.92	0.00
Deferred Income for Permits	230,454.35	230,454.35	0.00
MPR Zion Loan Current Payable	640,000.00	640,000.00	0.00
MPR Zion Loan Interest Payable	29,946.00	29,946.00	0.00
Retainage Payable	201,270.18	194,675.24	6,594.94
Total Other Current Liabilities	1,351,951.45	1,345,356.51	6,594.94
Total Current Liabilities	1,862,471.11	2,473,786.01	-611,314.90

Sanitary District No.5 of Marin County
Comparative Balance Sheet
As of September 30, 2026

	Sep 30, 26	Aug 31, 26	$ Change
Long Term Liabilities			
MPR Zion Loan Payable	4,190,000.00	4,190,000.00	0.00
2061 · OPEB-Related Liabilities	318,958.00	318,958.00	0.00
2065 · Pension - Deferred Inflows	575,787.00	575,787.00	0.00
2066 · Deferred Inflows - OPEB	347,342.00	347,342.00	0.00
2960 · Deferred Debt Refinancing Co...	67,133.20	67,133.20	0.00
Total Long Term Liabilities	5,499,220.20	5,499,220.20	0.00
Total Liabilities	7,361,691.31	7,973,006.21	-611,314.90
Equity			
3900 · Net Assets	32,229,458.05	32,229,458.05	0.00
Net Income	-2,753,465.58	-1,524,461.92	-1,229,003.66
Total Equity	29,475,992.47	30,704,996.13	-1,229,003.66
TOTAL LIABILITIES & EQUITY	**36,837,683.78**	**38,678,002.34**	**-1,840,318.56**

Official website of the State of California

State of California
Office of the
State Treasurer

LAIF Monthly Statements

LAIF Monthly Statement

MARIN COUNTY SANITARY DISTRICT #5
DISTRICT MANAGER
P.O. BOX 227
TIBURON, CA 94920

LAIF Account #: 70-21-007
September 2026 Statement

Effective Date	TXN Date	TXN Type	Confirm Number	Web Confirm Number	Authorized Caller	Amount
9/11/2026	9/10/2026	RW	1806822	N/A	JOHN CARAPIET	-1,900,000.00

Account Summary

Beginning Balance:	14,660,270.41
Total Deposit:	0.00
Total Withdrawal:	-1,900,000.00

CALIFORNIA STATE TREASURER
FIONA MA, CPA

PMIA Daily Effective Yield

Date	Daily	Quarter to Date	Average Maturity
09/29/26	3.94	3.87	280
09/28/26	3.94	3.87	281
09/27/26	3.93	3.87	277
09/26/26	3.93	3.87	278
09/25/26	3.93	3.87	279
09/24/26	3.93	3.85	275
09/23/26	3.92	3.86	273
09/22/26	3.92	3.86	275
09/21/26	3.92	3.86	277
09/20/26	3.92	3.86	276
09/19/26	3.92	3.86	277
09/18/26	3.92	3.86	278
09/17/26	3.92	3.86	279
09/16/26	3.92	3.86	280
09/15/26	3.91	3.86	281
09/14/26	3.90	3.86	281
09/13/26	3.90	3.86	283
09/12/26	3.90	3.86	284
09/11/26	3.90	3.86	285
09/10/26	3.90	3.86	283
09/09/26	3.89	3.86	277
09/08/26	3.89	3.86	275
09/07/26	3.88	3.85	273
09/06/26	3.88	3.85	274
09/05/26	3.88	3.85	275
09/04/26	3.88	3.85	276
09/03/26	3.88	3.85	277
09/02/26	3.88	3.85	278
09/01/26	3.88	3.85	279
08/31/26	3.87	3.85	272
08/30/26	3.87	3.85	271
08/29/26	3.87	3.85	272
08/28/26	3.87	3.85	273
08/27/26	3.87	3.85	274
08/26/26	3.87	3.85	271
08/25/26	3.87	3.85	272
08/24/26	3.87	3.85	274

*Daily yield does not reflect capital gains or losses

Updated: 9/30/2026

CALIFORNIA STATE TREASURER
FIONA MA, CPA

PMIA Daily Effective Yield

Date	Daily	Quarter to Date	Average Maturity
08/23/26	3.87	3.85	276
08/22/26	3.87	3.85	277
08/21/26	3.87	3.85	278
08/20/26	3.87	3.85	279
08/19/26	3.87	3.85	279
08/18/26	3.87	3.85	280
08/17/26	3.87	3.85	282
08/16/26	3.85	3.85	285
08/15/26	3.85	3.85	286
08/14/26	3.87	3.85	285
08/13/26	3.87	3.85	283
08/12/26	3.86	3.85	278
08/11/26	3.86	3.84	280
08/10/26	3.86	3.84	278
08/09/26	3.86	3.84	280
08/08/26	3.86	3.84	280
08/07/26	3.86	3.84	280
08/06/26	3.86	3.84	280
08/05/26	3.86	3.84	280
08/04/26	3.86	3.84	281
08/03/26	3.86	3.84	281
08/02/26	3.85	3.84	281
08/01/26	3.85	3.84	281

*Daily yield does not reflect capital gains or losses

Updated: 9/30/2026

California CLASS

Summary Statement

September 30, 2026

Investor ID: CA-01-0195

0000184-0000853 PDFT 238723

Sanitary District No. 5 of Marin County
PO Box 227
Tiburon, CA 94920

California CLASS

California CLASS

Average Monthly Yield: 3.8181%

		Beginning Balance	Contributions	Withdrawals	Income Earned	Income Earned YTD	Average Daily Balance	Month End Balance
CA-01-0195-0001	Emergency Replacement Fund	1,083,416.21	0.00	0.00	3,399.90	29,882.45	1,083,529.54	1,086,816.11
CA-01-0195-0002	CalPERS UAL Fund	570,779.58	0.00	0.00	1,791.18	15,743.06	570,839.29	572,570.76
TOTAL		**1,654,195.79**	**0.00**	**0.00**	**5,191.08**	**45,625.51**	**1,654,368.83**	**1,659,386.87**

Account Number: CA-01-0195-0001

Emergency Replacement Fund

Account Summary

Average Monthly Yield: 3.8181%

	Beginning Balance	Contributions	Withdrawals	Income Earned	Income Earned YTD	Average Daily Balance	Month End Balance
California CLASS	1,083,416.21	0.00	0.00	3,399.90	29,882.45	1,083,529.54	1,086,816.11

Transaction Activity

Transaction Date	Transaction Description	Contributions	Withdrawals	Balance	Transaction Number
09/01/2026	Beginning Balance			1,083,416.21	
09/30/2026	Income Dividend Reinvestment	3,399.90			
09/30/2026	Ending Balance			1,086,816.11	

Account Number: CA-01-0195-0002

CalPERS UAL Fund

Account Summary

Average Monthly Yield: 3.8181%

	Beginning Balance	Contributions	Withdrawals	Income Earned	Income Earned YTD	Average Daily Balance	Month End Balance
California CLASS	570,779.58	0.00	0.00	1,791.18	15,743.06	570,839.29	572,570.76

Transaction Activity

Transaction Date	Transaction Description	Contributions	Withdrawals	Balance	Transaction Number
09/01/2026	Beginning Balance			570,779.58	
09/30/2026	Income Dividend Reinvestment	1,791.18			
09/30/2026	Ending Balance			572,570.76	

California CLASS

	California CLASS	
Date	Dividend Rate	Daily Yield
09/01/2026	0.000103007	3.7598%
09/02/2026	0.000102942	3.7574%
09/03/2026	0.000102863	3.7545%
09/04/2026	0.000411872	3.7583%
09/05/2026	0.000000000	3.7583%
09/06/2026	0.000000000	3.7583%
09/07/2026	0.000000000	3.7583%
09/08/2026	0.000103000	3.7595%
09/09/2026	0.000102897	3.7557%
09/10/2026	0.000102981	3.7588%
09/11/2026	0.000308301	3.7510%
09/12/2026	0.000000000	3.7510%
09/13/2026	0.000000000	3.7510%
09/14/2026	0.000102800	3.7522%
09/15/2026	0.000102919	3.7565%
09/16/2026	0.000102966	3.7583%
09/17/2026	0.000103769	3.7876%
09/18/2026	0.000318069	3.8698%
09/19/2026	0.000000000	3.8698%
09/20/2026	0.000000000	3.8698%
09/21/2026	0.000106004	3.8691%
09/22/2026	0.000106370	3.8825%
09/23/2026	0.000106707	3.8948%
09/24/2026	0.000106923	3.9027%
09/25/2026	0.000321510	3.9117%
09/26/2026	0.000000000	3.9117%
09/27/2026	0.000000000	3.9117%
09/28/2026	0.000107501	3.9238%
09/29/2026	0.000107406	3.9203%
09/30/2026	0.000107326	3.9174%

Performance results are shown net of all fees and expenses and reflect the reinvestment of dividends and other earnings. Many factors affect performance including changes in market conditions and interest rates and in response to other economic, political, or financial developments. Investment involves risk including the possible loss of principal. No assurance can be given that the performance objectives of a given strategy will be achieved. **Past performance is no guarantee of future results. Any financial and/or investment decision may incur losses.**

0082 Y400-2116 SANITARY DISTRICT NO 5

CASH REQUIREMENTS

CASH REQUIRED FOR NEGOTIABLE CHECKS &/OR ELECTRONIC FUNDS TRANSFERS (EFT) FOR CHECK DATE 09/15/26: $90,231.79

TRANSACTION SUMMARY

SUMMARY BY TRANSACTION TYPE -

TOTAL ELECTRONIC FUNDS TRANSFER (EFT)	90,231.79
CASH REQUIRED FOR NEGOTIABLE CHECKS &/OR EFT	**90,231.79**
TOTAL REMAINING DEDUCTIONS / WITHHOLDINGS / LIABILITIES	9,545.79
CASH REQUIRED FOR CHECK DATE 09/15/26	99,777.58

TRANSACTION DETAIL

ELECTRONIC FUNDS TRANSFER - *Your financial institution will initiate transfer to Paychex **at or after 12:01 A.M.** on transaction date.*

TRANS. DATE	BANK NAME	ACCOUNT NUMBER	PRODUCT	DESCRIPTION		BANK DRAFT AMOUNTS & OTHER TOTALS
09/14/26	CHASE BANK, NA	xxxxxxxxxxxxxx506	Direct Deposit	Net Pay Allocations	57,854.73	**57,854.73**
09/14/26	CHASE BANK, NA	xxxxxxxxxxxxxx506	Taxpay®	Employee Withholdings		
				Social Security	4,838.41	
				Medicare	1,427.13	
				Fed Income Tax	14,169.82	
				CA Income Tax	5,789.39	
				Total Withholdings	**26,224.75**	
				Employer Liabilities		
				Social Security	4,838.40	
				Medicare	1,313.91	
				Total Liabilities	**6,152.31**	**32,377.06**
					EFT FOR 09/14/26	**90,231.79**
					TOTAL EFT	**90,231.79**

REMAINING DEDUCTIONS / WITHHOLDINGS / LIABILITIES - *Unless stated otherwise, Paychex does not remit these funds.You must ensure accurate and timely payment of applicable items.*

TRANS. DATE	BANK NAME	ACCOUNT NUMBER	PRODUCT	DESCRIPTION		TOTAL
09/15/26	Refer to your records for account Information		Payroll	Employee Deductions		
				401A Member Contribu	5,518.89	
				Calpers 457B Roth	941.24	
				Calpers 457B TRDL	1,901.21	
				Calpers457b Roth CU	350.00	
				Med FSA EE Pretax	564.98	

CASH REQUIREMENTS

CASH REQUIRED FOR NEGOTIABLE CHECKS &/OR ELECTRONIC FUNDS TRANSFERS (EFT) FOR CHECK DATE 09/15/26: $90,231.79

REMAINING DEDUCTIONS / WITHHOLDINGS / LIABILITIES (cont.) - *Unless stated otherwise, Paychex does not remit these funds.You must ensure accurate and timely payment of applicable items.*

TRANS. DATE	BANK NAME	ACCOUNT NUMBER	PRODUCT	DESCRIPTION		TOTAL
09/15/26	Refer to your records for account Information		Payroll	Employee Deductions **(cont.)**		
				WT OT Payback	269.47	
				Total Deductions	**9,545.79**	
				TOTAL REMAINING DEDUCTIONS / WITHHOLDINGS / LIABILITIES		**9,545.79**

PAYCHEX WILL MAKE THESE TAX DEPOSIT(S) ON YOUR BEHALF - *This information serves as a record of payment.*

DUE DATE	PRODUCT	DESCRIPTION	
09/18/26	Taxpay®	FED IT PMT Group	26,587.67
09/18/26	Taxpay®	CA IT PMT Group	5,789.39

0082 Y400-2116 SANITARY DISTRICT NO 5

CASH REQUIREMENTS

CASH REQUIRED FOR NEGOTIABLE CHECKS &/OR ELECTRONIC FUNDS TRANSFERS (EFT) FOR CHECK DATE 09/30/26: $86,935.48

TRANSACTION SUMMARY

SUMMARY BY TRANSACTION TYPE -

TOTAL ELECTRONIC FUNDS TRANSFER (EFT)	86,935.48
CASH REQUIRED FOR NEGOTIABLE CHECKS &/OR EFT	**86,935.48**
TOTAL REMAINING DEDUCTIONS / WITHHOLDINGS / LIABILITIES	9,570.79
CASH REQUIRED FOR CHECK DATE 09/30/26	96,506.27

TRANSACTION DETAIL

ELECTRONIC FUNDS TRANSFER - *Your financial institution will initiate transfer to Paychex **at or after 12:01 A.M.** on transaction date.*

TRANS. DATE	BANK NAME	ACCOUNT NUMBER	PRODUCT	DESCRIPTION		BANK DRAFT AMOUNTS & OTHER TOTALS
09/29/26	CHASE BANK, NA	xxxxxxxxxxxxx506	Direct Deposit	Net Pay Allocations	59,540.07	**59,540.07**
09/29/26	CHASE BANK, NA	xxxxxxxxxxxxx506	Taxpay®	Employee Withholdings		
				Social Security	3,879.95	
				Medicare	1,397.35	
				Fed Income Tax	12,146.64	
				CA Income Tax	4,858.81	
				Total Withholdings	**22,282.75**	
				Employer Liabilities		
				Social Security	3,879.93	
				Medicare	1,232.73	
				Total Liabilities	**5,112.66**	**27,395.41**
				EFT FOR 09/29/26		**86,935.48**
				TOTAL EFT		**86,935.48**

REMAINING DEDUCTIONS / WITHHOLDINGS / LIABILITIES - *Unless stated otherwise, Paychex does not remit these funds.You must ensure accurate and timely payment of applicable items.*

TRANS. DATE	BANK NAME	ACCOUNT NUMBER	PRODUCT	DESCRIPTION		TOTAL
09/30/26	Refer to your records for account Information		Payroll	Employee Deductions		
				401A Member Contribu	5,518.89	
				Calpers 457B Roth	941.24	
				Calpers 457B TRDL	1,901.21	
				Calpers457b Roth CU	375.00	
				Med FSA EE Pretax	564.98	

CASH REQUIREMENTS

CASH REQUIRED FOR NEGOTIABLE CHECKS &/OR ELECTRONIC FUNDS TRANSFERS (EFT) FOR CHECK DATE 09/30/26: $86,935.48

REMAINING DEDUCTIONS / WITHHOLDINGS / LIABILITIES (cont.) - *Unless stated otherwise, Paychex does not remit these funds.You must ensure accurate and timely payment of applicable items.*

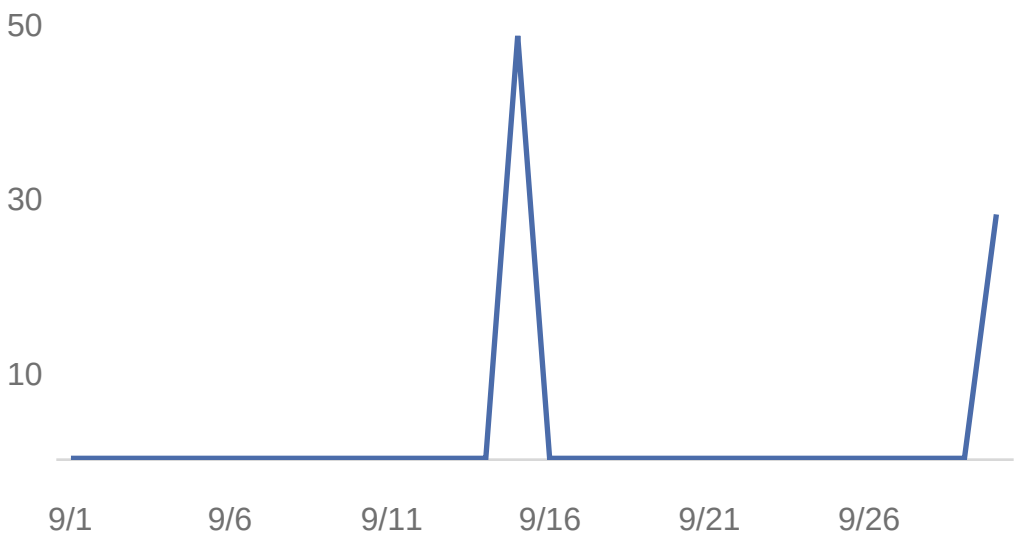
TRANS. DATE	BANK NAME	ACCOUNT NUMBER	PRODUCT	DESCRIPTION		TOTAL
09/30/26	Refer to your records for account Information		Payroll	Employee Deductions **(cont.)**		
				WT OT Payback	269.47	
				Total Deductions	**9,570.79**	
				TOTAL REMAINING DEDUCTIONS / WITHHOLDINGS / LIABILITIES		**9,570.79**

PAYCHEX WILL MAKE THESE TAX DEPOSIT(S) ON YOUR BEHALF - *This information serves as a record of payment.*

DUE DATE	PRODUCT	DESCRIPTION	
10/07/26	Taxpay®	FED IT PMT Group	22,536.60
10/07/26	Taxpay®	CA IT PMT Group	4,858.81

Overtime hours

Check date



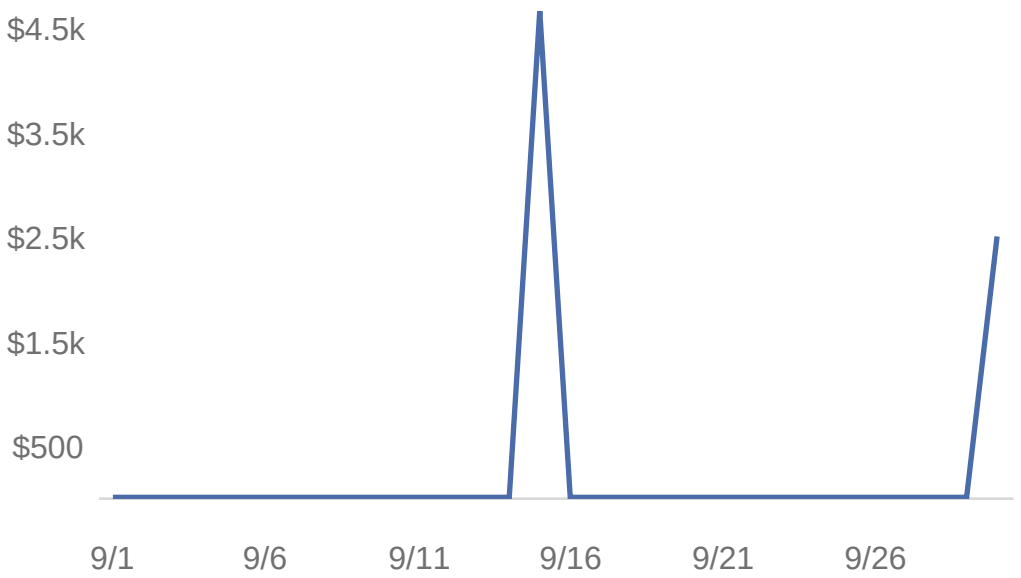
Sep 1, 2026 - Sep 30, 2026

My Company

76.5 hrs

Overtime amounts

Check date



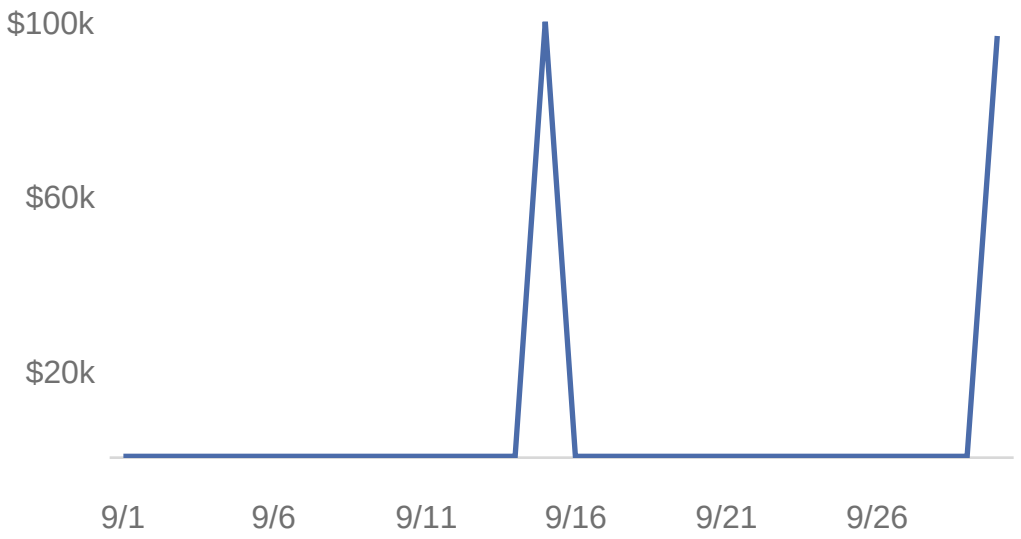
Sep 1, 2026 - Sep 30, 2026

My Company

$7,147.15

Labor cost

Check date



Sep 1, 2026 - Sep 30, 2026

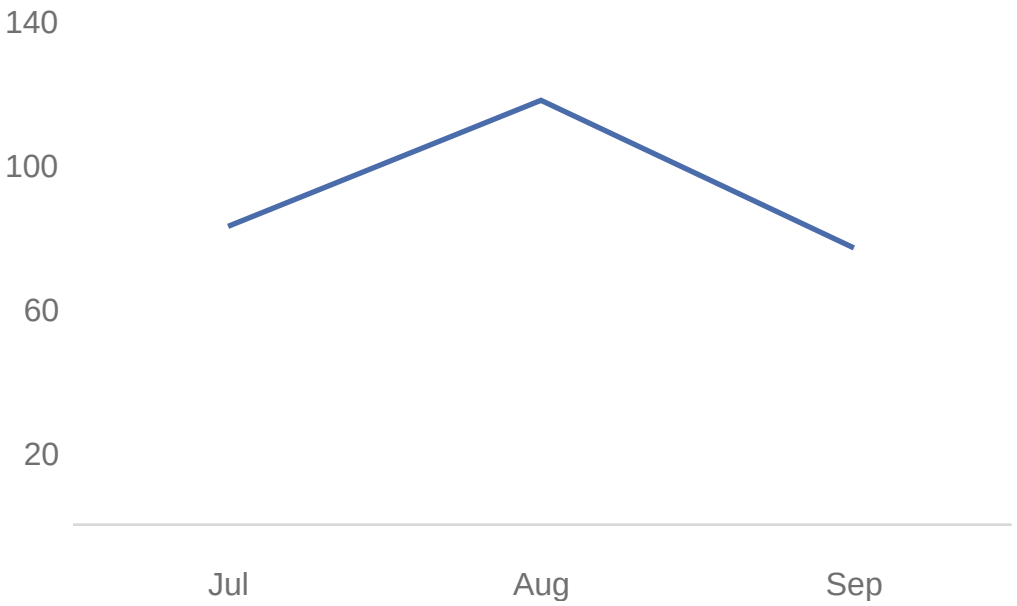
My Company

$196,283.85

Full name	Overtime amounts	Overtime hours
Alvarez, Joel		
Bilsborough Sr., Chad E	1732.08	16.00
Collodi, Pete	256.45	3.00
Cottrell III, Rulon K		
Dutra, Tyler J		
LaTorre, Daniel P		
Rosser, John M	2094.72	20.00
Rubio, Antonio		
Salazar, Ignacio G	1050.08	13.00
Thornton, Eric T	1817.44	22.50
Triola, Joseph	196.38	2.00
	7147.15	**76.50**

Overtime hours

Check date



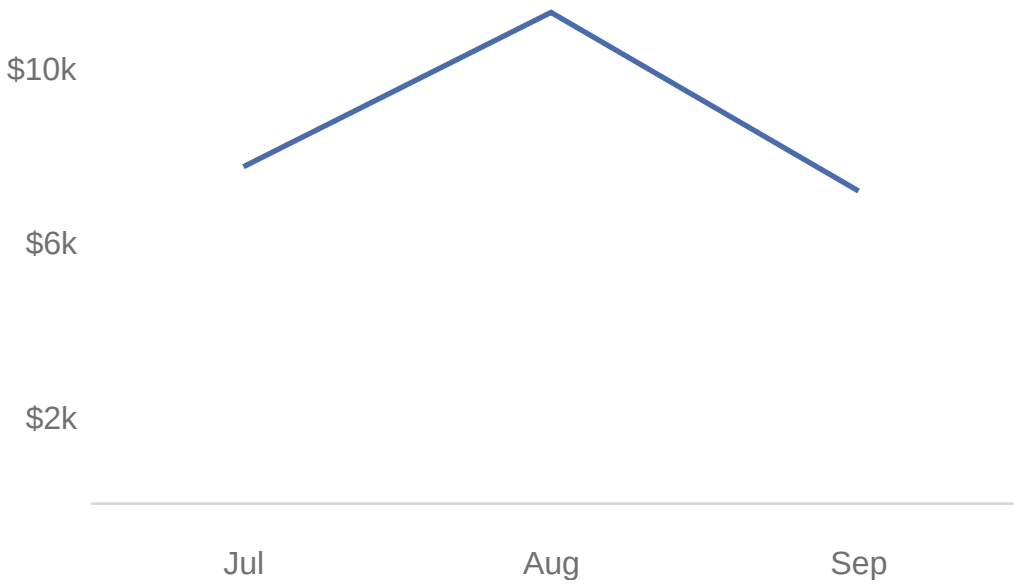
Jul 1, 2026 - Sep 30, 2026

My Company

276.5 hrs

Overtime amounts

Check date



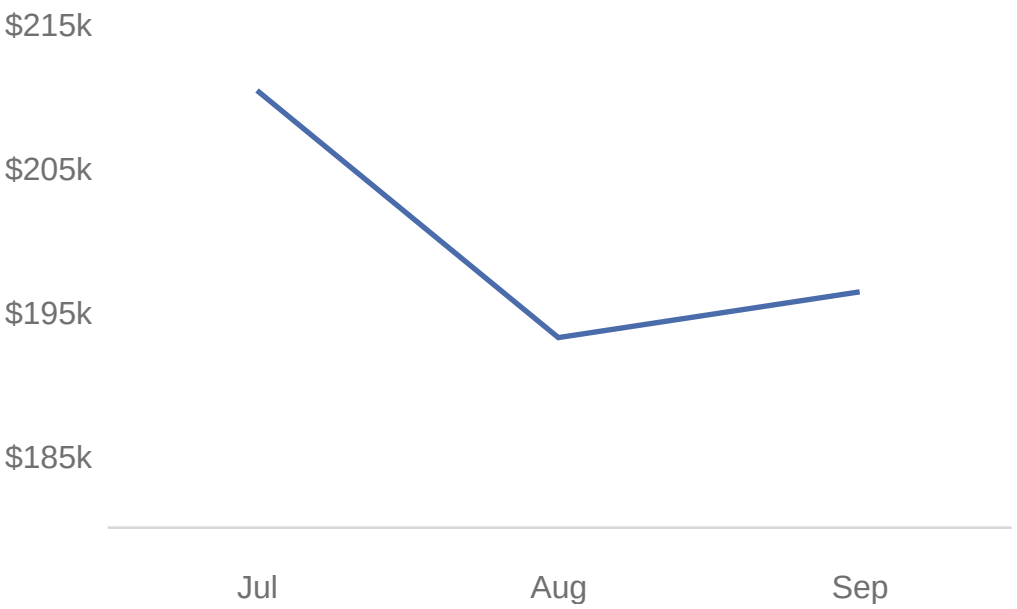
Jul 1, 2026 - Sep 30, 2026

My Company

$26,100.39

Labor cost

Check date



Jul 1, 2026 - Sep 30, 2026

My Company

$599,659.70

Full name	Overtime amounts	Overtime hours
Alvarez, Joel		
Bilsborough Sr., Chad E	9761.00	86.50
Collodi, Pete	1615.64	20.00
Cottrell III, Rulon K		
Dutra, Tyler J		
Farrington, Abigail V		
LaTorre, Daniel P		
Rosser, John M	3682.13	35.50
Rubio, Antonio		
Salazar, Ignacio G	4146.46	50.50
Thornton, Eric T	6502.40	80.00
Triola, Joseph	392.76	4.00
	26100.39	**276.50**

October 2026

October 2026

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

November 2026

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
Sep 27	28	29	30	Oct 1 WEFTEC New Orleans (New Orleans) - HR 8:30am Jill - Check Run Prep/Print	2	3
4	5	6 Jill - General Accounting	7	8 PR - Time Cards Due 9:30am CIP Committee Meeting (2001 Paradise Drive 10:30am Finance Committee Meeting	9	10
11	12 10:00am Jill - Audit Work	13 Jill - General Accounting	14 10:00am Jill - Audit Work	15 11:00am Monthly Managers Update & Board Recap (2001 5:00pm Regular Board Meeting (2001 Paradise Dr (2001	16 TR off Admin @ ATL Bears Game (Atlanta Falcons Mercedez Be 10:00am Jill - Audit Work	17
18 TR off Admin @ ATL Bears Game (Atlanta Falcons Mercedez Benz Arena)	19	20 Jill - General Accounting	21	22	23	24
25	26	27 Jill - General Accounting PR - Time Cards Due	28	29	30	31

November 2026

November 2026

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

December 2026

Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
Nov 1	2	3 Jill - General Accounting	4	5 Jill - Check Run Prep/Print	6	7
8	9	10 Jill - General Accounting PR - Time Cards Due	11	12 9:30am CIP Committee Meeting (2001 Paradise Drive 10:30am Finance Committee Meeting (2001 Paradise Dr	13	14
15	16	17 Jill - General Accounting	18	19 11:00am Monthly Managers Update & Board Recap (2001 5:00pm Regular Board Meeting (2001 Paradise Dr (2001	20 Jill - General Accounting	21
22	23 TR off - Tenn	24 PR - Time Cards Due TR off Tenn	25 TR off Tenn	26	27	28
29	30 TR off Tenn	Dec 1	2	3	4	5

Sanitary District No. 5 of Marin County



District Management Report

September 2026

Contents:

- Transmittal Memo
- Financial/Budgetary
- HR & Personnel
- Business Administration
- Collection System Performance
- Treatment Plant Performance – Paradise Cove
- Treatment Plant Performance – Main Plant
- Pollution Prevention Activities
- Continuing Education & Safety Training
- Capital Improvement Projects

Transmittal Memo

Date: October 15, 2026

To: Board of Directors

From: Tony Rubio, District Manager

Subject: Management Report for September 2026

Fiscal Status

Period Covered:	July 1, 2026 –October 15, 2026
Percent of Fiscal Year:	25%
Percent of Budgeted Income to Date:	5.2%
Percent of Budgeted Expenditures to Date:	22.4% (operating only)

Personnel

Separations:	None
New Hires:	1
Promotions:	None
Recruitment Activities:	none

Regulatory Compliance

MP Collection System WDR Compliance:	Full Compliance with all regulations
PC Collection System WDR Compliance:	Full Compliance with all regulations
MP NPDES Permit Compliance:	Full Compliance with all regulations
PC NPDES Permit Compliance:	Full Compliance with all regulations
BAAQMD Compliance:	Full Compliance with all regulations
Significant Comments:	None

Summary of Operational Highlights are on the following pages.

Significant Events for the Month of September 2026 Include:

Financial/Budgetary/Business Administration

- FY25-26 audit underway. Expectation of November 2026 final audit.
- Digester Rehabilitation Project complete- waiting on final progress payment application
- Scheduling of fund transfers to CLASS account for full funding of CalPERS UAL reserve.

HR and Personnel

- One new hire in the maintenance department – Glen Yang
- Will begin recruitment for Maintenance/Collection system trainee upon completion of new hire replacement in Collections Department

Continuing Education, Safety Training, Pollution Prevention Activities

- Staff attended monthly Public Education Meeting.
- Staff continue completing monthly Training Link CBT's
- Monthly Manager/Staff Updates Continue
- Hearing conservation training completed

Collection System Performance

Main Plant /Paradise Cove

- No Spill Report Submitted for Main Plant & Paradise Cove Collection System
- Collection system SSMP review/audit is underway

Treatment Plant Performance

Paradise Cove WWTP:

- Preemptive retaining wall improvements taking place in preparation for anticipated wet weather season
- New motor control center panel is ready for installation this summer for improved process control and enhanced communications back to the main plant. Panel testing performed early October.

Tiburon Main WWTP:

- August 2026 Monthly SMR and DMR submitted to the RWQCB on CIWQS.
- Street Side Aeration Basin air-valves- bearings on slide gates and mud valve with supports replaced.
- Electrical conduit upgrades ongoing- Electric forklift charging conduit being installed currently.
- Obtaining quotes for screw press and bio-solids storage room wall painting now that Digester rehab project is complete.
- Working with Climatec providing electrical data for phase I of feasibility of Energy Savings Project
- Retaining wall installation at main plant in preparation for wet weather season- additional hill stabilization for District owned property

Capital Improvement Projects

- 2026-2027 Sewer Rehab Project design underway.
- Cove Road MCC and Generator replacement project underway- motor control center building under construction with new controls scheduled for End of October delivery – also working with PG&E regarding easements for underground power line upgrade installation and transformer installation.
- Working on getting paving/sealing proposals for front parking area and rear driveway along with striping for designated parking

Glossary of Terms

- **B.O.D. (Biochemical Oxygen Demand):** Measurement of the effluent's capacity to consume dissolved oxygen to stabilize all remaining organic matter. The permit limits for our effluent for discharge into San Francisco bay require that we remove 85% influent B.O.D. and meet a weekly average of less than 45mg/l and a monthly average of less than 30 mg/l B.O.D.
- **TSS (Total Suspended Solids):** Measurement of suspended solids in the effluent. Our permit requires that we move at least 85% of the influent TSS and that the effluent limit is less than 45 mg/l as a weekly average and less than 30 mg/l as a monthly average.
- **Chlorine Residual:** The plant effluent is disinfected with hypochlorite (chlorine "bleach") and then the residual chlorine is neutralized with sodium bisulfite to protect the bay. The effluent chlorine residual limit is 0.0 mg/l which we monitor continuously.
- **pH:** pH is a measurement of acidity with pH 7.0 being neutral and higher pH values being basic and lower pH values being acidic. Our permit effluent pH must stay within the range of 6.0-9.0, which we monitor continuously.
- **Coliform:** Coliform bacteria are the indicator organism for determination of the efficiency of the disinfection process. The lab culture samples of our effluent and the presence of coliform is an indication that pathogenic organisms may be present. This is reported as MPN/100 (number of coliform bacteria in 100 milliliters sample).
- **Flow Through Bioassay:** A 96 hour test in which we test the toxicity of our effluent to tiny fish (sticklebacks) in a flow through tank to determine the survivability under continuous exposure to our effluent. Our permit requires that we maintain a 90^{th} percentile survival of at least 70% and an 11 sample median survival of at least 90%. In layman's terms, this means that out of the last 11 samples only one bioassay may fall below 70% survival and the middle value when all 11 samples are placed in numerical order must be at least 90%.
- **Metals Analysis:** Our permit requires that we analyze our effluent for many different metals on a monthly basis. We have permit limits for some metals. The metals are stated as a daily max and a monthly average limit. The daily max limit is the number we cannot exceed on any sample and the monthly average applies to all samples collected in any month (although usually we are only required to take one).
- **F.O.G. (Fats, oils and grease):** Quarterly we are required to monitor our effluent for Fats, Oils and Grease.

Glossary of terms continued…

- **Headworks:** The point where all raw wastewater enters the treatment plant. In this building wastewater goes through 3 grinders to grind up all large objects that could possibly damage our influent and sludge pumps further down the treatment process.
- **Primary Sedimentation:** The next treatment process is a physical treatment process where solids that settle or float are removed and sent to the digesters for further processing.
- **Activated Sludge:** Next is the activate sludge process. This process is a biological wastewater treatment process that uses microorganisms to speed up the decomposition of wastes. When activated sludge is added to wastewater, the microorganisms feed and grow on waste particles in the wastewater. As the organisms grow and reproduce, more and more waste is removed, leaving the wastewater partially cleaned. To function efficiently, the mass of organisms needs a steady balance of food and oxygen. These tasks are closely monitored by the operations staff.
- **Secondary Clarification:** Next is secondary clarification, like primary sedimentation/clarification, this also is a physical treatment process where solids that settle or float are removed and sent to the next treatment process. The difference between Secondary Clarification and primary sedimentation is that the solids removed from the secondary clarifiers goes to 2 places. Some goes to waste to the DAFT and some goes back to the activated sludge process for further treatment. (*Microorganisms must be returned to the activated sludge process to keep an equal balance of food and microorganisms*).
- **DAFT (dissolved air floatation thickener):** Next is the DAFT. The dissolved air floatation thickening process uses air bubbles to thicken WAS(waste active sludge) solids removed from the secondary clarifier, by floating solids to the tank surface, where they are removed and sent to the digesters for final processing.
- **Sludge Digestion:** In the anaerobic digestion process, all the organic material removed from the primary sedimentation tanks and DAFT's are digested by anaerobic bacteria. The end products are methane, carbon dioxide, water and neutralized organic matter.
- **Solids Handling:** This is the process where all the neutralized sludge from the digester is finally treated. Sludge from the digester is pumped to the screw press where it is conditioned with a polymer (chemical that reacts with the sludge to remove the water from the sludge and bind the sludge particles together) in order to dewater the sludge and produce a dry cake for final disposal to the Redwood landfill.

Glossary of terms continued…

- **Disinfection:** This is the end point for the wastewater- at this point wastewater flows through the chlorine contact tank. This contact tank allows for enough contact time for chlorine solution to disinfect the wastewater. Sodium bisulfite is introduced at the end of the tank to neutralize any residual chlorine to protect the bay.
- **MLSS (mixed liquor suspended solids):** Suspended solids in the mixed liquor of an aeration tank measured in mg/l
- **MCRT (mean cell resident time):** An expression of the average time that a microorganism will spend in the activated sludge process.
- **SVI (sludge volume index):** This is a calculation used to indicate the settling ability of activated sludge in the secondary clarifier.
- **RAS (return activated sludge):** The purpose of returning activated sludge, is to maintain a sufficient concentration of activated sludge in the aeration tank.
- **WAS (waste activated sludge):** To maintain a stable process, the amount of solids added each day to the activated sludge process are removed as WAS. We track this by our MCRT which averages 3 days
- **TWAS (thickened waste activated sludge):** The WAS is thickened in the DAFT and the thickened sludge is then pumped to the digester.
- **MPN (most probable number):** Concentrations of total coliform bacteria are reported as the most probable number. The MPN is not the absolute count of the bacteria but a statistical estimate of their concentration.
- **Bio-solids:** Anaerobic digested sludge is pumped to a screw press where excess water is removed to reduce the volume (and weight) thus producing an end result called bio-solids.
- **Polymer:** Organic polymers are added to digested sludge to bring out the formation of larger particles by bridging to improve processing.

Wastewater Acronyms

ACWA	Assoc of California Water Agencies
AWWA	American Water Works Association
BACWA	Bay Area Clean Water Agencies
CASA	California Association of Sanitation Agencies
CSRMA:	California Sanitation Risk Management Authority
CalARP	California Accidental Release Prevention Program
CDO	Cease and Desist Order
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CIWMB	California Integrated Waste Management Board
CIWQS	California Integrated Water Quality System
CSO	Combined Sewer Overflow
CWA	Clean Water Act
CWARA	Clean Water Authority Restoration Act
DHS	Dept. of Health Services
EBEP	Enclosed Bays and Estuaries Plan
EIS/EIR	Environmental Impact Statement/Report
ERAF	Educational Reserve Augmentation Fund
FOG	Fats, Oils and Grease
ISWP	Inland Surface Waters Plan
LAFCO	Local Agency Formation Commission
MACT	Maximum Achievable Control Technology (air controls)
MMP	Mandatory Minimum Penalty
MUN	Municipal Drinking Water Use
NGOs	Non-Governmental Organizations
NPDES	Nat'l Pollutant Discharge Elimination System
NTR	National Toxics Rule
OSHA:	Occupational Safety and Health Administration
POTWs	Publicly Owned Treatment Works
QA/QC	Quality Assurance / Quality Control
RFP	Request For Proposals
RFQ	Request For Qualifications
SEP	Supplementary Environmental Projects
SFEI:	San Francisco Estuary Institute
SSO	Sanitary Sewer Overflow
SWRCB	State Water Resources Control Board
WDR	Waste Discharge Requirements
WERF	Water Environment Research Foundation
WMI	Watershed Management Initiative
WRDA	Water Resource Development Act
WQBEL	Water Quality Based Effluent Limitation
APWA	American Public Works Association
BAAQMD	Bay Area Air Quality Management District
BAPPG:	Bay Area Pollution Prevention Group
CSDA	California Special Districts Association
CAAQS	California Ambient Air Quality Standard
CARB	California Air Resources Board
CECs	Constituents of Emerging Concern
CIWQS	California Integrated Water Quality System
CMOM	Capacity, Management, Operation and Maintenance
CPUC	California Public Utilities Commission
CTR	California Toxics Rule
CWAP	Clean Water Action Plan
CWEA	California Water Environment Association
DTSC	Dept. of Toxic Substances Control
EDW	Effluent Dominated Water body
EPA	Environmental Protection Agency
ESMP	Electronic Self-Monitoring Report
GASB	Government Accounting Standards Board
JPA	Joint Powers Authority
LOCC	League of California Cities
MCL	Maximum Contaminant Level
MOU	Memorandum of Understanding
NACWA	National Association of Clean Water Agencies
NOX	Nitrogen Oxides
NRDC	Natural Resources Defense Council
OWP:	Office of Water Programs
PCBs	Poly Chlorinated Biphenyls
PPCPs	Pharmaceutical and personal Care Products
Region	IX Western Region of EPA (CA, AZ, NV & HI)
RMP	Risk Management Program
RWQCB	Regional Water Quality Control Board
SIP	State Implementation Policy (CTR/NTR criteria)
SRF	State Revolving Fund
SSMP	Sewer System Management Plan
TMDL	Total Maximum Daily Load
WEF	Water Environment Federation
WET	Whole Effluent Toxicity or Waste Extraction Test
WRFP	Water Recycling Funding Program
WWTP	Wastewater Treatment Plant
WWWIFA	Water & Wastewater Infrastructure Financing Agency

Management
Tony Rubio District Manager
Joel Alvarez Administrative Services Manger
2001 Paradise Drive
Tiburon CA 9420
415-435-1501 Tel
415-435-0221 fax
www.sani5.org

SANITARY DISTRICT of MARIN COUNTY
No.5
1922-2022
100 Years of Public Service

Board of Directors
Omar Arias-Montez President
John Carapiet Vice President
Richard Snyder Secretary
Catherine Benediktsson Director
Tod Moody Director

Date: October 15, 2026

To: Board of Directors – Regular Board Meeting

From: District Manager – Tony Rubio

Subject: Odor Control System Upgrade Alternatives- Next Steps

STAFF REPORT:

At the September 17, 2026 Regular board meeting, the Board of Directors accepted the Odor Control System Upgrade Alternatives Technical Memorandum and directed the District Manager to work with the Capital Improvement Program Committee to consider options and next steps due to the complexity and costs of rehabilitation and replacement options. Also during this meeting we had public comment on the agenda item in support of an improved system and to also consider perimeter monitoring.

As was described in the previous meeting staff report, the Tiburon Main WWTP currently has a small working conventional two stage wet Chemical Odor Control System that uses caustic and sodium hypochlorite for odor control purposes. The headworks and primary sedimentation tanks and solids handling facilities are ducted to capture all foul air and run through this two stage odor control system to eliminate odor discharges that are typical of a wastewater treatment collection system and facility like H2S (Hydrogen Sulfide) and VOC's (Volatile Organic Compounds). Sodium hydroxide (NaOH) eliminates hydrogen sulfide (H_2S) through a fast acid-base neutralization reaction that converts the toxic gas into water-soluble, non-volatile salts. So any recordable H2S from these process areas is eliminated once directed through the Odor Scrubber

Due to the complexity and range in costs of the Odor Control Alternatives and lack of data regarding incoming and in plant created H2S and VOC's, the recommended first steps would be to install source air sampling (inline monitors) of H2S detection devices to begin tracking concentrations continuous. Because of the complexity of Odor Control continuous data is needed to better eliminate Odors from the collection system and the main plant. Continuous monitoring and data will assist in better dosing of chemicals in the collection system to reduce /eliminate H2S and VOC's prior to arriving at the main plant. A sensor at the Headworks (Influent Wastewater Stream) will assist with chemical dosing in the collection system, A sensor from the covered primary clarifiers, aeration basin and dewatering room will assist in better chemical dosing for the main plant and also provide the needed data to determine a different technology for odor control if necessary. Depending on the cost of the monitors/sensors it may be an installation that can be captured through our general operating account or it might need to come back to the board as an unbudgeted capital expenditure. (Staff is currently working on getting quotes for the analytical equipment).

Ambient air sampling is not recommended as it is generally considered impractical for direct odor control because odors are complex human sensory perceptions, not static, single-pollutant chemicals. While ambient sampling works well for regulating standard criteria pollutants like carbon monoxide or particulate matter, applying it to ambient odor management introduces

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Richard Snyder Secretary
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Tod Moody Director

several severe technical and logistical hurdles like excessive atmospheric dilution and rapid odor degradation and sample expiry, therefor direct source air sampling is the recommended next step as mentioned above.

Two things to note in regards to Odors created or detected at or near the main plant.

1. Maintenance activities that can typically only be performed during the dry months have a tendency to generate odors due to removing foul air covers and emptying and hosing down raw sewage tanks for staff access and also the maintenance of the Odor Control System. (these preventative maintenance activities are necessary to ensure a continued safe and efficient operation in protecting public health and the receiving water of the SF Bay)
2. Capital Projects (Cove Road Pump Station) where our Chemicals are introduced in the sewer collection system to reduce/eliminate H2s and VOC's is currently under a major upgrade and Chemical addition has been off for the past 3 months due to the removal of the chemical tanks for the upgrade. (chemical addition was relocated to Tiburon #7 the last week of September)

Additionally, at my most recent WEFTEC Conference attendance I met with three different vendors of Odor Control Units which I will be working with to get better numbers for budgeting should data from the source air sampling point in the direction of replacement of the Odor Control Unit.

FISCAL IMPACT:
Not known at the moment of this staff report.

CEQA (California Environmental Quality Act)
Exempt

Recommendation:
To provide direction to the District Manager to proceed with the recommended next steps of procuring and installing source air samplers to odor control system.

ATTACHMENTS:
Odor Control System Upgrade Alternatives Technical Memorandum
Note from Matt Hochstetler Regarding Odor Control

From: Matt H <matt.hochstetler@gmail.com>
Sent: Wednesday, September 30, 2026 5:37 PM
To: Tony Rubio <trubio@sani5.org>
Subject: Follow-up request for perimeter H_2S monitoring and public disclosure

September 30, 2026

Board of Directors and District Manager Tony Rubio
Sanitary District No. 5 of Marin County

Re: Follow-up request for perimeter H_2S monitoring and public disclosure

Dear Board Members and Mr. Rubio,

I am writing to document my request for hydrogen sulfide (H_2S) monitoring at the Tiburon treatment plant's perimeter and, where appropriate, nearby residential locations. I live approximately half a mile from the facility and intend to discuss this during public comment.

I raised this concern at the last board meeting, when it was suggested that it be added as an action item. This letter follows up on that existing discussion. Please confirm how that request was recorded and when it will appear on the agenda. If formal action requires a specifically noticed agenda item, please schedule it so the Board can consider the monitoring request and provide direction to staff.

The June 2026 Carollo study reports an average H_2S concentration of **21.27 ppm** in the primary-clarifier effluent-channel headspace, with peaks **above 200 ppm**, exceeding the meter's range. For context:

Reference or measurement	**H_2S concentration**	**Exposure period or location**
EPA chronic reference concentration	Approximately 0.001 ppm / 1 ppb, rounded	Long-term exposure
ATSDR intermediate screening level	0.02 ppm / 20 ppb	Exposure over 15–364 days
ATSDR acute screening level	0.07 ppm / 70 ppb	Exposure over 1–14 days

Reference or measurement	H_2S concentration	Exposure period or location
Carollo study average	21.27 ppm / 21,270 ppb	Internal effluent-channel headspace
Carollo study peaks	Above 200 ppm / 200,000 ppb	Internal process measurements

The federal values are health-screening benchmarks, not thresholds at which injury necessarily begins. The internal study readings do not establish concentrations at the perimeter or neighboring homes. They leave an important question unanswered: **what H_2S concentrations actually reach the surrounding community?**

In its response to my public-records request, the Air District stated that it has no existing offsite H_2S monitoring results. The current air permit's reported emissions table also does not include an H_2S value. I would appreciate clarification of that omission and an explanation of how offsite conditions are currently assessed.

I respectfully request that the District:

1. Evaluate continuous perimeter H_2S monitoring, using equipment sensitive enough to assess low concentrations and capture short-term peaks.
2. Develop a monitoring plan with qualified technical advice, including appropriate locations, wind information, and measurements during reported odor episodes.
3. Publish the results with clear explanations of detection limits, averaging periods, and relevant benchmarks.
4. Establish a baseline before any odor-control upgrade and measure performance afterward, so residents and the Board can assess its actual benefits.

The upgrade study provides cost estimates, but it does not clearly quantify the expected reduction in neighborhood H_2S concentrations or odors. Exterior measurements would help guide that investment and evaluate its results.

My goal is to obtain reliable information and work constructively with the District. Please include this letter in the public record and provide a written response explaining the proposed next steps and timing.

Tony, please also forward a copy of this letter to all board members and include a printed copy in the agenda packet for the next board meeting.

Thank you for your consideration.

Sincerely,
Matt Hochstetler
Tiburon resident

SANITARY DISTRICT of MARIN COUNTY

No.5

Marin WWTP Odor Control Alternative Evaluation



TECHNICAL MEMORANDUM

Odor Control System Upgrade Alternatives

June 2026 / Final

carollo

SANITARY DISTRICT of MARIN COUNTY

No.5

Marin WWTP Odor Control Alternative Evaluation

TECHNICAL MEMORANDUM

Odor Control System Upgrade Alternatives

June 2026 / FINAL



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Abbreviations

Carollo	Carollo Engineers
District	Sanitary District No. 5 of Marin County
EBRT	empty bed residence time
H_2S	hydrogen sulfide
O&M	operations and maintenance
ppm	parts per million
RSC	reduced sulfur compound
SASM	Sewerage Agency of Southern Marin
TM	technical memorandum
VOC	volatile organic compound
WWTP	wastewater treatment plant

SECTION 1 INTRODUCTION

The Sanitary District No. 5 of Marin County (District) retained Carollo Engineers (Carollo) to conduct an odor control study involving foul air sampling, testing, and analysis of the appropriate odor control alternatives that would replace the odor control system at the existing chemical scrubber foul air treatment system. The objectives of the odor study are:

- Investigate the potential of hydrogen sulfide (H_2S) levels, and identify H_2S concentrations at the aeration basins/thickener, headworks and dry weather primary clarifiers, and dewatering sources.
- Review the access/egress of the existing chemical scrubbing odor control facility, how it is currently operated by the owner, and develop technology that will reduce or eliminate operations and maintenance tasks and perform well within the available footprint.
- Develop a thorough and objective analysis of the technology alternatives, their conceptual capital and operating costs, and make recommendations for a path forward.

Carollo developed a scope of work that would accomplish the stated objectives shown previously. Specifically, the scope was developed to include:

- Meet with District staff to gather a full understanding of project goals and history of issues.
- Review available data, particularly in those process areas related to potential sources of odor.
- Develop and implement a sampling and testing program.
- Conduct H_2S monitoring at the locations of odor concerns for a period of two weeks.
- Develop and evaluate odor control alternatives.
- Prepare comparative conceptual cost estimates (capital and operating) for odor improvement alternatives.
- Prepare a Final technical memorandum (TM) of findings.
- Meet with District staff to present findings.
- Incorporate District comments and finalize the TM with recommendations for odor mitigation.

SECTION 2 BACKGROUND

2.1 Description of Sampling Locations

Carollo and the District staff at the wastewater treatment plant (WWTP) identified two locations within the plant for sampling and testing, where odor strength from those locations would make up the primary loading, which is critical to sizing and understanding the costs of a new odor control system. Sampling locations at the headworks and primary clarifiers had H_2S readings taken via a handheld meter during a routine site inspection on April 3, 2024. Sampling locations 5 through 8 were established at a later date, with no above-ground preliminary H_2S sampling taking place. All eight locations were subsequently monitored for H_2S concentrations via an inline datalogger. The following is a description and observations of their existing conditions.

Sampling Location 1: The location identified as the primary clarifier effluent channel was chosen for our study due to its known high odor levels and corrosion potential. An Acrulog H_2S logging device (0 to 200 parts per million [ppm] range) was installed below the cover at this facility for a period of two weeks where it was able to record H_2S levels continuously (10-minute intervals). Records show that this logger reached peaks of >190 ppm and an average of ~21 ppm.



Figure 1 Sampling Location 1 – Primary Clarifier Effluent Channel

Sampling Location 2: The location identified as the headworks operating room was chosen for our study as it was also known for its high contribution to the facility's odor profile, though due to ample flowing fresh air within the room, we did not necessarily find elevated odor loads within the location of the headworks operating room.



Figure 2 Sampling Location 2 – Headworks Inlet Room

SECTION 3 AIR SAMPLING AND TESTING ANALYSIS

3.1 Sampling and Testing Plan

Carollo developed a sampling and testing plan to characterize the odors at the above-described locations. The sampling and testing plan includes continuous monitoring of vapor-phase H_2S for a two-week period and liquid phase grab sampling analysis of the wastewater. Table 1 shows a summary of the plan showing sampling locations, the type of sample, parameters tested, and the frequency of testing.

Table 1 Sampling and Testing Plan

Sampling Location	Type of Sample	Parameters Tested - Vapor Phase
Sampling Location 1 – Primary Clarifier Effluent Channel	Continuous(1)	H_2S
Sampling Location 2 – Headworks Inlet Room	Continuous(1)	H_2S

Notes:
(1) Continuous sampling was conducted for two weeks using Acrulog H_2S ppm loggers.

3.1.1 Hydrogen Sulfide and Odor Generation

Odor-producing substances found in domestic wastewater and sludge are small, relatively volatile molecules. Most of these substances result from the anaerobic decomposition of organic matter containing sulfur and nitrogen. Inorganic gases produced from domestic wastewater decomposition commonly include H_2S, ammonia, and carbon dioxide. Often, other odor-producing substances such as indoles, skatoles, mercaptans, and nitrogen-bearing organics are generated.

H_2S is the most commonly known and prevalent odorous gas associated with domestic wastewater collection and treatment systems. It is frequently used as a surrogate compound for measuring and quantifying an odor problem within WWTP headworks and primary treatment areas. H_2S is primarily targeted for treatment by traditional odor control methods such as biological, carbon adsorption, or chemical scrubbing. H_2S has a characteristic rotten egg odor and is directly corrosive to metals and indirectly corrosive to concrete. H_2S has a very low odor threshold (0.0005 ppm) and is therefore readily detectable, even at low concentrations. H_2S is often naturally oxidized to sulfuric acid, which causes corrosion of concrete, metals, and other materials commonly present within wastewater collection systems. It's for this reason primarily that odor control collection equipment is made up of highly specialized acid-resistant materials like fiberglass reinforced plastic.

The presence of turbulent or splashing conditions in wastewater collection systems and treatment processes increases the release of volatile odorous molecules. On the other hand, if the wastewater is aerobic and such odorous compounds are not present, such turbulence is beneficial because it promotes reaeration and the addition of dissolved oxygen and thus prevents formation of odorous compounds associated with anaerobic conditions.

3.1.2 Vapor Phase Hydrogen Sulfide Sampling and Testing Procedures

H_2S is slightly heavier than air and moderately soluble in water. It can be measured in the field using H_2S analyzers. The H_2S readings are often used in wastewater situations as an odor and corrosion indicator. In many cases, if the H_2S is controlled, the odor and corrosion problem will be effectively mitigated. For this study, H_2S was recorded every 60 seconds in the field using Acrulog H_2S PPM loggers made by Detection Instruments, which provide instantaneous and continuous data logging. Instantaneous H_2S readings were taken at the time of site visit. The H_2S Acrulog loggers were placed in the manholes for a period of two weeks for continuous H_2S measurements. Recorded data from the Acrulog analyzers was plotted as 'ppm concentration' versus time at each corresponding location. The H_2S concentration measurements will help to quantify diurnal H_2S concentrations at locations within the collected foul air system to determine peak and average H_2S concentrations. Figure 3 shows a photo of a typical Acrulog ppm data logger.



Figure 3 Acrulog Data Logger 0 - 200 ppm

SECTION 4 SAMPLING AND TESTING RESULTS

The following sections present results and discussions of the H_2S air sampling and testing, and the results of the liquid sampling and testing. The sampling and testing was conducted at the two locations described in Table 1.

4.1 Hydrogen Sulfide Air Sampling and Testing Results

Table 2 shows a summary of the air testing results for the locations tested. Figures 3 and 4 display H_2S concentrations recorded by Acrulog meters for sampling locations 1 and 2. These readings took place from June 13, 2025, to June 30, 2025.

Table 2 Summary of Air Testing Results

Sampling Location	Minimum H_2S (ppm)	Average H_2S (ppm)	Maximum H_2S (ppm)
Sampling Location 1 – Primary Clarifier Effluent Channel	0	21.27	>200
Sampling Location 2 – Headworks Inlet Room	0	0.06	1

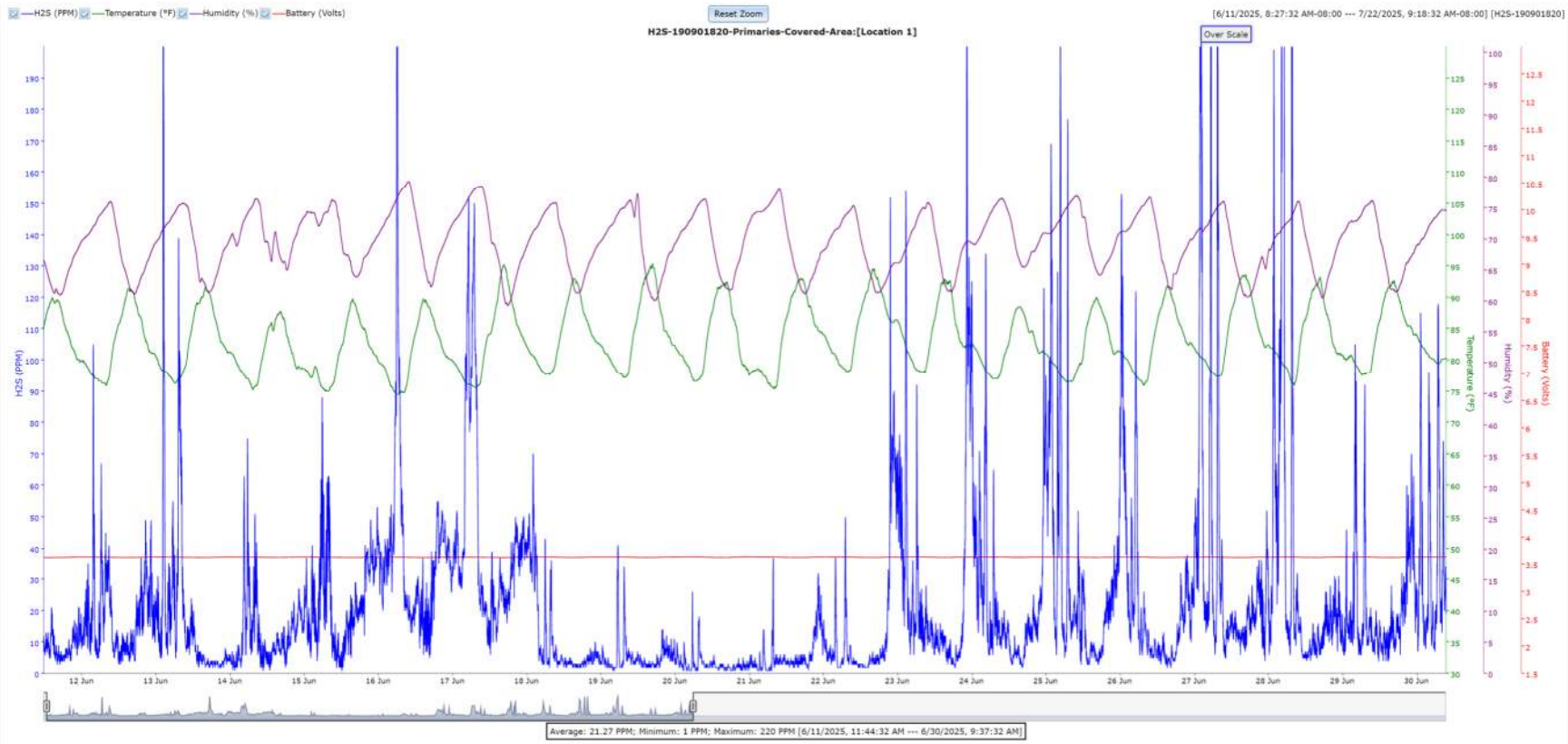


Figure 4 Sampling Location 1 – Primary Clarifier Effluent Channel – H_2S Concentration Profile

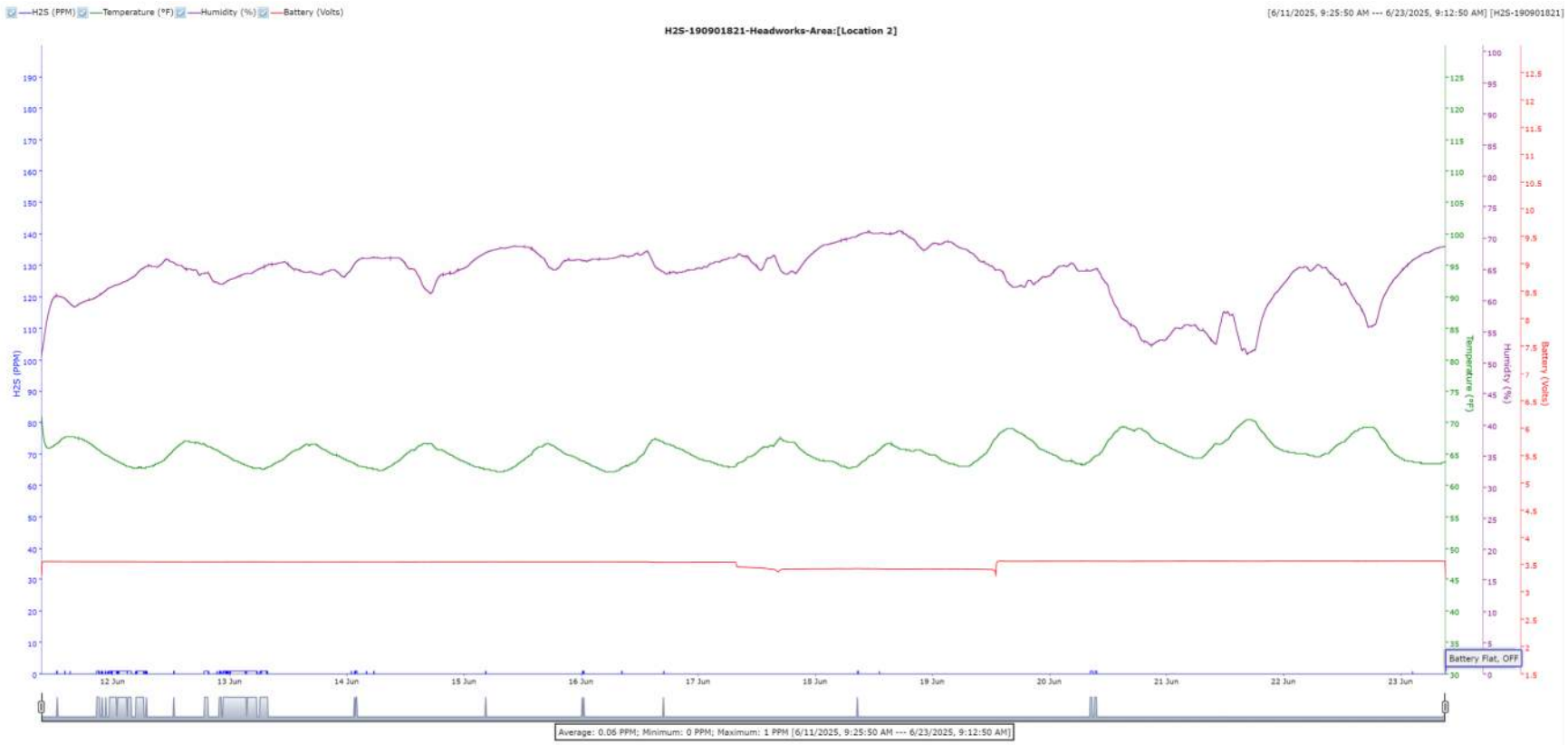


Figure 5 Sampling Location 2 – Headworks Inlet Room – H_2S Concentration Profile

SECTION 5 DISCUSSION OF RESULTS

The odor sampling results of the vapor phase H_2S concentration profiles for the areas tested are shown in Table 2, as well as Figures 4 and 5. The results indicate moderate levels of H_2S concentration during the two-week period. At the primaries, the H_2S concentration sometimes exceeded the logger's range capabilities. These high H_2S concentrations at the primary effluent channels indicate that there is also an equally strong source of foul air emanating from the headworks area, which can be conservatively assumed. Stagnant air and low ventilation velocities can promote the formation of higher concentrations as sludge detention time increases, oxygen depletion occurs, and the conditions favor sulfide production. The presence of turbulent or splashing conditions in wastewater collection systems and treatment processes also increases the release of volatile odorous molecules, leading to substantial generation of H_2S gases in the headspaces above the wastewater of the primaries.

When comparing the results from the headworks and primaries H_2S gas concentrations, it is important to note that our readings took place in the summer months, when temperatures are highest and biological conditions are at their most active. Typically, the wet weather and low temperatures typical of winter months have a dampening effect on odors at most WWTPs, where odor control equipment may see a small fraction of the odors or H_2S that they treat during summer months. This is evident from the site visits and testing performed at many WWTPs throughout the Bay Area, including the East Bay Municipal Utility District, San Francisco Public Utilities Commission Southeast Treatment Plant, Silicon Valley Clean Water, and others.

Considering the average of 21.3 ppm H_2S at the primaries and predictably similar concentrations at the headworks, we can confidently assume that year-round concentrations may be as much as 50 percent lower than the year-round average. Higher concentrations, higher than 15 ppm H_2S, are typically required to justify biotrickling filters as treatment options over carbon adsorption systems, both for minimum H_2S levels required for biological performance and for capital expenditure and operational expenditure costs of both alternatives to be similar. Notably, the Sewerage Agency of Southern Marin (SASM) biotrickling filters have performed very well in very dilute foul air concentrations, less than 5 ppm on average. Typically, higher concentrations of H_2S (>5 ppm), along with very few upsets or periods of 'non-detect' H_2S levels are integral to the proper function of biotrickling filters to perform at their most optimal. Carbon adsorption does not have this same minimum level requirement of H_2S concentrations, nor does it care if 'non-detect' levels persist, nor do they necessarily have a maximum concentration. Carbon is solely used for dilute airflows due to the expense of frequently changing carbon media.

The remaining sections of the TM will consider odor abatement equipment options based on biological and carbon adsorption treatment. These two options seem to be the most reasonable to produce reliable performance and reduce the operations and maintenance (O&M) efforts of the existing chemical scrubbing odor control treatment facility.

SECTION 6 ODOR AND CORROSION ALTERNATIVE TECHNOLOGY DESCRIPTIONS

Several gas-phase odor control alternatives were developed using the testing results discussed previously. A description of each of the technologies is provided in the following sections.

6.1 Vapor Phase Odor Control Technologies

The three most commonly used gas phase treatment technologies to treat foul air emissions from wastewater collection and treatment facilities are chemical scrubbing, biological treatment, and carbon adsorption. There are other treatment technologies that have been used, such as thermal oxidation, ozone, and ultraviolet ionization; however, these technologies have not proven to be effective relative to performance and O&M cost. All three of these technologies provide excellent odor and H_2S removal efficiencies and warrant consideration on any future design project. A brief description of the foul air treatment technologies follows.

6.1.1 Chemical Scrubbers (Existing System)

Chemical scrubbers are a common odor control technology, although they are less popular now than when the original District system was installed. Chemical scrubbers achieve odor removal by mass transfer absorption via contact of the air stream with aqueous solution on random packing material in a scrubbing chamber. The liquid is typically water, adjusted to the proper pH and oxidation potential by chemicals. The packing media must have a high active surface area for gas/liquid contact, promoting an even liquid and gas distribution for high mass transfer rates. The wastewater treatment industry has standardized the use of sodium hydroxide and sodium hypochlorite to control H_2S, and sulfuric acid to control ammonia odors. Maintaining the chemical conditions favorable for ultimate performance is critical. The desired oxygen reduction potential and pH chemistry is typically adjusted at the site based on the actual gas components present. Chemical scrubbing has been shown to be highly effective on H_2S and ammonia odors, which are the most predominant odorous compounds found in municipal wastewater treatment systems. Chemical scrubbers are commonly applicable to H_2S concentrations up to 1,000 ppm and can come in low-profile horizontal packaged system configurations or in vertical tower system configurations. Figure 6 shows typical process flow schematics for a packaged low-profile horizontal chemical odor scrubber system. Figure 7 shows a typical process flow schematic for a vertical tower chemical odor scrubber system. Figure 8 shows example installations of low-profile and vertical tower high-profile chemical scrubbers.

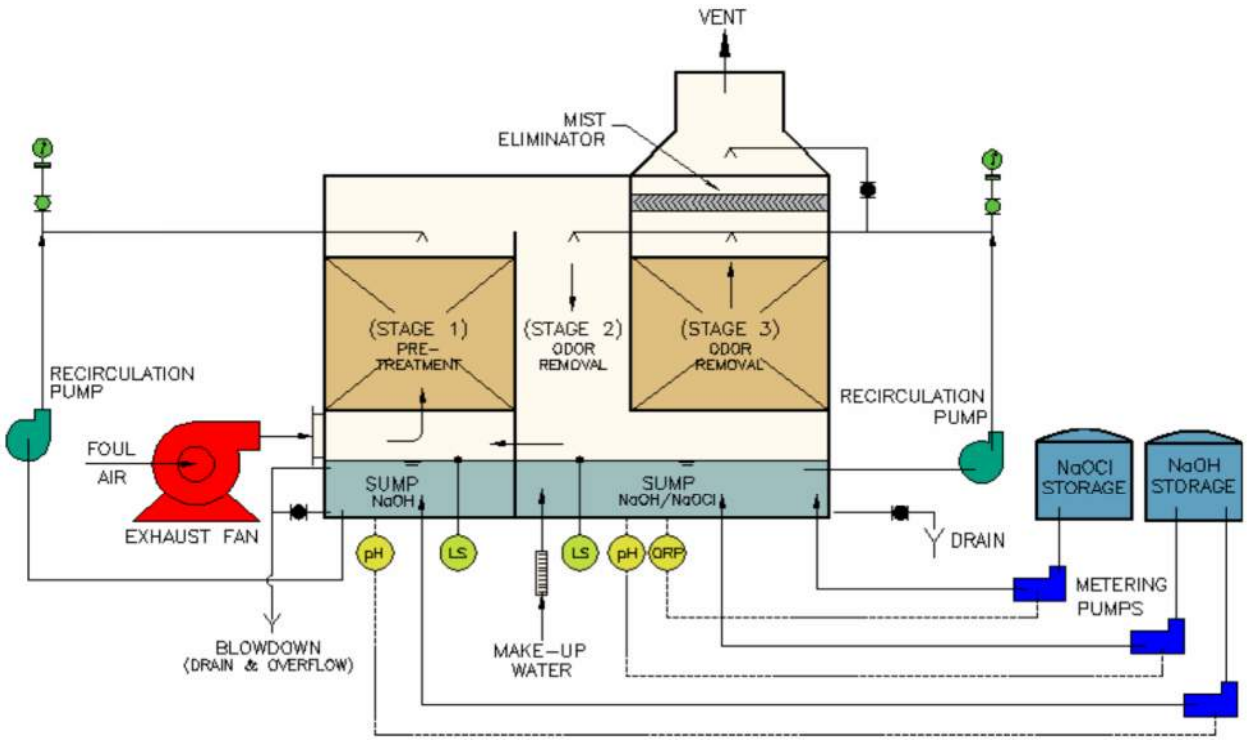


Figure 6 Typical Low Profile Chemical Scrubber System Process Schematic

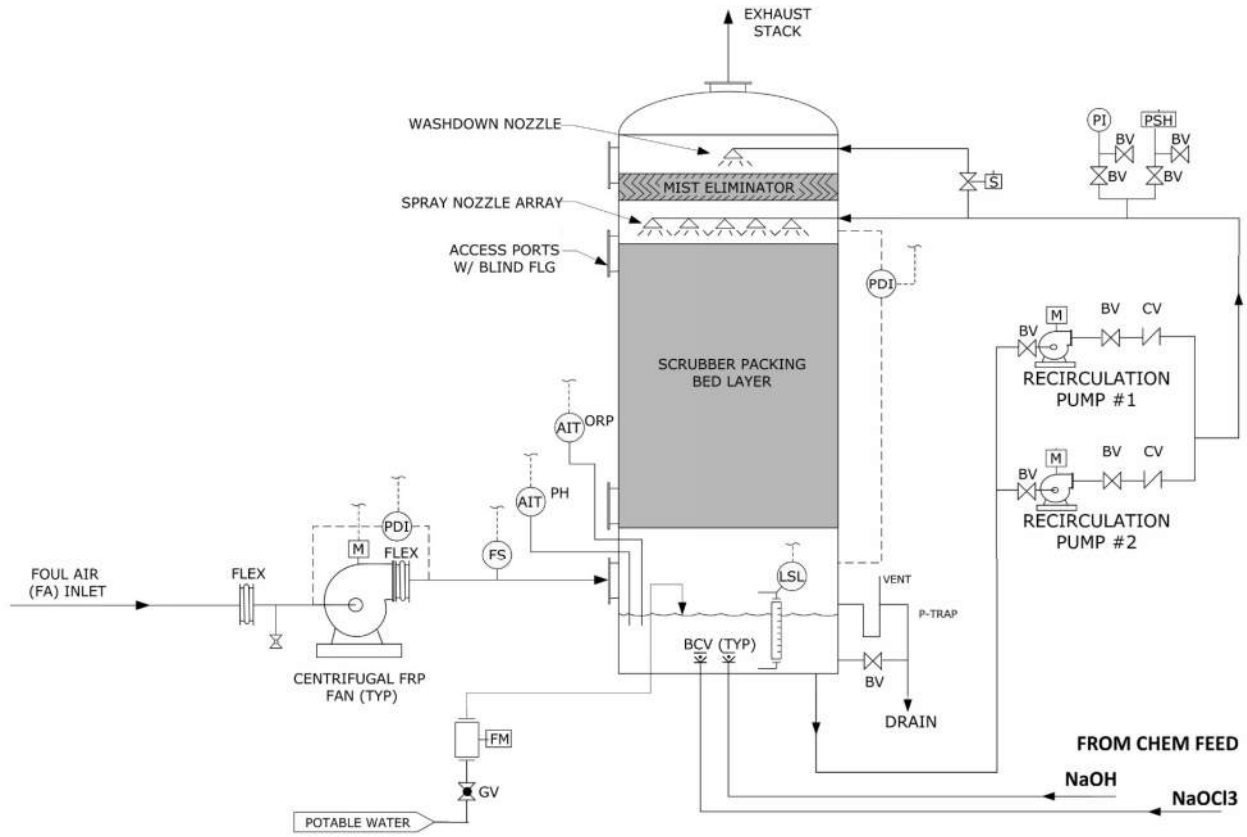


Figure 7 Typical Vertical Tower Chemical Scrubber System Process Schematic



Figure 8 Chemical Scrubber System (Low Profile and Vertical Tower) Installations

Chemical scrubbers are a proven odor control technology that can remove up to 99 percent of H_2S, even at high concentrations. They can fit in a relatively small footprint but require significant O&M attention, chemical handling and storage, and disposal of scrubber effluent wastewater. They are not considered to be effective for removal of volatile organic compounds (VOC) or the more odorous, reduced sulfur compounds, like the odorous compounds typically found in sludge storage and thickening treatment processes.

Chemical scrubbing is best suited for applications at the wastewater plant itself, as opposed to the collection system, as the high maintenance requirements of chemical scrubbers are best handled at permanently manned facilities.

Due to the special handling requirements of the chemicals involved, the required extensive training of operators in handling and operating these systems, safety concerns, and the high cost of purchasing chemicals, chemical scrubber use has decreased in the industry. Because of these issues, chemical scrubbers have been eliminated from further consideration in this analysis.

6.1.1.1 Biological Treatment – Biofilters and Bioscrubbers

Bioscrubbers and biofilters comprise a category of odor treatment technology that uses biological rather than chemical processes as the treatment mechanism. Biofilters and bioscrubbers use naturally occurring microorganisms that grow on media to oxidize odorous compounds to carbon dioxide, water, biomass, and other by-products such as chloride and sulfate. The byproducts are emitted in the outlet air or drain water or consumed by the microorganisms. Biofilters and bioscrubbers are similar in how they remove odorous compounds, but bioscrubbers typically use artificially engineered synthetic media and closed-vessel construction, while biofilters typically use natural media and open-bed construction.

One of the main differences between a bioscrubber and biofilter are the H_2S treatment range where the optimum H_2S treatment range is between 5 and 1,000 ppm of H_2S for bioscrubber and between 1 to 25 ppm for biofilter. The biofilters have significant limitations in handling levels of H_2S loadings above

25 ppm. The high levels of H_2S loading in biofilters will create an increase in the acidithiobacillis colony, causing an overproduction of biofilm and acidity, which may limit certain types of biodegrading microorganisms and fungi that feed on the more complex odor compounds that are not capable of surviving in a low pH environment. A loss of treatment efficiency, compaction, and channeling of the organic media can occur.

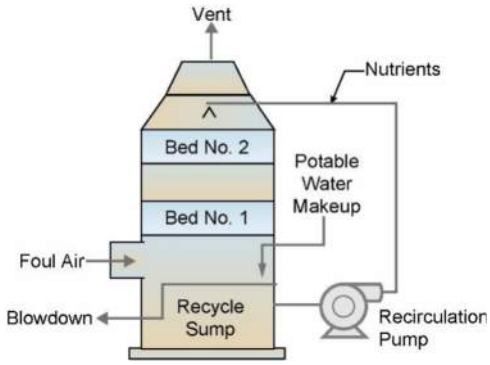
Another main difference between a bioscrubber and a biofilter is the footprint. A biofilter is typically low profile but requires a relatively large footprint, whereas a bioscrubber is typically housed in a vertical tower or horizontal vessels and requires a much smaller footprint. Both processes involve intermittent spraying or recirculating biologically active, nutrient-rich scrubbing solutions over a media bed while odorous air is forced upward through the media bed. The process is similar to that used in chemical scrubbers, except it employs biological treatment instead of chemical treatment. Within the aforementioned optimum range of 10 to 1,000 ppm, bioscrubbers should deliver a minimum of 98 percent removal capacity, and often the removal capacity is greater than 99 percent.

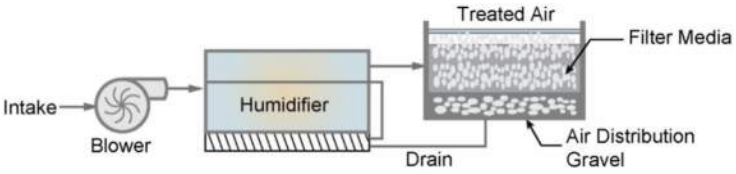
Biofilter media types include wood chips/bark media, soil/sand media, inorganic and structured engineered inorganic carbon-coated media. Typical media for bioscrubbers include organic and inorganic media such as lava rock, carbon-coated engineered recycled glass or clay, reticulated foam, and engineered structured media. Typical life for soil organic media ranges between 4 to 7 years, while the typical life for inorganic and engineered media ranges 10 to 20 years. Figure 9 shows some of the media used typically in bioscrubber and biofilter applications.



Figure 9 Typical Media Used in Bioscrubber and Biofilter Systems

Figure 10 shows typical flow process schematics for a bioscrubber and a biofilter. Figure 11 shows typical installations for bioscrubbers and biofilters.





Bioscrubber System *Biofilter System*

Figure 10 Typical Process Flow Schematic for a Bioscrubber and a Biofilter System



Biotrickling Filter/Bioscrubber



Below Ground Biofilter



Above Ground Biofilter



SASM Plant

Figure 11 Example Installations of Biological Treatment Systems

The advantages and disadvantages of biological treatment are summarized below.

- The primary advantages of biological treatment are:
  - Proven effectiveness. H_2S removal efficiencies are typically greater than 99 percent.
  - Can provide VOC and reduced sulfide treatment with higher empty bed residence times (EBRT).
  - Lowest operating and maintenance costs compared to all other treatment technologies.
  - Ease of O&M.
  - No chemical costs, storage, or handling required.
  - Long media life between replacements, depending on H_2S concentrations.
  - Biological air treatment is more environmentally friendly and safer than chemical treatment.
- The primary disadvantages of biological treatment are:
  - Difficulty in maintaining biological growth when inlet loadings are low or intermittent.
  - Removal efficiencies may be reduced when inlet loadings are wide ranging, especially when base loadings are low.
  - Larger footprint for biofilters.
  - Requires biological acclimation period for effective treatment.

6.1.1.2 Carbon Adsorption

Activated carbon has a complex pore structure with a very large surface area. Odorous compounds are transferred from the air being treated to the surface of the carbon as the air is forced through the carbon bed. There is a physical attraction between the compound and the carbon once contact is made, which causes bonding. The compounds will continue to adsorb onto the surface of the carbon until all the pore space in the carbon is exhausted or used up. When that happens, odors will break through and the carbon must be replaced or regenerated.

Carbon adsorption is typically a viable, cost-effective option when the inlet H_2S concentrations are expected to be <5 ppm and there are no significant concentrations of other reduced sulfur compounds (RSC) such as methyl mercaptan. Carbon is not as effective at removing these other RSCs at high concentrations. One of the primary advantages of carbon adsorption is that it can easily handle loading fluctuations. One of the disadvantages of carbon is that it must be replaced after the carbon is spent, and this can be inconvenient and expensive, particularly if the inlet H_2S concentrations are high, >5 to 10 ppm. In those situations, the carbon would be exhausted quickly and would need to be replaced more frequently.

Carbon scrubbers have been used as a primary treatment technology for processes such as secondary treatment, sludge dewatering, and thickening treatment processes where H_2S and RSCs are low, and the VOCs are high. Carbon scrubbers typically remove around 99 percent of these odors. Furthermore, carbon scrubbers are used extensively as a polishing stage following a chemical scrubber or biological treatment system, particularly where neighboring odor receptors are in very close vicinities to WWTPs or sewage pump stations.

There are many types of carbon available, depending on the compounds to be removed. Coconut shell-based granular activated carbon is typically used in applications that require VOC removal and have low levels of H_2S. Bituminous coal-based catalytic carbon is specifically manufactured to have a high capacity for H_2S and is often used in wastewater treatment applications. Caustic impregnated carbon also

has a high capacity for H_2S, but this is now rarely used due to the hazards associated with the impregnation and the development of catalytic carbons.

The carbon scrubber configuration can come in different configurations, such as single bed, dual bed, and radial bed. Figure 12 shows example installations for the single bed, dual bed, and radial bed carbon scrubbers.



Single Bed Carbon Scrubber



Dual Bed Carbon Scrubber



Radial Bed Carbon Scrubber

Figure 12 Typical Installation of Carbon Adsorber

The advantages of carbon adsorbers include:

- Typically, low capital cost compared to alternatives.
- Easy to install and maintain. Requires almost no operator attention until carbon needs to be replaced.
- No chemical storage or handling.
- Relatively small footprint.
- Few moving parts.
- Typically provides hydrogen sulfide removal efficiencies greater than 99 percent.
- Provides excellent removal of volatile organic compounds.
- Carbon works well in remote locations where there is no water supply, such as pumping station wet wells.
- Works well as a polishing stage.

The disadvantages of carbon adsorption are:

- Carbon replacement costs can be high when inlet loadings are high, especially when inlet H_2S is high.
- Moisture and bio-growth on the carbon bed would convert mercaptans to dimethyl disulfide, which is also very odorous.
- Carbon disposal can also be an issue if it is contaminated by compounds in the air stream being treated or if it is impregnated. However, in most cases, the spent carbon can be taken to a standard landfill.
- Carbon works best when treating air with a moisture content of 50 percent or less. The moisture can be adsorbed into pore spaces, reducing the capacity of the carbon. Grease and water droplet filters typically precede carbon adsorbers to improve performance.

6.2 Vapor Phase Odor Control Technology Alternatives

The alternatives shown in Figures 13 to 16 are intended to show Carollo's standard approach to carbon adsorption systems and biological scrubbing systems within the site allocated (existing odor control pad).

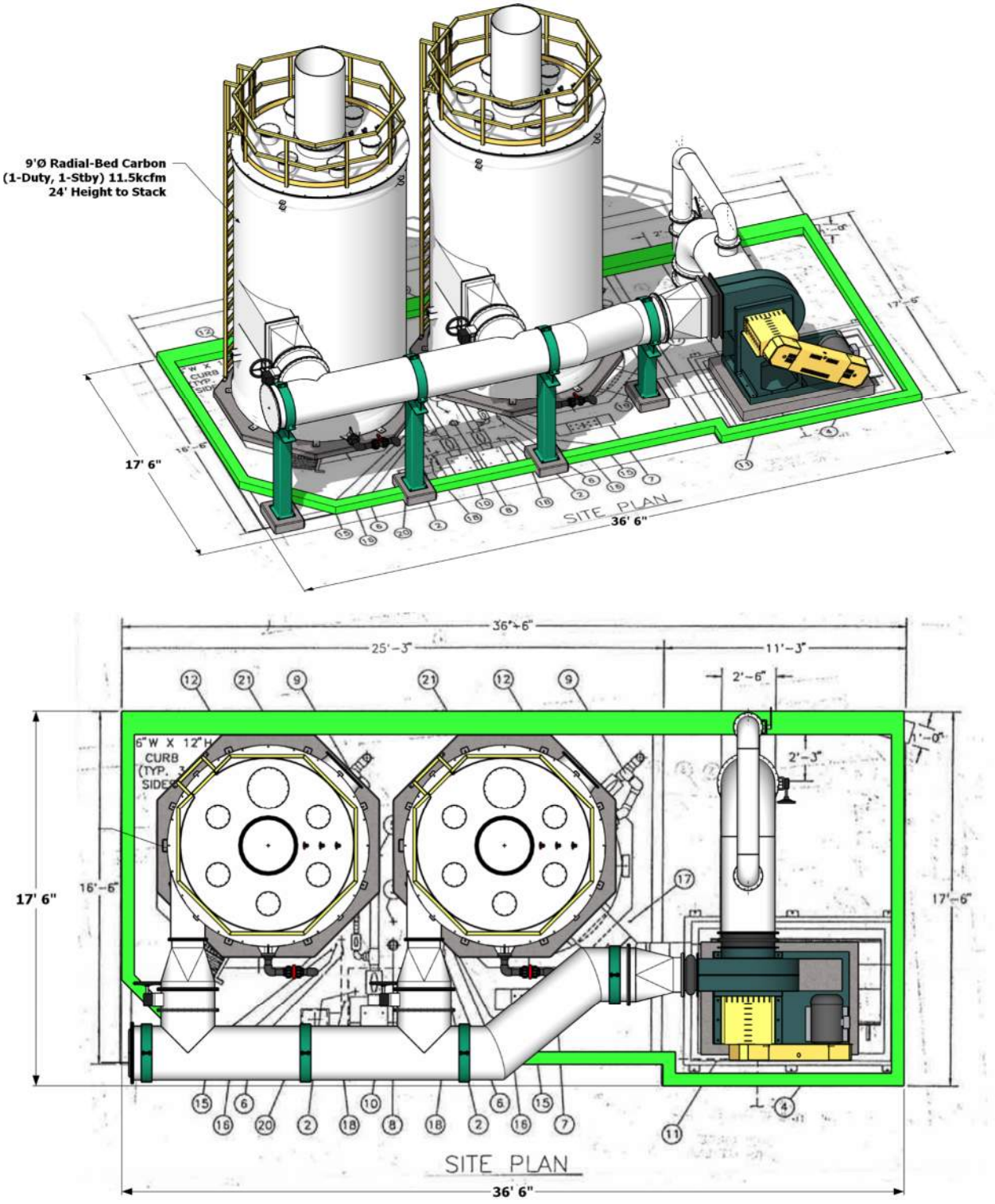


Figure 13 Alternative 1 – Radial Carbon Adsorbers (1-Duty, 1-Standby)

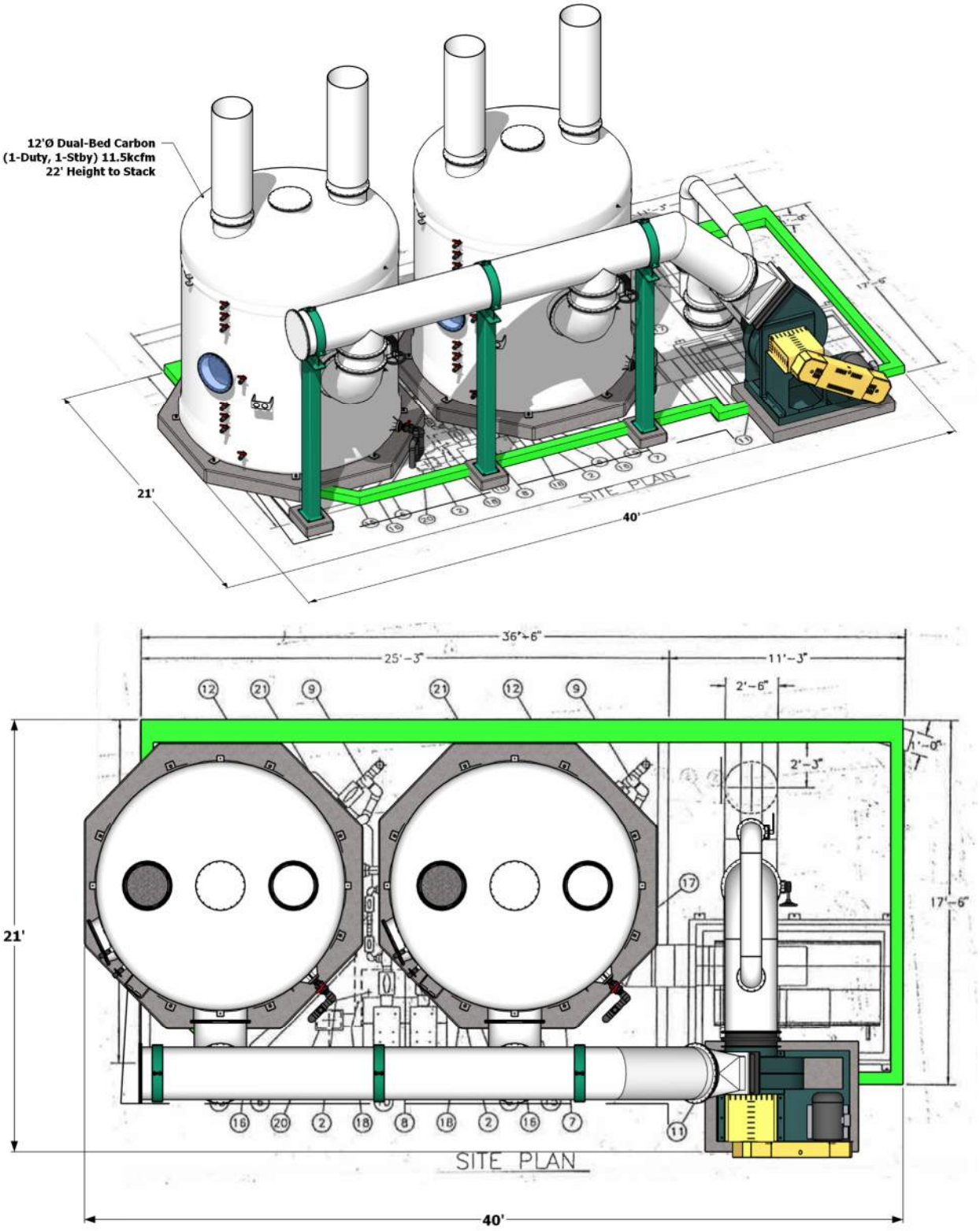


Figure 14 Alternative 2 – Dual-Bed Carbon Adsorbers (1-Duty, 1-Standby)

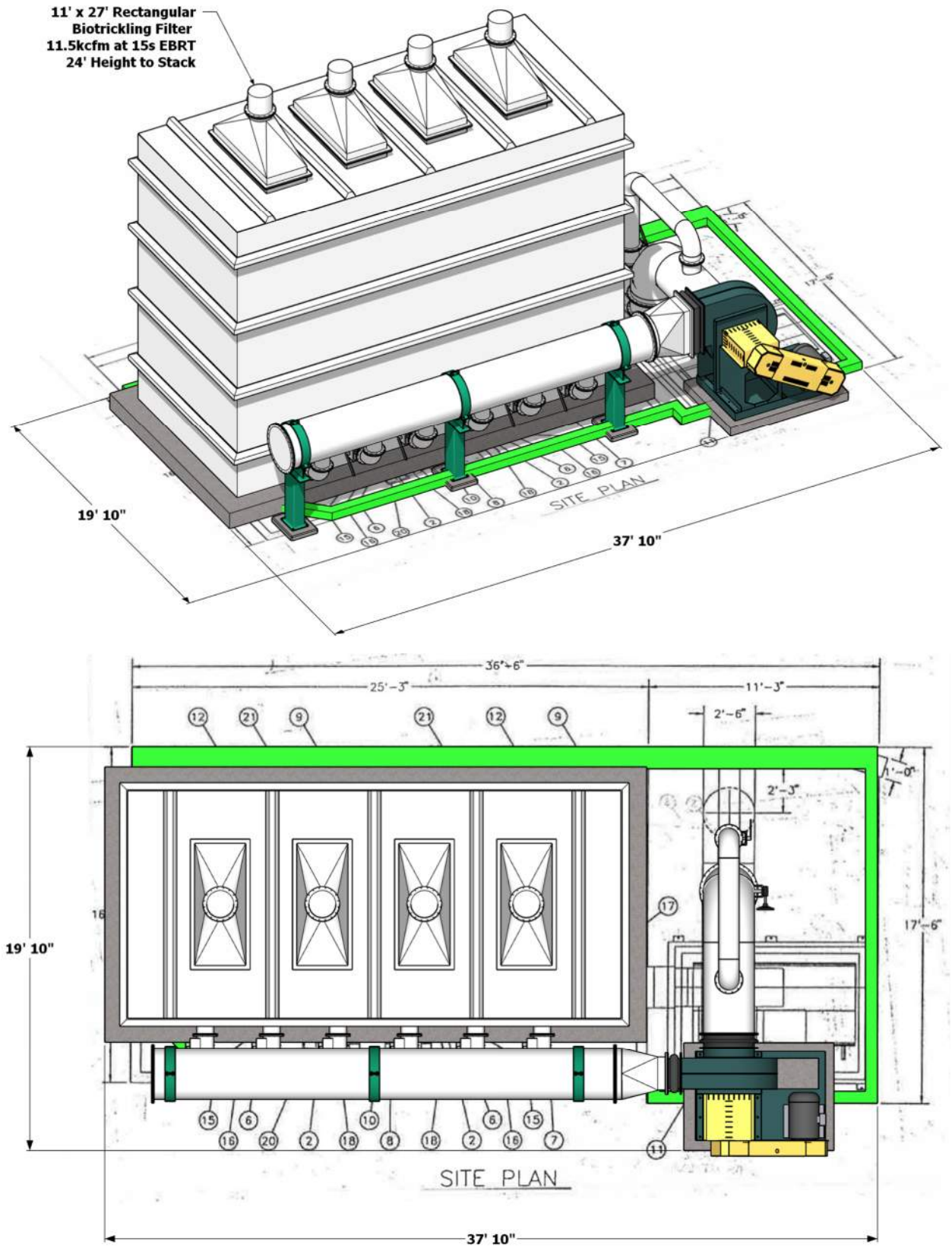


Figure 15 Alternative 3 – Rectangular Biotrickling Filter (Similar to SASM, 1-Duty, 0-Standby)

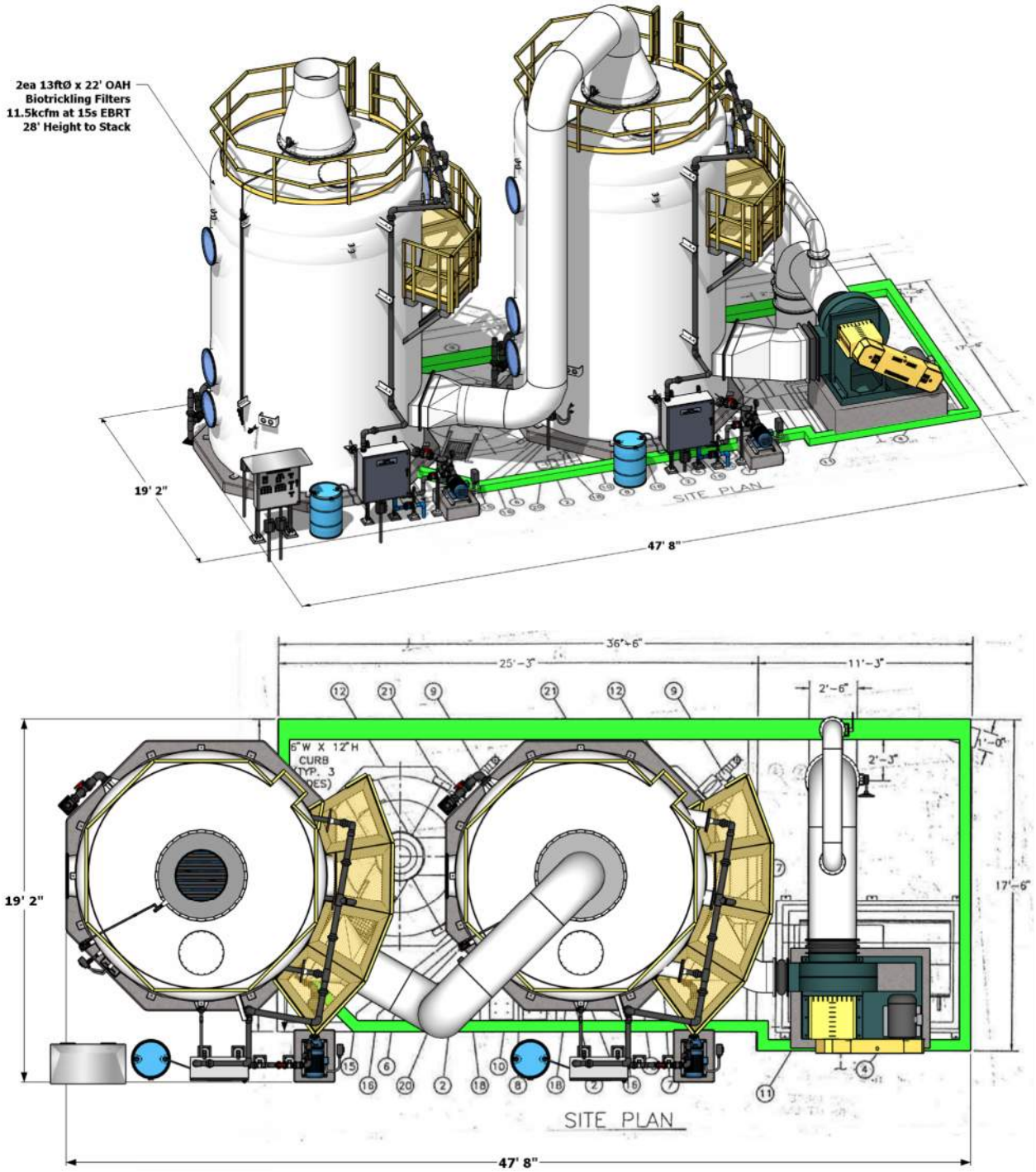


Figure 16 Alternative 4 – Round Cylindrical Biotrickling Filters (2-Duty, 0-Standby)

SECTION 7 CAPITAL AND OPERATING COST COMPARISON

A cost comparison for the liquid phase and vapor phase odor control technology evaluated for the District. Capital costs, O&M costs, and life cycle cost analysis for the odor control options were developed using a combination of vendor quotes and engineer's recent project experience. Allowances for piping, ductwork, electrical work, and instrumentation and controls were also provided. Cost factors were added as defined in this section. The costs presented are a budget-level estimate that are representative of a Class 4 cost estimate as described in AACE International[1] guidelines. All costs are based on 2026 pricing of materials, equipment, labor, and other components listed.

The cost presented in the following tables include the following assumptions and factors:

Subtotal cost includes installation cost. Cost factors of 58 percent of subtotal project cost is added to include the following:

1. Design contingency (20 percent).
2. General conditions (10 percent).
3. General contractor overhead and profit (15 percent).
4. Tax (8 percent).
5. Management and legal (5 percent).
6. Estimating contingency (35 percent).

Life cycle present worth cost analysis assumptions:

1. Flows are estimated based on average flow data and discussions with the District.
2. Chemical dosing rates are estimated based on discussions with vendors and typical recommended dosing rates used in field applications.
3. Chemical costs are based on vendor quotes.
4. Energy cost is based on an average power cost of $0.20/kilowatt-hour, 365 days a year, continuous operation.
5. Biological media replacement cost is based on 15-year replacement of media volume per vessel at $65/cubic feet replacement cost.
6. Water cost is consumption is estimated at $0.00046/gallon.
7. Labor cost is based on one maintenance hour/week at $50/hour.
8. O&M present worth cost is based on a 20-year period, 6 percent interest rate, equating to a present worth factor of 11.47.

[1] AACE 18R-97. *Cost Estimate Classification System – As Applied in Engineering, Procurement, and Construction for the Process Industries.*

7.1 Vapor Phase Odor Control Cost Analysis

The following describes the vapor phase alternatives that have been considered and evaluated. Carbon adsorption is very effective at removing H_2S, but when the H_2S concentrations average more than 20 ppm, the capacity of the carbon is used up rapidly, and the carbon must be changed frequently. For this study, the average H_2S concentration in all the locations tested during the two-week monitoring period was low to moderate, averaging ~20 ppm during peak summer months. Carbon is, therefore, a reasonably feasible choice and is included in the cost analysis.

Chemical scrubbing is familiar to the District as the existing incumbent odor control technology and is typically best suited for applications when the H_2S loading is reasonably high, especially when those loads are erratic and intermittent. Based on previous experience, the estimated operating and maintenance costs for such systems are typically high, particularly when the H_2S levels are also high, and the chemical consumption would also be high compared to the costs for biological treatment. Furthermore, as indicated previously, due to the special handling requirements of the chemicals involved, safety concerns, and the high cost of purchasing chemicals, replacement chemical scrubbers will be eliminated from further consideration in this analysis.

Biological treatment, such as bioscrubbing, is ideally suited for applications like this, as the H_2S is in the acceptable range for bioscrubbers and would provide good removal efficiency. Large below-grade or above-grade Biofilters are not applicable to this case as the footprint is tight and the H_2S exceeds the range recommended for biofilters. Bioscrubber technology will therefore be the only biological treatment technology considered in the cost analysis.

Table 3 presents 20-year life cycle cost analysis for the bioscrubber odor control technology.

Table 3 20-Year Life Cycle Cost Analysis – Vapor Phase Treatment Alternatives

Item (Treatment Technology)	Bioscrubber	Carbon Adsorber
Air Flow Rate		
Estimated Air Flow Rate	11,500 cfm	11,500 cfm
Estimated Yearly H_2S Average(1)	10 ppm	10 ppm
Project Capital Costs		
Odor Control Equipment(2)	$2,500,000	$2,000,000
Installation Cost at 65%	$1,625,000	$1,300,000
Subtotal	**$4,125,000**	**$3,300,000**
Construction Factors (58% of Subtotal)	$2,392,500	$1,914,000
Total Capital (adding 35% Estimating Contingency)	**$8,798,625**	**$7,038,900**
Annual O&M Costs		
Energy	$30,600	$45,900
Media Replacement	$17,300(3)	$60,000(4)
Nutrients	$1,700	$0
Water	$1,200	$0
Labor	$7,800	$5,200
Subtotal O&M	**$58,600**	**$111,100**
20-Year Life Cycle Cost		
O&M Present Worth(5)	$2,155,636	$4,086,879
Total Capital	$8,798,625	$7,038,900
Total 20-Year Present Worth	**$10,954,281**	**$11,125,779**

Notes:
cfm – cubic feet per minute.
(1) H_2S is assumed to be reduced to 10 ppm using the anticipated year-round average.
(2) Odor control equipment is based on the following components, as applicable to each system, and includes installation cost:
- Scrubber vessel with internals.
- Media.
- Fans.
- Pumps.
- Concrete work.
- Chemical tanks.
- Ductworks, piping, valves, and supports.
- Electrical, instrumentation, and controls.

(3) Biotrickling filter media lifespan assumed at 15 years. Manufacturer warranty period is not less than 10 years.
(4) Carbon adsorber media lifespan assumed at 1.8 years, with 25 percent factor of safety.
(5) Present worth includes 6 percent inflation rate.

SECTION 8 CONCLUSIONS

The following conclusions can be drawn from the test results and the evaluations of odor control alternatives at the tested locations in the District headworks system.

- Overall, carbon adsorbers with their lower requirement of media volume (EBRT) are able to fit within the space more readily than a typical bioscrubber. The site footprint is therefore capable of supporting a second carbon adsorber system as a fully redundant scrubber to be used during periods of maintenance or carbon change-out.
- Carbon adsorption requires media change-outs every one to two years, which may prove difficult for a plant with smaller working spaces and lay-down areas.
- Carbon media is typically changed by a supplier which the District may have contacts for.
- Ultimately, the carbon adsorber alternative is the lowest-cost and smallest footprint option; however, other considerations like more frequent media change-outs and carbon delivery and disposal may play a larger factor in the decision by the District to decide which technology to ultimately pursue.
- The results of the continuous H_2S monitoring shows that the average H_2S concentration in all the locations tested during the two-week monitoring period were of moderate levels, averaging 20 ppm, with peak levels exceeding 200 ppm.
- The high H_2S concentrations are assumed to be the highest during the summer months of the year; a yearly average of 10 ppm is assumed for the existing odor control system.
- For the vapor phase evaluation, Table 5 shows the bioscrubber option is the most favorable alternative compared with the chemical scrubber option due to the high O&M cost of chemical scrubbing.
- The sulfide level can be reduced by adding ferrous chloride in the sewer trunkline.
- The high H_2S concentration can be substantially reduced by introducing ventilation fresh air in the sewer trunklines and exhausting the air in an air treatment method

SECTION 9 RECOMMENDATIONS

Based on the above evaluations and the conclusions, Carollo recommends consideration of either biological or carbon adsorption to reduce odors and alleviate the O&M of the existing chemical scrubber at the WWTP.

The following lists the potential testing for the odor control improvements:

- Furnish temporary odor control in the form of a roll-off container-style carbon adsorber unit and temporary ductwork, capable of handling >11,500 cfm. This airflow is typically handled by a ‘1/2 size’ container, 8 feet by 8 feet by 20 feet.

- Demolish existing chemical scrubbers and install vapor phase carbon adsorbers or bioscrubbers at the location of the current chemical scrubber. See technology alternatives 1 to 4 (Figures 12 to 15).
- Considering the lower operating and maintenance costs associated with a biological scrubber (alternative 3 and 4), Carollo believes that a system similar to the biotrickling filter installed at the SASM plant would perform well and have the highest return on investment over the lifetime of the equipment.

Short-Term Recommendation (Added in June 2026)

The existing chemical scrubber can be rehabilitated in the short term assuming the vessels (tanks) are structurally sound. The rehabilitation would include

1. New media and demister replacement,
2. New spray nozzles,
3. New recirculation pumps,
4. New chemical metering pumps.
5. New instrumentation (pH/ORP probes)
6. New control panel

The short-term rehabilitation cost is based on similar projects but is subject to change based on findings during a condition assessment, especially vessel and ductwork assessment. The costs to rehabilitate the existing system are between $1M to $2M. The rehabilitation scope and construction costs can be confirmed during a condition assessment / predesign phase of a scrubber rehabilitation project.

California Public Employees' Retirement System
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July 2026

All Rate Plans of the Sanitary District No. 5 of Marin County in the Miscellaneous Risk Pool (CalPERS ID: 4163206459)
Annual Valuation Report as of June 30, 2025

Dear Employer,

Attached to this letter is Section 1 of the June 30, 2025, actuarial valuation report for the plan noted above. **Provided in this report is the determination of the minimum required employer contributions for fiscal year (FY) 2027-28**. In addition, the report contains important information regarding the current financial status of the plan as well as projections and risk measures to aid in planning for the future.

Because this plan is in a risk pool, the following valuation report has been separated into two sections:

- Section 1 contains specific information for the following rate plan(s) including the development of the current and projected employer contributions.
    - 1600, Miscellaneous Plan
    - 30142, Miscellaneous Second Tier Plan
    - 27151, PEPRA Miscellaneous Plan
- Section 2 contains the Miscellaneous Risk Pool information as of June 30, 2025.

Section 2 can be found on the CalPERS website in the Forms & Publications section. Search for *"Risk Pool*" and from the results list download the Miscellaneous Risk Pool Actuarial Valuation Report for June 30, 2025.

Required Contributions

The table below shows the minimum required employer contributions and member contribution rates for FY 2027-28 along with an estimate of the required employer Unfunded Accrued Liability (UAL) contribution for FY 2028-29. **The required employer and member contributions in this report do not reflect any cost sharing arrangement between the agency and the employees.**

Fiscal Year	Rate Plan	Employer Normal Cost Rate	Member Contribution Rate
2027-28	1600	16.53%	8.00%
	30142	10.41%	7.00%
	27151	8.05%	7.75%

Fiscal Year	Employer Amortization of Unfunded Accrued Liability
2027-28	$0
	Projected (Estimated)
2028-29	*$0*

The actual investment return for FY 2025-26 was not known at the time this report was prepared. The projected UAL payment above assumes the investment return for that year would be 6.8%. To the extent the actual investment return for FY 2025-26 differs from 6.8%, the actual UAL contribution requirement for FY 2028-29 will differ from that shown above. For additional information on future contribution requirements, please refer to Projected Employer Contributions. This section also contains projected required contributions through FY 2032-33.

Changes from Previous Year's Valuations

On November 19, 2025, the CalPERS Board of Administration (board) adopted new actuarial assumptions based on the recommendations in the *November 2025 CalPERS Experience Study and Review of Actuarial Assumptions*. This study reviewed the retirement rates, termination rates, mortality rates, rates of salary increase, the inflation assumption, and various other assumptions for public agencies. These new assumptions are incorporated in this actuarial valuation and impact the required contributions for FY 2027-28.

In addition, the board adopted changes to the CalPERS Total Fund Investment Policy, which provides the framework for the management of CalPERS assets. The board adopted a discount rate of 6.80%, which is unchanged from the prior year's valuation, and an increase in the price inflation assumption from 2.30% to 2.50% per year.

Besides the above-noted changes, there may also be changes specific to the plan such as contract amendments and funding changes such as additional discretionary payments and amortization schedule fresh starts.

A consolidated plan identifier has been added to the cover page of the report. As a result of the combination of some or all of the employer's rate plans in the Miscellaneous Risk Pool effective with the prior year's valuation, there is now one consolidated UAL value and actuarial valuation report for the group of component rate plans. This single identifier, set equal to the identifier of the component rate plan to which the UAL is attached, is intended to make it easier to identify a specific group of rate plans, the associated UAL, and the actuarial report.

PEPRA Member Contribution Rate

The employee contribution rate for PEPRA members can change based on the results of the actuarial valuation. See Member Contribution Rates for more information.

Report Navigation Features

The valuation report has a number of features to ease navigation and allow the reader to find specific information more quickly. The tables of contents are "clickable." This is true for the main table of contents that follows the title page and the intermediate tables of contents at the beginning of sections. The Adobe navigation pane on the left can also be used to skip to specific exhibits.

There are a number of links throughout the document in blue text. Links that are internal to the document are not underlined, while underlined links will take you to the CalPERS website. Examples are shown below.

Internal Bookmarks	CalPERS Website Links
Required Employer Contributions	Required Employer Contribution Search Tool
Member Contribution Rates	Public Agency PEPRA Member Contribution Rates
Summary of Key Valuation Results	Pension Outlook Overview
Funded Status – Funding Policy Basis	Interactive Summary of Public Agency Valuation Results
Projected Employer Contributions	Public Agency Actuarial Valuation Reports

Questions

A CalPERS actuary is available to answer questions about this report. Other questions may be directed to the Customer Contact Center at **888 CalPERS** (or **888**-225-7377).

Sincerely,



Randall Dziubek, ASA, MAAA
Deputy Chief Actuary, Valuation Services, CalPERS



Fritzie Dorais, ASA, MAAA
Deputy Chief Actuary, Special Programs, CalPERS



Scott Terando, ASA, EA, MAAA, FCA, CFA
Chief Actuary, CalPERS



Shelly Chu, ASA, MAAA
Senior Actuary, CalPERS

California Public Employees' Retirement System

Actuarial Valuation for the Rate Plans of the Sanitary District No. 5 of Marin County in the Miscellaneous Risk Pool

as of June 30, 2025

Consolidated Plan ID: 27151

(CalPERS ID: 4163206459)
(Rate Plan IDs: 1600, 30142, 27151)

Required Contributions for Fiscal Year

July 1, 2027 — June 30, 2028

CalPERS

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Section 2 – Miscellaneous Risk Pool Actuarial Information

Section 2 may be found on the CalPERS website in the Forms & Publications section.

Section 1

California Public Employees' Retirement System

Employer Specific Information for the Rate Plans of the Sanitary District No. 5 of Marin County in the Miscellaneous Risk Pool

(CalPERS ID: 4163206459)
(Rate Plan IDs: 1600, 30142, 27151)

Actuarial Certification

It is our opinion that the valuation has been performed in accordance with generally accepted actuarial principles as well as the applicable Standards of Practice promulgated by the Actuarial Standards Board. While this report, consisting of Section 1 and Section 2, is intended to be complete, our office is available to answer questions as needed. All of the undersigned are actuaries who satisfy the *Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States* of the American Academy of Actuaries with regard to pensions. The actuaries responsible for this report and their respective responsibilities are as follows.

Actuarial Methods and Assumptions

It is our opinion that the assumptions and methods, as recommended by the Chief Actuary and adopted by the CalPERS Board of Administration, are internally consistent and reasonable for this plan.



Randall Dziubek, ASA, MAAA
Deputy Chief Actuary, Valuation Services, CalPERS



Fritzie Dorais, ASA, MAAA
Deputy Chief Actuary, Special Programs, CalPERS



Scott Terando, ASA, EA, MAAA, FCA, CFA
Chief Actuary, CalPERS

Actuarial Data and Rate Plan Results

The assumptions and methods in this report are the responsibility of the CalPERS Chief Actuary and Deputy Chief Actuaries named above. These were established pursuant to their responsibility for setting actuarial policy and are relied upon without independent assessment of the reasonableness of the assumptions and methods, as such an evaluation would have required substantial additional work beyond the scope of this assignment. To the best of my knowledge and having relied upon the information in Section 2 of this report, this report is complete and accurate and contains sufficient information to disclose, fully and fairly, the funded condition of the rate plans of the Sanitary District No. 5 of Marin County in the Miscellaneous Risk Pool and satisfies the actuarial valuation requirements of Government Code section 7504. This valuation and related validation work was performed by the CalPERS Actuarial Office. The valuation was based on the member and financial data as of June 30, 2025, provided by the various CalPERS databases and the benefits under this plan with CalPERS as of the date this report was produced. Section 1 of this report is based on the member and financial data for Sanitary District No. 5 of Marin County, while Section 2 is based on the corresponding information for all agencies participating in the Miscellaneous Risk Pool to which the plan belongs.



Shelly Chu, ASA, MAAA
Senior Actuary, CalPERS

Highlights and Executive Summary

- **Introduction** **3**
- **Purpose of Section 1** **3**
- **Summary of Key Valuation Results** **4**
- **Changes Since the Prior Year’s Valuation** **5**
- **Subsequent Events** **5**

Introduction

This report presents the results of the June 30, 2025, actuarial valuation of the rate plans of the Sanitary District No. 5 of Marin County in the Miscellaneous Risk Pool of the California Public Employees' Retirement System (CalPERS). This actuarial valuation sets the minimum required contributions for fiscal year (FY) 2027-28.

Purpose of Section 1

This Section 1 report for rate plans of the Sanitary District No. 5 of Marin County in the Miscellaneous Risk Pool of CalPERS was prepared by the Actuarial Office using data as of June 30, 2025. This report contains actuarial information for the following rate plan(s).

- 1600, Miscellaneous Plan
- 30142, Miscellaneous Second Tier Plan
- 27151, PEPRA Miscellaneous Plan

The purpose of the valuation is to:

- Set forth the assets and accrued liabilities of these rate plans as of June 30, 2025;
- Determine the minimum required employer contributions for these rate plans for FY July 1, 2027, through June 30, 2028;
- Determine the required member contribution rate for FY July 1, 2027, through June 30, 2028, for employees subject to the California Public Employees' Pension Reform Act of 2013 (PEPRA); and
- Provide actuarial information as of June 30, 2025, to the CalPERS Board of Administration (board) and other interested parties.

The pension funding information presented in this report should not be used in financial reports subject to Governmental Accounting Standards Board (GASB) Statement No. 68 for a Cost Sharing Employer Defined Benefit Pension Plan. A separate accounting valuation report for such purposes is available on the CalPERS website (www.calpers.ca.gov).

The measurements shown in this actuarial valuation may not be applicable for other purposes. The agency should contact a CalPERS actuary before disseminating any portion of this report for any reason that is not explicitly described above.

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; changes in actuarial policies; changes in plan provisions or applicable law; and differences between the required contributions determined by the valuation and the actual contributions made by the agency.

Assessment and Disclosure of Risk

This report includes the following risk disclosures consistent with the guidance of the Actuarial Standards of Practice:

- A "Scenario Test," projecting future results under different investment income returns.
- A "Sensitivity Analysis," showing the impact on current valuation results using alternative discount rates of 5.8% and 7.8%.
- A "Sensitivity Analysis," showing the impact on current valuation results assuming rates of mortality are 10% lower or 10% higher than our current post-retirement mortality assumptions adopted in 2025.
- Plan maturity measures indicating how sensitive a plan may be to the risks noted above.
- The funded status on a termination basis.
- A low-default-risk obligation measure (LDROM) of benefit costs accrued as of the valuation date.

Summary of Key Valuation Results

Below is a brief summary of key valuation results along with page references where more detailed information can be found.

Required Employer Contributions — page 8

	Fiscal Year 2026-27	Fiscal Year 2027-28
Employer Normal Cost Rates		
Rate Plan 1600	16.07%	16.53%
Rate Plan 30142	10.18%	10.41%
Rate Plan 27151	7.93%	8.05%
Unfunded Accrued Liability (UAL) Contribution Amount	$32,942	$0
Paid either as		
Option 1) 12 Monthly Payments of	$2,745.17	$0.00
Option 2) Annual Prepayment in July	$31,876	$0

Member Contribution Rates — page 10

	Fiscal Year 2026-27	Fiscal Year 2027-28
Rate Plan 1600	8.00%	8.00%
Rate Plan 30142	7.00%	7.00%
Rate Plan 27151	7.75%	7.75%

Projected Employer Contributions — page 14

Fiscal Year	Normal Cost (% of payroll) Rate Plan 1600	Rate Plan 30142	Rate Plan 27151	Annual UAL Payment
2028-29	16.5%	10.4%	8.1%	$0
2029-30	16.5%	10.4%	8.1%	$0
2030-31	16.5%	10.4%	8.1%	$0
2031-32	16.5%	10.4%	8.1%	$0
2032-33	16.5%	10.4%	8.1%	$0

Funded Status — Funding Policy Basis — page 12

	June 30, 2024	June 30, 2025
Entry Age Accrued Liability (AL)	$13,334,029	$13,956,316
Fair Value of Assets (Assets)	13,195,152	14,323,246
Unfunded Accrued Liability (UAL) [AL – Assets]	$138,877	($366,930)
Funded Ratio [Assets ÷ AL]	99.0%	102.6%

Summary of Valuation Data — page 28

	June 30, 2024	June 30, 2025
Active Member Count	11	11
Annual Covered Payroll	$1,423,238	$1,558,273
Transferred Member Count	4	5
Separated Member Count	4	4
Retired Members and Beneficiaries Count	13	13

Changes Since the Prior Year's Valuation

Investment Policy and Discount Rate

On November 19, 2025, the board adopted changes to the CalPERS Total Fund Investment Policy, which provides the framework for the management of CalPERS assets. Consistent with that policy, the board also adopted a discount rate of 6.80% for use in this valuation, which is unchanged from the prior year's valuation.

Actuarial Methods and Other Assumptions

On November 19, 2025, the board adopted new actuarial assumptions based on the recommendations in the *November 2025 CalPERS Experience Study and Review of Actuarial Assumptions*. This study assessed various assumptions including retirement rates, termination rates, mortality rates, rates of salary increase, and inflation. New assumptions stemming from the study are incorporated in this actuarial valuation and affect required contributions for fiscal year 2027-28. Among the changes were an increase in the price inflation assumption from 2.30% to 2.50% per year and an increase in the wage inflation assumption from 2.80% to 3.00% per year.

Plan Assets

Plan assets are measured at fair value. In the prior year's actuarial valuation report the term Market Value of Assets was used to describe the asset value used for funding purposes. The Actuarial Office has used this term interchangeably with Fair Value of Assets. Effective with the June 30, 2025, valuation, CalPERS will exclusively use the term Fair Value of Assets in actuarial reports. This is a change in terminology and does not represent any change in methodology.

Benefits

The standard actuarial practice at CalPERS is to recognize mandated legislative benefit changes in the first annual valuation following the effective date of the legislation. For pooled rate plans, voluntary benefit changes by plan amendment are generally included in the first valuation with a valuation date on or after the effective date of the amendment.

Please refer to the Plan's Major Benefit Options in this report and Appendix B of the Section 2 Report for a summary of the plan provisions used in this valuation.

Plan Identification

A consolidated plan identifier has been added to the cover page of the report. As a result of the combination of some or all of the employer's rate plans in the Miscellaneous Risk Pool effective with the prior year's valuation, there is now one consolidated Unfunded Accrued Liability (UAL) value and actuarial valuation report for the group of component rate plans. This single identifier, set equal to the identifier of the component rate plan to which the UAL is attached, is intended to make it easier to identify a specific group of rate plans, the associated UAL, and the actuarial report.

Amendments to Regulations Regarding Participation in Risk Pools

On September 17, 2025, the board approved amendments to pooling regulations, which were endorsed by the Office of Administrative Law on May 12, 2026. Beginning with the June 30, 2026, actuarial valuation, it will be possible for pooled plans to be removed from the risk pool and become non-pooled plans. The general rule is that if an employer sponsors a pooled plan with at least 150 but less than 200 active members as of the valuation date, the employer may elect to remove that plan from the risk pool. If the plan has at least 200 active members, the plan will be automatically removed. More information can be found in Regulatory Actions on the CalPERS website under the heading Participation in Risk Pools.

Subsequent Events

This actuarial valuation report reflects fund investment return through June 30, 2025, as well as statutory changes, regulatory changes and board actions through January 2026.

The 2025 annual benefit limit under Internal Revenue Code (IRC) section 415(b) and annual compensation limits under IRC section 401(a)(17) and Government Code section 7522.10 were used for this valuation and are assumed to increase 2.5% per year based on the price inflation assumption. The actual 2026 limits, determined in October 2025, are not reflected.

To the best of our knowledge, there have been no subsequent events that could materially affect current or future certifications rendered in this report.

Liabilities and Contributions

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Determination of Required Contributions

Contributions to fund the plan are determined by an actuarial valuation performed each year. The valuation employs complex calculations based on a set of actuarial assumptions and methods. See Appendix A in Section 2 for information on the assumptions and methods used in this valuation. The valuation incorporates all plan experience through the valuation date and sets required contributions for the fiscal year that begins two years after the valuation date.

Contribution Components

Two components comprise required contributions:

- Normal Cost — expressed as a percentage of pensionable payroll
- Unfunded Accrued Liability (UAL) Contribution — expressed as a dollar amount

Normal Cost represents the value of benefits allocated to the upcoming year for active employees. If all plan experience exactly matched the actuarial assumptions, normal cost would be sufficient to fully fund all benefits. The employer and employees each pay a share of the normal cost with contributions payable as part of the regular payroll reporting process. The contribution rate for Classic members is set by statute based on benefit formula whereas for PEPRA members it is based on 50% of the total normal cost.

When plan experience differs from the actuarial assumptions, UAL emerges. The new UAL may be positive or negative. If the total UAL is positive (i.e., accrued liability exceeds assets), the employer is required to make contributions to pay off the UAL over time. This is called the UAL Contribution component. There is an option to prepay this amount during July of each fiscal year, otherwise it is paid monthly.

In measuring the UAL each year, plan experience is split by source. Common sources of UAL include investment experience different than expected, non-investment experience different than expected, assumption changes and benefit changes. Each source of UAL (positive or negative) forms a base that is amortized, or paid off, over a specified period of time in accordance with the CalPERS Actuarial Amortization Policy. The UAL Contribution is the sum of the payments on all bases. See the Schedule of Amortization Bases section of this report for an inventory of existing bases and Appendix A in Section 2 for more information on the amortization policy.

Required Employer Contributions

The required employer contributions in this report do not reflect any cost sharing arrangement between the agency and the employees. For employee contribution rates, see Member Contribution Rates.

Required Employer Contributions	Fiscal Year 2027-28
Employer Normal Cost Rate	
Classic Rate Plan 1600	**16.53%**
Classic Rate Plan 30142	**10.41%**
PEPRA Rate Plan 27151	**8.05%**
Plus	
Unfunded Accrued Liability (UAL) Contribution Amount†	**$0**
Paid either as	
1) Monthly Payment	**$0.00**
Or	
2) Annual Prepayment Option‡	**$0**

The total minimum required employer contribution is the sum of the Plan's Employer Normal Cost Rate (expressed as a percentage of payroll and paid as payroll is reported) and the Unfunded Accrued Liability (UAL) Contribution Amount (billed monthly (1) or prepaid annually (2) in dollars).

†The required UAL contribution does not take into account any additional discretionary payment made after April 30, 2026.
‡Only the UAL portion of the employer contribution can be prepaid **(which must be received in full no later than July 31)**.

Development of Normal Cost as a Percentage of Payroll

	Fiscal Year 2026-27	Fiscal Year 2027-28
Classic Rate Plan 1600		
Base Total Normal Cost for Formula	23.25%	23.65%
Surcharge for Class 1 Benefits[1]	0.79%	0.85%
Plan's Total Normal Cost	24.04%	24.50%
Offset Due to Employee Contributions[2]	(7.97%)	(7.97%)
Employer Normal Cost for Rate Plan 1600	16.07%	16.53%
Classic Rate Plan 30142		
Base Total Normal Cost for Formula	17.12%	17.35%
Surcharge for Class 1 Benefits[1]	0.00%	0.00%
Plan's Total Normal Cost	17.12%	17.35%
Offset Due to Employee Contributions[2]	(6.94%)	(6.94%)
Employer Normal Cost for Rate Plan 30142	10.18%	10.41%

[1] See Surcharge for Class 1 Benefits in the supplementary information section of this report.

[2] This is the expected employee contributions, taking into account individual benefit formula and any offset from the use of a modified formula, divided by projected annual payroll. For member contribution rates above the breakpoint for each benefit formula, see Member Contribution Rates.

Required Employer Contributions (continued)

Development of Normal Cost as a Percentage of Payroll (continued)

	Fiscal Year 2026-27	Fiscal Year 2027-28
PEPRA Rate Plan 27151		
Base Total Normal Cost for Formula	15.68%	15.80%
Surcharge for Class 1 Benefits[1]	0.00%	0.00%
Plan's Total Normal Cost	15.68%	15.80%
Offset Due to Employee Contributions[2]	(7.75%)	(7.75%)
Employer Normal Cost for Rate Plan 27151	7.93%	8.05%

[1] See Surcharge for Class 1 Benefits in the supplementary information section of this report.

[2] This is the expected employee contributions, taking into account individual benefit formula and any offset from the use of a modified formula, divided by projected annual payroll. For member contribution rates above the breakpoint for each benefit formula, see Member Contribution Rates.

Member Contribution Rates

The required member contributions in this report do not reflect any cost sharing arrangement between the agency and the employees.

Classic Members

Each member contributes toward their retirement based upon the retirement formula. The standard Classic member contribution rate above the breakpoint, if any, is as described below.

Benefit Formula	Percent Contributed above the Breakpoint
Miscellaneous, 1.5% at age 65	2%
Miscellaneous, 2% at age 60	7%
Miscellaneous, 2% at age 55	7%
Miscellaneous, 2.5% at age 55	8%
Miscellaneous, 2.7% at age 55	8%
Miscellaneous, 3% at age 60	8%

Auxiliary organizations of the CSU system may elect reduced contribution rates for Miscellaneous members, in which case the contribution rate above the breakpoint is 6% if members are not covered by Social Security and 5% if they are.

PEPRA Members

The California Public Employees' Pension Reform Act of 2013 (PEPRA) established new benefit formulas, final compensation period, and contribution requirements for "new" employees (generally those first hired into a CalPERS-covered position on or after January 1, 2013). In accordance with Government Code Section 7522.30(b), "new members … shall have an initial contribution rate of at least 50% of the normal cost rate." The normal cost rate for the plan is dependent on the benefit levels, actuarial assumptions and demographics of the risk pool, particularly members' entry age. Should the total normal cost rate of the plan change by more than 1% from the base total normal cost rate established for the plan, the new member rate shall be 50% of the new normal cost rate rounded to the nearest quarter percent.

The table below shows the determination of the PEPRA member contribution rates effective July 1, 2027, based on 50% of the total normal cost rate as of the June 30, 2025, valuation.

		Basis for Current Rate		Rates Effective July 1, 2027			
Rate Plan Identifier	Benefit Group Name	Total Normal Cost	Member Rate	Total Normal Cost	Change in Normal Cost	Adj. Needed	Member Rate
27151	PEPRA Miscellaneous Plan	15.43%	7.75%	15.80%	0.37%	No	7.75%

Breakdown of Entry Age Accrued Liability

Active Members	$4,928,544
Transferred Members	96,615
Separated Members	345,358
Members and Beneficiaries Receiving Payments	8,585,799
Total	$13,956,316

Allocation of Plan's Share of Pool's Experience

It is the policy of CalPERS to ensure equity within the risk pools by allocating the pool's experience gains/losses and assumption changes in a manner that treats each employer equitably and maintains benefit security for the members of the System while minimizing substantial variations in employer contributions. The pool's experience gains/losses and impact of assumption/method changes is allocated to the plan as follows:

1.	Plan's Accrued Liability	$13,956,316
2.	Projected UAL Balance at 6/30/2025	148,320
3.	Other UAL Adjustments (Golden Handshake, Prior Service Purchase, etc.)	0
4.	Adjusted UAL Balance at 6/30/2025 for Asset Share	148,320
5.	Pool's Accrued Liability[1]	26,128,329,326
6.	Sum of Pool's Individual Plan UAL Balances at 6/30/2025[1]	5,408,106,113
7.	Pool's 2024-25 Investment (Gain)/Loss[1]	(1,023,922,845)
8.	Pool's 2024-25 Non-Investment (Gain)/Loss[1]	254,352,784
9.	Plan's Share of Pool's Investment (Gain)/Loss: [(1) - (4)] ÷ [(5) - (6)] × (7)	(682,344)
10.	Plan's Share of Pool's Non-Investment (Gain)/Loss: (1) ÷ (5) × (8)	135,861
11.	Plan's New (Gain)/Loss as of 6/30/2025: (9) + (10)	(546,483)
12.	Increase in Pool's Accrued Liability due to Change in Assumptions[1]	58,472,717
13.	Plan's Share of Pool's Change in Assumptions: (1) ÷ (5) × (12)	31,233
14.	Increase in Pool's Accrued Liability due to Funding Risk Mitigation[1]	0
15.	Plan's Share of Pool's Change due to Funding Risk Mitigation: (1) ÷ (5) × (14)	0
16.	Offset due to Funding Risk Mitigation	0
17.	Plan's Investment (Gain)/Loss: (9) – (16)	(682,344)

[1] Does not include plans that transferred to the pool on the valuation date.

Development of the Plan's Share of Pool's Assets

18.	Plan's UAL: (2) + (3) + (11) + (13) + (15)	($366,930)
19.	Plan's Share of Pool's Fair Value of Assets: (1) - (18)	$14,323,246

For a reconciliation of the pool's Fair Value of Assets, information on the fund's asset allocation and a history of CalPERS investment returns, see Section 2, which can be found on the CalPERS website (www.calpers.ca.gov).

Funded Status – Funding Policy Basis

The table below provides information on the current funded status of the plan under the funding policy. The funded status for this purpose is based on the fair value of assets relative to the funding target produced by the entry age actuarial cost method and actuarial assumptions adopted by the board. The actuarial cost method allocates the total expected cost of a member's projected benefit (**Present Value of Benefits**) to individual years of service (the **Normal Cost**). The value of the projected benefit that is not allocated to future service is referred to as the **Accrued Liability** and is the plan's funding target on the valuation date. The **Unfunded Accrued Liability** (UAL) equals the funding target minus the assets. The UAL is an absolute measure of funded status and can be viewed as employer debt. The **Funded Ratio** equals the assets divided by the funding target. The funded ratio is a relative measure of the funded status and allows for comparisons between plans of different sizes.

	June 30, 2024	June 30, 2025
1. Present Value of Benefits	$15,923,233	$16,766,317
2. Entry Age Accrued Liability	13,334,029	13,956,316
3. Fair Value of Assets	13,195,152	14,323,246
4. Unfunded Accrued Liability (UAL) [(2) – (3)]	$138,877	($366,930)
5. Funded Ratio [(3) ÷ (2)]	99.0%	102.6%

A funded ratio of 100% (UAL of $0) implies that the funding of the plan is on target and that future contributions equal to the normal cost of the active plan members will be sufficient to fully fund all retirement benefits if future experience matches the actuarial assumptions. A funded ratio of less than 100% (positive UAL) implies that in addition to normal costs, payments toward the UAL will be required. Plans with a funded ratio greater than 100% have a negative UAL (or surplus) but are required under current law to continue contributing the normal cost in most cases, preserving the surplus for future contingencies.

Calculations for the funding target reflect the expected long-term investment return of 6.8%. If it were known on the valuation date that future investment returns will average something greater/less than the expected return, calculated normal costs and accrued liabilities provided in this report would be less/greater than the results shown. Therefore, for example, if actual average future returns are less than the expected return, calculated normal costs and UAL contributions will not be sufficient to fully fund all retirement benefits. Under this scenario, required future normal cost contributions will need to increase from those provided in this report, and the plan will develop unfunded liabilities that will also add to required future contributions. For illustrative purposes, funded statuses based on a 1% lower and higher average future investment return (discount rate) are as follows:

	1% Lower Average Return	Current Assumption	1% Higher Average Return
Discount Rate	5.8%	6.8%	7.8%
1. Entry Age Accrued Liability	$15,865,144	$13,956,316	$12,381,452
2. Fair Value of Assets	14,323,246	14,323,246	14,323,246
3. Unfunded Accrued Liability (UAL) [(1) – (2)]	$1,541,898	($366,930)	($1,941,794)
4. Funded Ratio [(2) ÷ (1)]	90.3%	102.6%	115.7%

The Risk Analysis section of the report provides additional information regarding the sensitivity of valuation results to the expected investment return and other factors. Also provided in that section are measures of funded status that are appropriate for assessing the sufficiency of plan assets to cover estimated termination liabilities.

Additional Employer Contributions

The CalPERS amortization policy provides a systematic methodology for paying down a plan's unfunded accrued liability (UAL) over a reasonable period of years. The projected schedule of required payments for this plan under the amortization policy is provided in Amortization Schedule and Alternatives. Certain aspects of the policy such as 1) layered amortization bases (positive and negative) with different remaining payoff periods, and 2) the phase-in of required payments toward investment gains and losses, can result in volatility in year-to-year projected UAL payments.

No Required UAL Payment

As of the valuation date, June 30, 2025 , the projected UAL two years after the valuation date is negative, as shown in the Schedule of Amortization Bases, so no UAL payment is required in FY 2027-28. Depending on factors such as the funded status of the plan, the financial condition of the employer and the investment return of the PERF since the valuation date, an ADP still may be worthwhile. Agencies considering making an ADP should contact CalPERS for additional information.

Additional Discretionary Payment History

The following table provides a recent history of actual ADPs made to the plan through April 30, 2026.

Fiscal Year	ADP	Fiscal Year	ADP
2019-20	$131,777	2023-24	$928,049
2020-21	96,367	2024-25	0
2021-22	0	2025-26	0
2022-23	0		

Projected Employer Contributions

The table below shows the required and projected employer contributions (before cost sharing) for the next six fiscal years. The projection assumes that all actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur during the projection period. In particular, the investment return beginning with FY 2025-26 is assumed to be 6.80% per year, net of investment and administrative expenses. Future contribution requirements may differ significantly from those shown below. The actual long-term cost of the plan will depend on the actual benefits and expenses paid and the actual investment experience of the fund.

The normal cost rates for each rate plan are assumed to remain constant. The employer normal cost rate for pooled plans is relatively constant from year to year when there are no assumption changes. Beginning with the June 30, 2026, actuarial valuation, it will be possible for pooled plans to be removed from the risk pool, in which case the employer normal cost would be based only on the members of that plan and will be different than the projections below. Plans with at least 200 active members on a valuation date will be automatically removed from the risk pool.

If the normal cost rates do remain constant, the employer contribution amounts will vary due to changes in payroll. The actuarial valuation does not include payroll beyond the valuation date. For the most realistic projections, the employer should apply projected payroll amounts to the rates below based on the most recent information available, such as current payroll as well as any plans to fill vacancies or add or remove positions.

		Required Contribution	**Projected Future Employer Contributions (Assumes 6.80% Return for Fiscal Year 2025-26 and Beyond)**				
		2027-28	2028-29	2029-30	2030-31	2031-32	2032-33
Rate Plan Identifier	**Covered Payroll June 30, 2025**	Normal Cost Rates (Percentage of Payroll)					
1600	$764,901	16.53%	16.5%	16.5%	16.5%	16.5%	16.5%
30142	0	10.41%	10.4%	10.4%	10.4%	10.4%	10.4%
27151	793,372	8.05%	8.1%	8.1%	8.1%	8.1%	8.1%
	UAL Payment	$0	$0	$0	$0	$0	$0

Unlike the normal cost rates, the required UAL payments are expected to vary significantly from the projections above due to experience, particularly investment experience. For projected contributions under alternate investment return scenarios, please see the Future Investment Return Scenarios exhibit. Our online pension plan projection tool, Pension Outlook, is available in the Employers section of the CalPERS website. Pension Outlook can help plan and budget pension costs under various scenarios.

For ongoing plans, investment gains and losses are amortized using an initial 5-year ramp. For more information, please see Amortization of Unfunded Actuarial Accrued Liability in Appendix A of the Section 2 Report. This method phases in the impact of the change in UAL over a 5-year period in order to reduce employer cost volatility from year to year. As a result of this methodology, dramatic changes in the required employer contributions in any one year are less likely. However, required contributions can change gradually and significantly over the next five years. In years when there is a large investment loss, the relatively small amortization payments during the initial ramp period could result in contributions that are less than interest on the UAL (i.e. negative amortization) while the contribution impact of the increase in the UAL is phased in.

Schedule of Amortization Bases

Below is the schedule of the plan's amortization bases. Note that there is a two-year lag between the valuation date and the start of the contribution year.

- The assets, liabilities and funded status of the plan are measured as of the valuation date: June 30, 2025.
- The required employer contributions determined by the valuation are for the fiscal year beginning two years after the valuation date: FY 2027-28.

This two-year lag is necessary due to the amount of time needed to extract and test the membership and financial data, and the need to provide public agencies with their required employer contribution well in advance of the start of the fiscal year.

The Unfunded Accrued Liability (UAL) is used to determine the employer contribution and therefore must be rolled forward two years from the valuation date to the first day of the fiscal year for which the contribution is being determined. The UAL is rolled forward each year by subtracting the expected payment on the UAL for the fiscal year and adjusting for interest. The expected payment on the UAL for FY 2025-26 is based on the actuarial valuation two years ago, adjusted for additional discretionary payments made on or before April 30, 2026, if necessary, and the expected payment for FY 2026-27 is based on the actuarial valuation one year ago.

Reason for Base	Date Est.	Ramp Level 2027-28	Ramp Shape	Escala-tion Rate	Amort. Period	Balance 6/30/25	Expected Payment 2025-26	Balance 6/30/26	Expected Payment 2026-27	Balance 6/30/27	Minimum Required Payment 2027-28
Projected Surplus	6/30/25	No Ramp		0.00%	N/A	(366,930)	21,935	(414,550)	32,942	(476,783)	0
Total						**(366,930)**	**21,935**	**(414,550)**	**32,942**	**(476,783)**	**0**

The (gain)/loss bases are the plan's allocated share of the risk pool's (gain)/loss for the fiscal year as disclosed in Allocation of Plan's Share of Pool's Experience earlier in this report. These (gain)/loss bases will be amortized in accordance with the CalPERS amortization policy in effect at the time the base was established.

Amortization Schedule and Alternatives

The amortization schedule on the previous page(s) shows the minimum contributions required according to the CalPERS amortization policy. Each year, many agencies express a desire for a more stable pattern of payments or indicate interest in paying off the unfunded accrued liabilities more quickly than required. As such, we have provided alternative amortization schedules to help analyze the current amortization schedule and illustrate the potential savings of accelerating unfunded liability payments.

Shown on the following page are future year amortization payments based on 1) the current amortization schedule reflecting the individual bases and remaining periods shown on the previous page, and 2) alternative “fresh start” amortization schedules using two sample periods that would both result in interest savings relative to the current amortization schedule. To initiate a fresh start, please contact a CalPERS actuary.

The current amortization schedule typically contains both positive and negative bases. Positive bases result from plan changes, assumption changes, method changes or plan experience that increase unfunded liability. Negative bases result from plan changes, assumption changes, method changes, or plan experience that decrease unfunded liability. The combination of positive and negative bases within an amortization schedule can result in unusual or problematic circumstances in future years, such as:

- When a negative payment would be required on a positive unfunded actuarial liability; or
- When the payment would completely amortize the total unfunded liability in a very short time period, and results in a large change in the employer contribution requirement.

In any year when one of the above scenarios occurs, the actuary will consider corrective action such as replacing the existing unfunded liability bases with a single “fresh start” base and amortizing it over an appropriate period.

The current amortization schedule on the following page may appear to show that, based on the current amortization bases, one of the above scenarios will occur at some point in the future. It is impossible to know today whether such a scenario will in fact arise since there will be additional bases added to the amortization schedule in each future year. Should such a scenario arise in any future year, the actuary will take appropriate action based on guidelines in the CalPERS Actuarial Amortization Policy.

Amortization Schedule and Alternatives (continued)

	Current Amortization Schedule		Alternative Schedules			
			Alternative Schedule 1		Alternative Schedule 2	
Date	**Balance**	**Payment**	**Balance**	**Payment**	**Balance**	**Payment**
6/30/2027	N/A	N/A	N/A	N/A	N/A	N/A
6/30/2028						
6/30/2029						
6/30/2030						
6/30/2031						
6/30/2032						
6/30/2033						
6/30/2034						
6/30/2035						
6/30/2036						
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6/30/2038						
6/30/2039						
6/30/2040						
6/30/2041						
6/30/2042						
6/30/2043						
6/30/2044						
6/30/2045						
6/30/2046						
6/30/2047						
6/30/2048						
6/30/2049						
Total		**N/A**		**N/A**		**N/A**
Interest Paid		**N/A**		**N/A**		**N/A**
Estimated Savings				**N/A**		**N/A**

Employer Contribution History

The table below provides a recent history of the employer contribution requirements for the plan, as determined by the annual actuarial valuation. Changes due to prepayments or plan amendments after the valuation report was finalized are not reflected.

Valuation Date	Contribution Year	Employer Normal Cost Rate			Unfunded Liability Payment
		Rate Plan 1600	Rate Plan 30142	Rate Plan 27151	
06/30/2016	2018-19	12.212%	N/A	6.842%	$13,867
06/30/2017	2019-20	13.182%	N/A	6.985%	665
06/30/2018	2020-21	14.194%	N/A	7.732%	11,990
06/30/2019	2021-22	14.02%	N/A	7.59%	5,873
06/30/2020	2022-23	14.03%	N/A	7.47%	9,503
06/30/2021	2023-24	15.95%	N/A	7.68%	0
06/30/2022	2024-25	16.02%	N/A	7.87%	33,901
06/30/2023	2025-26	16.09%	N/A	7.96%	21,935
06/30/2024	2026-27	16.07%	10.18%	7.93%	32,942
06/30/2025	2027-28	16.53%	10.41%	8.05%	0

Funding History

The table below shows the recent history of the actuarial accrued liability, share of the pool's fair value of assets, unfunded accrued liability, funded ratio and annual covered payroll.

Valuation Date	Accrued Liability	Share of Pool's Fair Value of Assets	Unfunded Accrued Liability (UAL)	Funded Ratio	Annual Covered Payroll
06/30/2016	$9,333,523	$8,411,366	$922,157	90.1%	$856,421
06/30/2017	8,769,216	8,187,279	581,937	93.4%	953,249
06/30/2018	9,276,014	9,175,521	100,493	98.9%	1,002,415
06/30/2019	10,234,881	10,023,308	211,573	97.9%	996,872
06/30/2020	10,592,429	10,223,102	369,327	96.5%	1,094,358
06/30/2021	11,286,846	12,324,269	(1,037,423)	109.2%	1,094,486
06/30/2022	12,060,461	11,224,756	835,705	93.1%	1,161,624
06/30/2023	12,707,134	11,535,820	1,171,314	90.8%	1,512,166
06/30/2024	13,334,029	13,195,152	138,877	99.0%	1,423,238
06/30/2025	13,956,316	14,323,246	(366,930)	102.6%	1,558,273

Risk Analysis

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Future Investment Return Scenarios

Analysis using the investment return scenarios from the Asset Liability Management process completed in 2025 was performed to determine the effects of various future investment returns on required employer UAL contributions. The CalPERS Funding Risk Mitigation Policy stipulates that when the investment return exceeds the discount rate by at least 2% the board will consider adjustments to the discount rate. The projections below use a discount rate of 6.8% for all scenarios even though an annual return of 11.6% is high enough to trigger a board discussion on the discount rate. The projections also assume that all other actuarial assumptions will be realized and that no further changes in assumptions, contributions, benefits, or funding will occur.

The employer normal cost rates are not affected by Investment returns, and since no future assumption changes are being reflected, the projected employer normal cost rates for every future investment return scenario are the same as those shown earlier in this report. See Projected Employer Contributions for more information on projecting the employer normal cost.

The first table shows projected UAL contribution requirements if the fund were to earn either 1.9% or 11.6% annually. These alternate investment returns were chosen because 90% of long-term average returns are expected to fall between them over the 20-year period ending June 30, 2045.

Assumed Annual Return FY 2025-26 through FY 2044-45	Projected Employer UAL Contributions				
	2028-29	2029-30	2030-31	2031-32	2032-33
1.9% (5th percentile)	$6,200	$30,000	$72,000	$131,000	$209,000
11.6% (95th percentile)	$0	$0	$0	$0	$0

Required UAL contributions outside of this range are also possible. In particular, whereas it is unlikely that investment returns will average less than 1.9% or greater than 11.6% over a 20-year period, the likelihood of a single investment return less than 1.9% or greater than 11.6% in any given year is much greater. The following analysis illustrates the effect of an extreme, single year investment return.

The portfolio has an expected volatility (or standard deviation) of 12.7% per year. Accordingly, in any given year there is a 16% probability that the annual return will be -5.9% or less and a 2.5% probability that the annual return will be -18.6% or less. These returns represent one and two standard deviations below the expected return of 6.8%.

The following table shows the effect of one and two standard deviation investment losses in FY 2025-26 on the FY 2028-29 contribution requirements. Note that a single-year investment gain or loss decreases or increases the required UAL contribution amount incrementally for each of the next five years, not just one, due to the 5-year ramp in the amortization policy. However, the contribution requirements beyond the first year are also impacted by investment returns beyond the first year. Historically, significant downturns in the market are often followed by higher than average returns. Such investment gains would offset the impact of these single year negative returns in years beyond FY 2028-29.

Assumed Annual Return for Fiscal Year 2025-26	Required Employer UAL Contributions	Projected Employer UAL Contributions
	2027-28	2028-29
(18.6%) (2 standard deviation loss)	$0	$78,000
(5.9%) (1 standard deviation loss)	$0	$34,000

- Without investment gains (returns higher than 6.8%) in FY 2026-27 or later, projected contributions rates would continue to rise over the next four years due to the continued phase-in of the impact of the illustrated investment loss in FY 2025-26.
- The Pension Outlook Tool can be used to model projected contributions for these scenarios beyond FY 2028-29 as well as to model other investment return scenarios.

Discount Rate Sensitivity

The discount rate assumption is calculated as the sum of the assumed real rate of return and the assumed annual price inflation, currently 4.3% and 2.5%, respectively. Changing either the price inflation assumption or the real rate of return assumption will change the discount rate. The sensitivity of the valuation results to the discount rate assumption depends on which component of the discount rate is changed. Shown below are various valuation results as of June 30, 2025, assuming alternate discount rates by changing the two components independently. Results are shown using the current discount rate of 6.8% as well as alternate discount rates of 5.8% and 7.8%. The rates of 5.8% and 7.8% were selected since they illustrate the impact of a 1.0% increase or decrease to the 6.8% assumption.

Sensitivity to the Discount Rate Due to Varying the Real Rate of Return Assumption

As of June 30, 2025	1% Lower Real Return Rate	Current Assumptions	1% Higher Real Return Rate
Discount Rate	**5.8%**	**6.8%**	**7.8%**
Price Inflation	2.5%	2.5%	2.5%
Real Rate of Return	**3.3%**	**4.3%**	**5.3%**
a) Total Normal Cost			
Rate Plan 1600	31.02%	24.50%	19.56%
Rate Plan 30142	21.64%	17.35%	14.05%
Rate Plan 27151	19.87%	15.80%	12.71%
b) Accrued Liability	$15,865,144	$13,956,316	$12,381,452
c) Fair Value of Assets	$14,323,246	$14,323,246	$14,323,246
d) Unfunded Liability/(Surplus) [(b) - (c)]	$1,541,898	($366,930)	($1,941,794)
e) Funded Ratio	90.3%	102.6%	115.7%

Sensitivity to the Discount Rate Due to Varying the Price Inflation Assumption

As of June 30, 2025	1% Lower Price Inflation	Current Assumptions	1% Higher Price Inflation
Discount Rate	**5.8%**	**6.8%**	**7.8%**
Price Inflation	**1.5%**	**2.5%**	**3.5%**
Real Rate of Return	4.3%	4.3%	4.3%
a) Total Normal Cost			
Rate Plan 1600	26.15%	24.50%	22.53%
Rate Plan 30142	18.59%	17.35%	15.89%
Rate Plan 27151	16.95%	15.80%	14.46%
b) Accrued Liability	$14,695,012	$13,956,316	$13,159,694
c) Fair Value of Assets	$14,323,246	$14,323,246	$14,323,246
d) Unfunded Liability/(Surplus) [(b) - (c)]	$371,766	($366,930)	($1,163,552)
e) Funded Ratio	97.5%	102.6%	108.8%

Mortality Rate Sensitivity

The following table looks at the change in the June 30, 2025, plan costs and funded status under two different longevity scenarios, namely assuming rates of post-retirement mortality are 10% lower or 10% higher than our current mortality assumptions adopted in 2025. This type of analysis highlights the impact on the plan of a change in the mortality assumption.

As of June 30, 2025	10% Lower Mortality Rates	Current Assumptions	10% Higher Mortality Rates
a) Total Normal Cost			
Rate Plan 1600	24.89%	24.50%	24.14%
Rate Plan 30142	17.66%	17.35%	17.06%
Rate Plan 27151	16.08%	15.80%	15.54%
b) Accrued Liability	$14,259,157	$13,956,316	$13,678,195
c) Fair Value of Assets	$14,323,246	$14,323,246	$14,323,246
d) Unfunded Liability/(Surplus) [(b) - (c)]	($64,089)	($366,930)	($645,051)
e) Funded Ratio	100.4%	102.6%	104.7%

Maturity Measures

As pension plans mature they become more sensitive to risks. Understanding plan maturity and how it affects the ability of a pension plan sponsor to tolerate risk is important in understanding how the pension plan is impacted by investment return volatility, other economic variables and changes in longevity or other demographic assumptions.

Since it is the employer that bears the risk, it is appropriate to perform this analysis on a pension plan level considering all rate plans. The following measures include only the rate plans covered in this report. One way to look at the maturity level of CalPERS and its plans is to look at the ratio of a plan's retiree liability to its total liability. A pension plan in its infancy will have a very low ratio of retiree liability to total liability. As the plan matures, the ratio increases. A mature plan will often have a ratio above 60%-65%.

Ratio of Retiree Accrued Liability to Total Accrued Liability	June 30, 2024	June 30, 2025
1. Retiree Accrued Liability	$8,623,362	$8,585,799
2. Total Accrued Liability	$13,334,029	$13,956,316
3. Ratio of Retiree AL to Total AL [(1) ÷ (2)]	65%	62%

Another measure of the maturity level of CalPERS and its plans is the ratio of actives to retirees, also called the support ratio. A pension plan in its infancy will have a very high ratio of active to retired members. As the plan matures and members retire, the ratio declines. A mature plan will often have a ratio near or below one.

To calculate the support ratio for the rate plan, retirees and beneficiaries receiving a continuance are each counted as one, even though they may have only worked a portion of their careers as an active member of this rate plan. For this reason, the support ratio, while intuitive, may be less informative than the ratio of retiree liability to total accrued liability above.

Support Ratio	June 30, 2024	June 30, 2025
1. Number of Actives	11	11
2. Number of Retirees	13	13
3. Support Ratio [(1) ÷ (2)]	0.85	0.85

Maturity Measures (continued)

The actuarial calculations supplied in this communication are based on various assumptions about long-term demographic and economic behavior. Unless these assumptions (e.g., terminations, deaths, disabilities, retirements, salary increases, investment return) are exactly realized each year, there will be differences on a year-to-year basis. The year-to-year differences between actual experience and the assumptions are called actuarial gains and losses and serve to lower or raise required employer contributions from one year to the next. Therefore, employer contributions will inevitably fluctuate, especially due to the ups and downs of investment returns.

Asset Volatility Ratio

Shown in the table below is the asset volatility ratio (AVR), which is the ratio of fair value of assets to payroll. Plans that have a higher AVR experience more volatile employer contributions (as a percentage of payroll) due to investment return. For example, a plan with an AVR of 8 may experience twice the contribution volatility due to investment return volatility than a plan with an AVR of 4. It should be noted that this ratio is a measure of the current situation. It increases over time but generally tends to stabilize as a plan matures.

Liability Volatility Ratio

Also shown in the table below is the liability volatility ratio (LVR), which is the ratio of accrued liability to payroll. Plans that have a higher LVR experience more volatile employer contributions (as a percentage of payroll) due to changes in liability. For example, a plan with an LVR of 8 is expected to have twice the contribution volatility of a plan with an LVR of 4 when there is a change in accrued liability, such as when there is a change in actuarial assumptions. It should be noted that this ratio indicates a longer-term potential for contribution volatility, since the AVR, described above, will tend to move closer to the LVR as the funded ratio approaches 100%.

Contribution Volatility	June 30, 2024	June 30, 2025
1. Fair Value of Assets	$13,195,152	$14,323,246
2. Payroll	$1,423,238	$1,558,273
3. Asset Volatility Ratio (AVR) [(1) ÷ (2)]	9.3	9.2
4. Accrued Liability	$13,334,029	$13,956,316
5. Liability Volatility Ratio (LVR) [(4) ÷ (2)]	9.4	9.0

Maturity Measures History

Valuation Date	Ratio of Retiree Accrued Liability to Total Accrued Liability	Support Ratio	Asset Volatility Ratio	Liability Volatility Ratio
06/30/2017	70%	1.00	8.6	9.2
06/30/2018	65%	1.00	9.2	9.3
06/30/2019	71%	0.90	10.1	10.3
06/30/2020	69%	1.00	9.3	9.7
06/30/2021	65%	0.82	11.3	10.3
06/30/2022	69%	0.83	9.7	10.4
06/30/2023	66%	1.08	7.6	8.4
06/30/2024	65%	0.85	9.3	9.4
06/30/2025	62%	0.85	9.2	9.0

Funded Status – Termination Basis

The funded status measured on a termination basis is an estimated range for the financial position of the plan had the contract with CalPERS been terminated as of June 30, 2025. The accrued liability on a termination basis (termination liability) is calculated differently from the plan's ongoing funding liability. For the termination liability calculation, both compensation and service are frozen as of the valuation date and no future pay increases or service accruals are assumed. This measure of funded status is not appropriate for assessing the need for future employer contributions in the case of an ongoing plan, that is, for an employer that continues to provide CalPERS retirement benefits to active employees. Unlike the actuarial cost method used for ongoing plans, the termination liability is the present value of the benefits earned through the valuation date.

A more conservative investment policy and asset allocation strategy was adopted by the board for the Terminated Agency Pool. The Terminated Agency Pool has limited funding sources since no future employer contributions will be made. Therefore, expected benefit payments are secured by risk-free assets and benefit security for members is increased while limiting the funding risk. However, this asset allocation has a lower expected rate of return than the remainder of the PERF and consequently, a lower discount rate assumption. The lower discount rate for the Terminated Agency Pool results in higher liabilities for terminated plans.

The discount rate used for actual termination valuations is a weighted average of the 10-year and 30-year Treasury yields where the weights are based on matching asset and liability durations as of the termination date. The discount rates used in the following analysis are based on 20-year Treasury bonds, which is a good proxy for most plans. The discount rate upon contract termination will depend on actual Treasury rates on the date of termination, which varies over time, as demonstrated below.

Valuation Date	20-Year Treasury Rate	Valuation Date	20-Year Treasury Rate
6/30/2016	1.86%	6/30/2021	2.00%
6/30/2017	2.61%	6/30/2022	3.38%
6/30/2018	2.91%	6/30/2023	4.06%
6/30/2019	2.31%	6/30/2024	4.61%
6/30/2020	1.18%	6/30/2025	4.79%

As Treasury rates are variable, the table below shows a range for the termination liability using discount rates 1% below and above the 20-year Treasury rate on the valuation date. The price inflation assumption is the 20-year Treasury breakeven inflation rate, that is, the difference between the 20-year inflation indexed bond and the 20-year fixed-rate bond.

The Fair Value of Assets also varies with interest rates and will fluctuate depending on other market conditions on the date of termination. Since it is not possible to approximate how the assets will change in different interest rate environments, the results below use the plan's share of the pool's Fair Value of Assets as of the valuation date.

	Discount Rate: 3.79% Price Inflation: 2.47%	Discount Rate: 5.79% Price Inflation: 2.47%
1. Termination Liability[1]	$18,650,836	$13,971,215
2. Fair Value of Assets	14,323,246	14,323,246
3. Unfunded Termination Liability [(1) – (2)]	$4,327,590	($352,031)
4. Funded Ratio [(2) ÷ (1)]	76.8%	102.5%

[1] The termination liabilities calculated above include a 5% contingency load. The contingency load and other actuarial assumptions can be found in Appendix A of the Section 2 report.

In order to terminate, first contact our Pension Contract Services unit to initiate a Resolution of Intent to Terminate. The completed Resolution will allow a CalPERS actuary to provide a preliminary termination valuation with a more up-to-date estimate of the plan's assets and liabilities. Before beginning this process, please consult with a CalPERS actuary.

Funded Status – Low-Default-Risk Basis

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 the yields of high quality fixed income securities with cash flows that replicate expected benefit payments. Conceptually, this measure represents the level at which financial markets would value the accrued plan costs, and would be approximately equal to the cost of a portfolio of low-default-risk bonds with similar financial characteristics to accrued plan costs.

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 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.

As shown below, the discount rate used for the LDROM is 5.58%, which is the Standard FTSE Pension Liability Index[1] discount rate as of June 30, 2025.

Selected Measures on a Low-Default-Risk Basis	June 30, 2025
Discount Rate	5.58%
1. Accrued Liability – Low-Default-Risk Basis (LDROM)	
a) Active Members	$6,155,695
b) Transferred Members	123,801
c) Separated Members	446,278
d) Members and Beneficiaries Receiving Payments	9,611,271
e) Total	$16,337,045
2. Fair Value of Assets	14,323,246
3. Unfunded Accrued Liability – Low-Default-Risk Basis [(1e) – (2)]	$2,013,799
4. Unfunded Accrued Liability – Funding Policy Basis	(366,930)
5. Present Value of Unearned Investment Risk Premium [(3) – (4)]	$2,380,729

The difference between the unfunded liabilities on a low-default-risk basis and on the funding policy basis represents the present value of the investment risk premium that must be earned in future years to keep future contributions for currently accrued plan costs at the levels anticipated by the funding policy.

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 Funded Status – Termination Basis), nor is it appropriate for assessing the need for future contributions (see Funded Status – Funding Policy Basis).

[1] This index is based on a yield curve of hypothetical AA-rated zero-coupon corporate bonds whose maturities range from 6 months to 30 years. The index represents the single discount rate that would produce the same present value as discounting a standardized set of liability cash flows for a fully open pension plan using the yield curve. The liability cash flows are reasonably consistent with the pattern of benefits expected to be paid from the entire Public Employees' Retirement Fund for current and former plan members. A different index, hence a different discount rate, may be needed to measure the LDROM for a subset of the fund, such as a single rate plan or a group of retirees.

Supplementary Information

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Normal Cost by Benefit Group

The table below displays the Total Normal Cost broken out by benefit group for FY 2027-28. The Total Normal Cost is the annual cost of service accrual for the fiscal year for active employees and can be viewed as the long-term contribution rate for the benefits contracted. Generally, the normal cost for a benefit group subject to more generous benefit provisions will exceed the normal cost for a group with less generous benefits. Future measurements of the Total Normal Cost for each group may differ significantly from the current values due to such factors as changes in economic and demographic assumptions, changes in plan benefits, or changes in applicable law.

Rate Plan Identifier	Benefit Group Name	Total Normal Cost FY 2027-28	Offset due to Employee Contributions FY 2027-28	Employer Normal Cost FY 2027-28	Number of Actives	Payroll on 6/30/2025
1600	Miscellaneous Plan	24.50%	7.97%	16.53%	4	$764,901
30142	Miscellaneous Second Tier Plan	17.35%	6.94%	10.41%	0	0
27151	PEPRA Miscellaneous Plan	15.80%	7.75%	8.05%	7	793,372
	Total				11	$1,558,273

Note that if a Benefit Group above has multiple bargaining units, each of which has separately contracted for different benefits such as Employer Paid Member Contributions, then the Normal Cost shown for the respective benefit level does not reflect those differences.

Summary of Valuation Data

The table below shows a summary of the plan's member data upon which this valuation is based:

	June 30, 2024	June 30, 2025
Active Members		
Counts	11	11
Average Attained Age	43.7	44.7
Average Entry Age to Rate Plan	34.6	34.6
Average Years of Credited Service	9.0	10.0
Average Annual Covered Pay	$129,385	$141,661
Annual Covered Payroll	$1,423,238	$1,558,273
Present Value of Future Payroll	$14,682,662	$16,208,150
Transferred Members		
Counts	4	5
Separated Members		
Counts	4	4
Retired Members and Beneficiaries*		
Counts	13	13
Average Annual Benefits	$52,868	$53,925
Total Annual Benefits	$687,280	$701,022

Counts of members included in the valuation are counts of the records processed by the valuation. Multiple records may exist for those who have service in more than one valuation group. This does not result in double counting of liabilities.

Average Annual Benefits represents benefit amounts payable by this plan only. Some members may have service in another plan and would therefore have a larger total benefit than would be included as part of the average shown here.

* Values include community property settlements

Status of PEPRA Transition

The California Public Employees' Pension Reform Act of 2013 (PEPRA), which took effect in January 2013, changed CalPERS retirement benefits and placed compensation limits on new members joining CalPERS on or after January 1, 2013. One of the objectives of PEPRA was to improve the ability of employers to manage the costs of retirement benefits for their members. While such changes can reduce future benefit costs in a meaningful way, the full impact on employer contributions will not occur until all active members are subject to the rules and provisions of PEPRA. The table below illustrates the status of this transition as of June 30, 2025.

	Classic	PEPRA	PEPRA as a Percent of Total
Active Members			
Count	4	7	63.6%
Average Attained Age	45.4	44.2	
Average Entry Age	26.8	39.1	
Average Years of Credited Service	18.3	5.2	
Average Annual Covered Payroll	$191,225	$113,339	
Annual Covered Payroll	$764,901	$793,372	50.9%
Present Value of Future Payroll	$7,617,837	$8,590,313	53.0%
Transferred Members			
Count	1	4	80.0%
Separated Members			
Count	2	2	50.0%
Retired Members and Beneficiaries Receiving Payments			
Count	13	0	0.0%
Average Annual Benefit	$53,925	$0	
Total Annual Benefits	$701,022	$0	0.0%
Accrued Liabilities			
Active Members	$4,060,537	$868,007	17.6%
Transferred Members	45,674	50,941	52.7%
Separated Members	102,040	243,318	70.5%
Retired Members and Beneficiaries	8,585,799	0	0.0%
Total	$12,794,050	$1,162,266	8.3%

Surcharge for Class 1 Benefits

This plan has the following Class 1 benefit provisions which result in the surcharges indicated:

Class 1 benefit provisions	Rate Plan 1600	Rate Plan 30142	Rate Plan 27151
One Year Final Compensation (FAC 1)	0.85%	N/A	N/A
Surcharge for Class 1 Benefits	0.85%	0.00%	0.00%

Plan's Major Benefit Options

Shown below is a summary of the major optional benefits for which the agency has contracted. A description of principal standard and optional plan provisions is in Section 2.

Rate Plan 1600	**Benefit Group**		
Member Category	**Misc**	**Misc**	
Demographics			
Actives	No	Yes	
Transfers/Separated	No	Yes	
Receiving	Yes	Yes	
Benefit Provision			
Benefit Formula		2.7% @ 55	
Social Security Coverage		Yes	
Full/Modified		Full	
Employee Contribution Rate		8.00%	
Final Average Compensation Period		One Year	
Sick Leave Credit		Yes	
Non-Industrial Disability		Standard	
Industrial Disability		No	
Pre-Retirement Death Benefits			
Optional Settlement 2		Yes	
1959 Survivor Benefit Level		No	
Special		No	
Alternate (firefighters)		No	
Post-Retirement Death Benefits			
Lump Sum	$2,000	$2,000	
Survivor Allowance (PRSA)	No	No	
COLA	2%	2%	

Plan's Major Benefit Options (Continued)

Shown below is a summary of the major optional benefits for which the agency has contracted. A description of principal standard and optional plan provisions is in Section 2.

Rate Plan 30142	**Benefit Group**		
Member Category	**Misc**		
Demographics			
Actives	No		
Transfers/Separated	No		
Receiving	No		
Benefit Provision			
Benefit Formula	2% @ 60		
Social Security Coverage	Yes		
Full/Modified	Full		
Employee Contribution Rate			
Final Average Compensation Period	Three Year		
Sick Leave Credit	Yes		
Non-Industrial Disability	Standard		
Industrial Disability	No		
Pre-Retirement Death Benefits			
Optional Settlement 2	Yes		
1959 Survivor Benefit Level	No		
Special	No		
Alternate (firefighters)	No		
Post-Retirement Death Benefits			
Lump Sum	$2,000		
Survivor Allowance (PRSA)	No		
COLA	2%		

Plan's Major Benefit Options (Continued)

Shown below is a summary of the major optional benefits for which the agency has contracted. A description of principal standard and optional plan provisions is in Section 2.

Rate Plan 27151	**Benefit Group**		
Member Category	**Misc**		
Demographics			
Actives	Yes		
Transfers/Separated	Yes		
Receiving	No		
Benefit Provision			
Benefit Formula	2% @ 62		
Social Security Coverage	Yes		
Full/Modified	Full		
Employee Contribution Rate	7.75%		
Final Average Compensation Period	Three Year		
Sick Leave Credit	Yes		
Non-Industrial Disability	Standard		
Industrial Disability	No		
Pre-Retirement Death Benefits			
Optional Settlement 2	Yes		
1959 Survivor Benefit Level	No		
Special	No		
Alternate (firefighters)	No		
Post-Retirement Death Benefits			
Lump Sum	$2,000		
Survivor Allowance (PRSA)	No		
COLA	2%		

Section 2

California Public Employees' Retirement System

Risk Pool Actuarial Valuation Information

Section 2 may be found on the CalPERS website
in the Forms & Publications section