NOTICE AND AGENDA
Regular Board Meeting
at Sanitary District No. 5 of Marin County
Thursday, August 15th, 2024

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 July19th, 2024 Regular Board Meeting Minutes
2. Review and receive all electronic fund transfers (EFTs) and approve warrants from July 12th, 2024, through August 8th, 2024, (JP Morgan Chase Bank, check no.10708 through check no. 10750, all transactions totaling $403,026.20) and receive July 2024 payroll, in the sum of $178,323.59 (Rubio)
3. Receipt of Financial Reports through August 8, 2024 (Rubio)

MANAGEMENT REPORTS:

4. District Manager Summary Report (Rubio)

NEW BUSINESS:

5. Acceptance of the Final 2024 Sewer Connection Fee Update Report by HF&H(consultant)- Action (Rubio)

Public Hearing

a. 1st Reading of Ordinance 2024-01 *"AN ORDINANCE OF SANITARY DISTRICT NO. 5 OF MARIN COUNTY RAISING THE CONNECTION FEES TO THE DISTRICT'S SEWER SYSTEM AND AMENDING ORDINANCE NOS. 70-1, 79-1, 06-01, 06-02, 14-01(B) AND ALL OTHER ORDINANCES AS THEY PERTAIN TO THE SETTING OF CONNECTION FEES"* - Action (Rubio)

b. 1st Reading of Ordinance 2024-02 *"AN AMENDED ORDINANCE REGULATING THE USE OF PUBLIC AND PRIVATE SEWERS AND DRAINS, THE INSTALLATION AND CONNECTION OF BUILDING SEWERS, THE INSTALLATION OF SEWER LATERALS AND PUBLIC SEWER MAIN EXTENSIONS, PROVIDING PERMITS AND FIXING FEES FOR THE INSTALLATION AND CONNECTION OF SANITARY SEWERS, REGULATING THE DISCHARGE OF WATERS AND WASTES INTO THE PUBLIC SEWER SYSTEM, AND PROVIDING PENALTIES FOR THE VIOLATION OF THE PROVISIONS THEREOF"*- Action (Rubio)

6. Review and consideration to accept proposals from Carollo Engineers regarding:

   a. Main WWTP Nutrient Removal Study for an amount not to exceed $55,243 (fifty-five thousand, two hundred forty-three dollars) for providing an evaluation and technical memorandum of alternatives for optimizing and increasing nutrient removal as it relates to the most recently adopted 3rd Nutrient Water Shed Permit and authorize the District Manager to enter into a professional services agreement with Carollo Engineers for the Main WWTP Nutrient Removal Study. – Action (Rubio)

   b. Main WWTP Odor Control Alternative Evaluation for an amount not to exceed $40,924 (forty thousand, nine hundred twenty-four dollars) for providing an evaluation to identify an odor control solution for the existing WWTP and authorize the District Manager to enter into a professional services agreement with Carollo Engineers for the Main WWTP Odor Control Alternatives Evaluation. – Action (Rubio)

UNFINISHED BUSINESS:

COMMITTEE REPORTS:

7. Capital Improvement Program Committee (Moody/Carapiet)
8. Finance & Fiscal Oversight Committee (Benediktsson/Carapiet)
9. Governance Committee (Snyder/Benediktsson)
10. Personnel Committee (No Meeting)

OTHER BUSINESS:

ENVIRONMENTAL:

CORRESPONDENCE:

INFORMATIONAL ITEMS:

CLOSED SESSION:

ADJOURNMENT:

The Board will be asked to adjourn the meeting to a Regular Board Meeting on September 19, 2024, 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 rdohrmann@sani5.org at least two days prior to the meeting.

NOTICE AND AGENDA
Regular Board Meeting
at Sanitary District No. 5 of Marin County
Thursday, July 18th, 2024

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: Snyder, Arias-Montez, Moody, Benediktsson, Carapiet

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 June 20th, 2024 Regular Board Meeting Minutes
2. Review and receive all electronic fund transfers (EFTs) and approve warrants from June 14th, 2024, through July 11th, 2024, (JP Morgan Chase Bank, check no.10679 through check no. 10709, all transactions totaling $272,470.05) and receive June 2024 payroll, in the sum of $140,505.87 (Rubio)
3. Receipt of Financial Reports through July 11, 2024 (Rubio)

Motion to approve consent calendar

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

MANAGEMENT REPORTS:

4. District Manager Summary Report (Rubio)

NEW BUSINESS:

5. Presentation of the 2024 Sewer Connection Fee Update Report by HF&H(consultant) & acceptance of the report- Action (Rubio)

Motion to accept the Draft 2024 Sewer Connection Fee Update report by HF&H subject to counsel review on items regarding rounding of fees to the nearest dollar.

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

a. Review of draft Ordinance pertaining to the Sewer Connection Fee Schedule for Sanitary District No.5 of Marin County service area and consideration to set a Public hearing for said Ordinance pertaining to Sewer Connection Fees- Action (Rubio)

Motion to direct staff to prepare ordinance update for a public hearing and setting a public hearing for said ordinance consideration of adoption

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

b. Review of updated draft Sewer Use Ordinance pertaining to updating miscellaneous fees (permit and inspection fees) for Sanitary District No.5 of Marin County service area and consideration to set a Public Hearing for updating the Sewer Use Ordinance sections pertaining to permit and inspections fees- Action (Rubio)

Motion to direct staff to prepare ordinance update for a public hearing and setting a public hearing for said ordinance consideration of adoption

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

6. Review and consideration to accept proposal from Nute Engineers regarding the 2024 Sewer Rehabilitation Project and authorize District Manager to enter into a professional services agreement with Nute Engineers for the 2024 Sewer Rehabilitation Project - Options A (preparation of plans and specifications) and B (engineering services during construction) for an amount not to exceed $54,476 (fifty-four thousand, four hundred seventy-six dollars) only – Action (Rubio)

Motion to accept proposal from Nute Engineers regarding the 2024 Sewer Rehabilitation Project and authorize District Manager to enter into a professional services agreement with Nute Engineers for the 2024 Sewer Rehabilitation Project - Options A (preparation of plans and specifications) and B (engineering services during construction) for an amount not to exceed $54,476 (fifty-four thousand, four hundred seventy-six dollars) only

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

Noes: None
Absent: None
Abstain: None

UNFINISHED BUSINESS:

COMMITTEE REPORTS:

7. Capital Improvement Program Committee (Snyder/Carapiet)
8. Finance & Fiscal Oversight Committee (Benediktsson/Carapiet)
9. Governance Committee (No Meeting)
10. Personnel Committee (No Meeting)

OTHER BUSINESS:

ENVIRONMENTAL:

11. BACWA Press Release Regarding Nutrient Permit requiring nutrient reductions for WWTP agencies.

CORRESPONDENCE:

INFORMATIONAL ITEMS:

12. CALPERS Reports Preliminary 9.3% Investment Return for 2023-2024 Fiscal Year

CLOSED SESSION:

ADJOURNMENT: 6:09pm

The Board will be asked to adjourn the meeting to a Regular Board Meeting on August 15, 2024, at 5:00 P.M.

Approved:

Omar Arias-Montez
Board President

Attest:

Richard Snyder
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 rdohrmann@sani5.org at least two days prior to the meeting.

08/05/24

Sanitary District No.5 of Marin County

Warrant List Summary

July 12 through August 8, 2024

Date	Num	Name	Memo	Amount
JP Morgan Chase - Primary 7399				
07/15/2024	EFT	CalPERS (Pension)	CalPERS Pension - June 2024	-23,137.22
07/29/2024	EFT	CalPERS (457 Def Comp)	457 Contributions, semi-monthly, 7/15/24	-4,989.34
07/29/2024	EFT	CalPERS (Health Premium)	Health Premium - Aug 2024	-22,413.59
07/29/2024	10718	Interstate Assembly Systems Inc	Acct 287915, Pro Forma Inv, 2023 Ford F550, Mechanics Truck	-216,076.20
08/08/2024	10719	Access Answering Service	Answering Service - July 2024, new rate	-87.29
08/08/2024	10720	Alhambra	drinking water service - June & July 2024	-297.79
08/08/2024	10721	Alliant Insurance Services	Vehicle Program Policy Renewal, July 2024-June 2025	-3,432.00
08/08/2024	10722	Amazon Capital Services (Amazon Busine...	Stmt Date 7/31/24: eye protection allowance, office & cleaning supplies,...	-449.95
08/08/2024	10723	Banshee Networks, Inc.	IT services - June 2024, & annual Microsoft Office 365 subscriptions	-5,488.26
08/08/2024	10724	Brelje and Race Laboratories, Inc.	lab monitoring - May & June 2024	-2,854.00
08/08/2024	10725	Burke, Williams & Sorensen, LLP	District Counsel legal services - June 2024	-7,025.00
08/08/2024	10726	CA Assn of Sanitation Agencies (CASA)	2024 Annual Conference, Omar Arias, 7/31/24-8/2/24	-695.00
08/08/2024	10727	Caltest Analytical Laboratory	Main Plant & Paradise Cove Lab Monitoring - June 2024	-1,361.35
08/08/2024	10728	Caltronics Business Systems, Inc.	copier base rate & usage charge, June 2024	-215.16
08/08/2024	10729	Central Marin Sanitation Agency	FY 2024, 4th Qtr Countywide Public Education Program	-571.32
08/08/2024	10730	Cintas Corporation	weekly scraper & towels service - June 2024, & work clothing	-532.23
08/08/2024	10731	Comcast Business (Internet) *9465	cable, internet, voice - Aug 2024	-688.71
08/08/2024	10732	Employment Development Department	payroll tax liab outstanding, from Sept 2022 & Mar 2023	-4,770.90
08/08/2024	10733	Fastenal Company	latex disposable gloves	-184.35
08/08/2024	10734	Ghilotti Construction Company	Mar East St, force main repair: Final T&M billing-July 2024	-13,466.87
08/08/2024	10735	Goodman Building Supply Co.	Stmt Date 7/25/24: storage containers for office paperwork, plumbing p...	-475.04
08/08/2024	10736	Grainger	chemical transfer pump parts, water hose assembly, cam & groove cou...	-595.57
08/08/2024	10737	HDR Engineering Inc	Digester Cleaning & Rehab Project-12/3/23-3/28/24	-20,031.18
08/08/2024	10738	HF&H Consultants, LLC	2022 Sewer Rate Study - June 2024	-4,005.00
08/08/2024	10739	Jackson's Hardware, Inc.	tie downs for admin truck	-31.63
08/08/2024	10740	Marin County Tax Collector	LAFCO charges, FY 2024-2025	-4,121.67
08/08/2024	10741	Mountain General Enginering LLC	final installment-Tiburon Wet Well Rehab, June 2024	-13,790.00
08/08/2024	10742	Nute Engineering Corp.	Cove Rd pump station improvements, 2022 sewer rehab project: Tib & ...	-6,135.00
08/08/2024	10743	Pacific Gas & Electric (PG&E)	July 2024	-28,455.92
08/08/2024	10744	Robert L Talavera, LLC	SSGIS Support, add software on new computer	-300.00
08/08/2024	10745	Solenis, LLC	polymers - screw press & RDT	-9,990.46
08/08/2024	10746	Special Dist Risk Mgmt Authority (SDRMA)	dental, vision, Life, ADD and LTD insurance - Sept 2024	-1,906.51
08/08/2024	10747	The Sherwin Williams Company	exterior paint, 30 gallons, for main plant paint job	-1,186.12
08/08/2024	10748	U.S. Bank cc *3611	seminar attendance fees for 2 employees, hotel lodging for Board Mem...	-1,406.83
08/08/2024	10749	Underground Service Alert of NorCal & NV	CA State fee for regulatory costs (July 2024-June 2025), 2024 members...	-1,497.74
08/08/2024	10750	Water Environment Federation	annual professional membership and MA(s): CA, Casey Cottrell, Aug 20...	-361.00
Total JP Morgan Chase - Primary 7399				-403,026.20
TOTAL				-403,026.20

Sanitary District No.5 of Marin County
Warrant List Detail
July 12 through August 8, 2024

Num	Type	Date	Name	Memo	Account	Paid Amo...
EFT	**Check**	**07/15/202**	**CalPERS (Pension)**	**CalPERS Pension - June 2024**	**JP Morgan Chase - Primary ...**	
				Pepra, June 2024	8019.05 · PERS Retirement	-8,570.38
				Classic, June 2024	8019.05 · PERS Retirement	-14,566.84
TOTAL						-23,137.22
EFT	**Check**	**07/29/202**	**CalPERS (457 Def Comp)**	**457 Contributions, semi-monthly, 7/15/24**	**JP Morgan Chase - Primary ...**	
				457 Contributions, semi-monthly, 7/15/24	8008 · Deferred Comp 457	-4,989.34
TOTAL						-4,989.34
EFT	**Check**	**07/29/202**	**CalPERS (Health Premi...**	**Health Premium - Aug 2024**	**JP Morgan Chase - Primary ...**	
				Active Employee Health - Aug 2024	8020.05 · Employee Health	-21,296.07
				Retiree Health - Aug 2024	8022.05 · Retiree Health	-1,117.52
TOTAL						-22,413.59
10718	**Bill Pmt -Check**	**07/29/202**	**Interstate Assembly Sy...**	**Acct 287915, Pro Forma Inv, 2023 Ford F550, Mechani...**	**JP Morgan Chase - Primary ...**	
Pro Fo...	Bill	07/22/202		Acct 287915, Pro Forma Inv, 2023 Ford F550, Mechanics ...	9229.8 · Vehicle Replacement	-216,076.20
TOTAL						-216,076.20
10719	**Bill Pmt -Check**	**08/08/202**	**Access Answering Serv...**	**Answering Service - July 2024, new rate**	**JP Morgan Chase - Primary ...**	
32275	Bill	07/05/202		Answering Service - July 2024, new rate	8510 · Data/Alarms/IT Supp &...	-87.29
TOTAL						-87.29
10720	**Bill Pmt -Check**	**08/08/202**	**Alhambra**	**drinking water service - June & July 2024**	**JP Morgan Chase - Primary ...**	
12012...	Bill	06/21/202		drinking water service - June 2024, AJE FY 2023-2024	8541 · Water	-155.39
12012...	Bill	07/19/202		drinking water service - July 2024	8541 · Water	-142.40
TOTAL						-297.79

Sanitary District No.5 of Marin County
Warrant List Detail
July 12 through August 8, 2024

Num	Type	Date	Name	Memo	Account	Paid Amo...
10721	**Bill Pmt -Check**	**08/08/202**	**Alliant Insurance Servic...**	**Vehicle Program Policy Renewal, July 2024-June 2025**	**JP Morgan Chase - Primary ...**	
2711565	Bill	07/01/202		Vehicle Program Policy Renewal, July 2024-June 2025	6033.3 · Insurance - SD5 Auto	-3,432.00
TOTAL						-3,432.00
10722	**Bill Pmt -Check**	**08/08/202**	**Amazon Capital Service...**	**Stmt Date 7/31/24: eye protection allowance, office & ...**	**JP Morgan Chase - Primary ...**	
July 20...	Bill	07/31/202		Inv 1C1G-3W4P-6PR6, Oakley's sunglasses, D. Latorre, ...	8515.02 · Eye Protection Allo...	-119.08
				Inv 1WK3-CLPV-4RQH, Raid ant & roach spray, PO O-24...	7023 · Janitorial Supplies & S...	-24.46
				Inv 1C1G-3W4P-6HJ1, note pads, PO O-24-012	6047 · Office Supplies	-14.36
				Inv 1LPR-RM3F-63VT, office supplies: copy paper, note p...	6047 · Office Supplies	-292.05
TOTAL						-449.95
10723	**Bill Pmt -Check**	**08/08/202**	**Banshee Networks, Inc.**	**IT services - June 2024, & annual Microsoft Office 365 ...**	**JP Morgan Chase - Primary ...**	
16331	Bill	07/18/202		computer services - June 2024, AJE FY23-24	8510 · Data/Alarms/IT Supp &...	-2,802.48
				computer services - July 2024	8510 · Data/Alarms/IT Supp &...	-225.78
16332	Bill	07/18/202		Microsoft 365 software subscriptions-annual billing, July 2...	8510 · Data/Alarms/IT Supp &...	-2,460.00
TOTAL						-5,488.26
10724	**Bill Pmt -Check**	**08/08/202**	**Brelje and Race Laborat...**	**lab monitoring - May & June 2024**	**JP Morgan Chase - Primary ...**	
157365	Bill	07/23/202		samples submitted for Main Plant - May 2024, AJE FY 20...	7051 · Main Plant Lab Monitor...	-1,496.00
157366	Bill	07/23/202		samples submitted for Main Plant - June 2024, AJE FY 20...	7051 · Main Plant Lab Monitor...	-1,358.00
TOTAL						-2,854.00
10725	**Bill Pmt -Check**	**08/08/202**	**Burke, Williams & Sore...**	**District Counsel legal services - June 2024**	**JP Morgan Chase - Primary ...**	
324950	Bill	07/15/202		District Counsel legal services - June 2024, AJE 2023-2024	6039 · Legal	-7,025.00
TOTAL						-7,025.00

Sanitary District No.5 of Marin County
Warrant List Detail
July 12 through August 8, 2024

Num	Type	Date	Name	Memo	Account	Paid Amo...
10726	**Bill Pmt -Check**	**08/08/202**	**CA Assn of Sanitation A...**	**2024 Annual Conference, Omar Arias, 7/31/24-8/2/24**	**JP Morgan Chase - Primary ...**	
8460	Bill	07/23/202		2024 Annual Conference Monterey CA, Omar Arias, 7/31/...	6018 · Travel & Meetings	-695.00
TOTAL						-695.00
10727	**Bill Pmt -Check**	**08/08/202**	**Caltest Analytical Labor...**	**Main Plant & Paradise Cove Lab Monitoring - June 2024**	**JP Morgan Chase - Primary ...**	
721262	Bill	07/15/202		Main Plant Lab Monitoring - June 2024, AJE FY 2023-2024	7051 · Main Plant Lab Monitor...	-1,268.25
				PC lab monitoring - June 2024, AJE FY 2023-2024	7052 · Paradise Cove Monitori...	-93.10
TOTAL						-1,361.35
10728	**Bill Pmt -Check**	**08/08/202**	**Caltronics Business Sy...**	**copier base rate & usage charge, June 2024**	**JP Morgan Chase - Primary ...**	
4121292	Bill	07/10/202		Konica Minolta/KON-C308, usage charge, June 2024, AJ...	6047 · Office Supplies	-127.23
				Konica Minolta/KON-C308, base rate charge plus tax, Jun...	6047 · Office Supplies	-87.93
TOTAL						-215.16
10729	**Bill Pmt -Check**	**08/08/202**	**Central Marin Sanitatio...**	**FY 2024, 4th Qtr Countywide Public Education Program**	**JP Morgan Chase - Primary ...**	
INV01...	Bill	07/22/202		FY 2024, 4th Qtr Countywide Public Education Program, ...	6059 · Pollution Prevention/Pu...	-571.32
TOTAL						-571.32
10730	**Bill Pmt -Check**	**08/08/202**	**Cintas Corporation**	**weekly scraper & towels service - June 2024, & work c...**	**JP Morgan Chase - Primary ...**	
19050...	Bill	07/24/202		workwear clothing - 22 items, PO O-24-003	8520 · Personal Protection/Sa...	-392.23
Stmt J...	Bill	07/31/202		weekly - scraper & towels, Inv 4197926420, 7/5/24	7023 · Janitorial Supplies & S...	-35.00
				weekly - scraper & towels, Inv 4198679007, 7/12/24	7023 · Janitorial Supplies & S...	-35.00
				weekly - scraper & towels, Inv 4199386203, 7/19/24	7023 · Janitorial Supplies & S...	-35.00
				weekly - scraper & towels, Inv 4200098745, 7/26/24	7023 · Janitorial Supplies & S...	-35.00
TOTAL						-532.23

Sanitary District No.5 of Marin County
Warrant List Detail
July 12 through August 8, 2024

Num	Type	Date	Name	Memo	Account	Paid Amo...
10731	**Bill Pmt -Check**	**08/08/202**	**Comcast Business (Inte...**	**cable, internet, voice - Aug 2024**	**JP Morgan Chase - Primary ...**	
Bill Dat...	Bill	07/26/202		Cable, Internet, Voice - Aug 2024	8531 · Main Plant Telephones	-688.71
TOTAL						-688.71
10732	**Bill Pmt -Check**	**08/08/202**	**Employment Developm...**	**payroll tax liab outstanding, from Sept 2022 & Mar 2023**	**JP Morgan Chase - Primary ...**	
L1429...	Bill	07/15/202		payroll tax outstanding liability, penalties & interest from S...	8013 · Payroll Taxes	-52.66
				payroll tax outstanding liability, penalities & interest from ...	8013 · Payroll Taxes	-4,718.24
TOTAL						-4,770.90
10733	**Bill Pmt -Check**	**08/08/202**	**Fastenal Company**	**latex disposable gloves**	**JP Morgan Chase - Primary ...**	
CAPE...	Bill	07/10/202		latex disposable gloves, PO AB195126	7021 · Plant Maintenance Sup...	-184.35
TOTAL						-184.35
10734	**Bill Pmt -Check**	**08/08/202**	**Ghilotti Construction C...**	**Mar East St, force main repair: Final T&M billing-July ...**	**JP Morgan Chase - Primary ...**	
28982	Bill	07/31/202		Mar East St, force main repair: Final T&M billing-July 2024	7013 · Emergency Line Repair	-13,466.87
TOTAL						-13,466.87
10735	**Bill Pmt -Check**	**08/08/202**	**Goodman Building Sup...**	**Stmt Date 7/25/24: storage containers for office paper...**	**JP Morgan Chase - Primary ...**	
Clos D...	Bill	07/25/202		plumbing parts for repairs to TWAS pump #1 water feed s...	7022 · Plant Maint. Parts & Se...	-61.83
				storage containers for office paperwork, PO O-24-016	6065 · Miscellaneous Expense	-205.57
				storage containers for office paperwork, PO O-24-016	6065 · Miscellaneous Expense	-164.45
				key blanks/keys for new door, PO M-24-005	7028 · Grounds Maintenance	-43.19
TOTAL						-475.04

Sanitary District No.5 of Marin County
Warrant List Detail
July 12 through August 8, 2024

Num	Type	Date	Name	Memo	Account	Paid Amo...
10736	**Bill Pmt -Check**	**08/08/202**	**Grainger**	**chemical transfer pump parts, water hose assembly, c...**	**JP Morgan Chase - Primary ...**	
91821...	Bill	07/15/202		chemical transfer pump parts, PO O-24-008	7041 · Paradise Parts & Service	-23.49
91861...	Bill	07/18/202		water hose assembly/cam and groove couplings, PO O-24...	7022 · Plant Maint. Parts & Se...	-551.84
91882...	Bill	07/19/202		cable for Tiburon PS #4 hoist, PO M-24-006	7011 · Pumps & Lines Mainte...	-20.24
TOTAL						-595.57
10737	**Bill Pmt -Check**	**08/08/202**	**HDR Engineering Inc**	**Digester Cleaning & Rehab Project-12/3/23-3/28/24**	**JP Morgan Chase - Primary ...**	
12006...	Bill	07/24/202		Digester Cleaning & Rehab Project-12/3/23-3/28/24, AJE ...	9213 · M.P. Digester	-20,031.18
TOTAL						-20,031.18
10738	**Bill Pmt -Check**	**08/08/202**	**HF&H Consultants, LLC**	**2022 Sewer Rate Study - June 2024**	**JP Morgan Chase - Primary ...**	
9721304	Bill	07/09/202		2022 Sewer Rate Study - June 2024, AJE FY 2023-2024	6017 · Consulting Fees	-4,005.00
TOTAL						-4,005.00
10739	**Bill Pmt -Check**	**08/08/202**	**Jackson's Hardware, Inc.**	**tie downs for admin truck**	**JP Morgan Chase - Primary ...**	
158862	Bill	07/16/202		tie downs for admin truck, PO M-24-007	7022 · Plant Maint. Parts & Se...	-31.63
TOTAL						-31.63
10740	**Bill Pmt -Check**	**08/08/202**	**Marin County Tax Colle...**	**LAFCO charges, FY 2024-2025**	**JP Morgan Chase - Primary ...**	
Notice ...	Bill	07/18/202		LAFCO charges, FY 2024-2025	7062 · Permits/Fees - General	-4,121.67
TOTAL						-4,121.67
10741	**Bill Pmt -Check**	**08/08/202**	**Mountain General Engi...**	**final installment-Tiburon Wet Well Rehab, June 2024**	**JP Morgan Chase - Primary ...**	
00089	Bill	06/25/202		final installment-Tiburon Wet Well Rehab, June 2024, AJE...	9305.2 · Tiburon Wet Well Re...	-13,790.00
TOTAL						-13,790.00

Sanitary District No.5 of Marin County
Warrant List Detail
July 12 through August 8, 2024

Num	Type	Date	Name	Memo	Account	Paid Amo...
10742	**Bill Pmt -Check**	**08/08/202**	**Nute Engineering Corp.**	**Cove Rd pump station improvements, 2022 sewer reh...**	**JP Morgan Chase - Primary ...**	
27288	Bill	07/12/202		Engineering Services: 2022 Sewer rehabilitation project-Ti...	9301 · Tiburon Sewer Line Re...	-648.00
27296	Bill	07/12/202		Engineering Services: Cove Rd pump station improvemen...	9309 · BPS #1 Generator Rep...	-5,487.00
TOTAL						-6,135.00
10743	**Bill Pmt -Check**	**08/08/202**	**Pacific Gas & Electric (...**	**July 2024**	**JP Morgan Chase - Primary ...**	
Stmt D...	Bill	07/29/202		Stmt Date 7/29/24, need to break down	8542 · Main Plant Utilities	-28,455.92
TOTAL						-28,455.92
10744	**Bill Pmt -Check**	**08/08/202**	**Robert L Talavera, LLC**	**SSGIS Support, add software on new computer**	**JP Morgan Chase - Primary ...**	
RLT07...	Bill	07/31/202		SSGIS Support, add software on new computer	8510 · Data/Alarms/IT Supp &...	-300.00
TOTAL						-300.00
10745	**Bill Pmt -Check**	**08/08/202**	**Solenis, LLC**	**polymers - screw press & RDT**	**JP Morgan Chase - Primary ...**	
13291...	Bill	07/17/202		Praestol K 148-L-VA IBC, screw press polymer, PO O-24-...	7024 · Main Plant Chemicals	-4,631.86
13293...	Bill	07/22/202		Praestol K 290 FLX IBC, RDT polymer, PO O-24-014	7024 · Main Plant Chemicals	-5,358.60
TOTAL						-9,990.46
10746	**Bill Pmt -Check**	**08/08/202**	**Special Dist Risk Mgmt ...**	**dental, vision, Life, ADD and LTD insurance - Sept 2024**	**JP Morgan Chase - Primary ...**	
Sept 2...	Bill	08/05/202		Basic Life & ADD, LTD, Dental, Vision - Sept 2024. Used ...	8020.05 · Employee Health	-1,906.51
TOTAL						-1,906.51
10747	**Bill Pmt -Check**	**08/08/202**	**The Sherwin Williams C...**	**exterior paint, 30 gallons, for main plant paint job**	**JP Morgan Chase - Primary ...**	
4272-4	Bill	07/16/202		exterior paint for Plant, 15 gallons. Redwood Painting.	7022 · Plant Maint. Parts & Se...	-593.06
4307-8	Bill	07/16/202		exterior paint for Plant, 15 gallons. Redwood Painting	7022 · Plant Maint. Parts & Se...	-593.06
TOTAL						-1,186.12

Sanitary District No.5 of Marin County
Warrant List Detail
July 12 through August 8, 2024

Num	Type	Date	Name	Memo	Account	Paid Amo...
10748	**Bill Pmt -Check**	**08/08/202**	**U.S. Bank cc *3611**	**seminar attendance fees for 2 employees, hotel lodgin...**	**JP Morgan Chase - Primary ...**	
Stmt D...	Bill	07/25/202		TriState Seminar Registration Las Vegas NV, Casey Cottr...	6020 · Continuing Education	-95.63
				Zoom Workplace Pro Annual, 7/2/24-7/1/25, 7/2/24	6025 · Dues & Subscriptions	-154.45
				Hotel.Com, 7/23/24, Omar Arias in Monterey CA conferen...	6018.1 · Meetings & Travel	-768.74
				TriState Seminar Registration Las Vegas NV, Dan LaTorr...	6020 · Continuing Education	-95.62
				Marin County Ford, window moulding, 7/23/24	9999 · Uncategorized Expens...	-116.28
				Pace Supply, royal sloan, 7/23/24	9999 · Uncategorized Expens...	-176.11
TOTAL						-1,406.83
10749	**Bill Pmt -Check**	**08/08/202**	**Underground Service Al...**	**CA State fee for regulatory costs (July 2024-June 2025...**	**JP Morgan Chase - Primary ...**	
16541...	Bill	07/22/202		2024 membership fee and new unique 2023 billable ticket...	6025 · Dues & Subscriptions	-1,124.21
16541...	Bill	07/26/202		CA State fee for regulatory costs, July 2024-June 2025	6025 · Dues & Subscriptions	-373.53
TOTAL						-1,497.74
10750	**Bill Pmt -Check**	**08/08/202**	**Water Environment Fed...**	**annual professional membership and MA(s): CA, Case...**	**JP Morgan Chase - Primary ...**	
Cottrell...	Bill	07/29/202		annual professional membership, Casey Cottrell, 8/1/24-6/...	6025 · Dues & Subscriptions	-128.33
				annual professional membership, Casey Cottrell, July 202...	6025 · Dues & Subscriptions	-11.67
				annual MA(s): CA, Casey Cottrell, 8/1/24-6/30/25	6025 · Dues & Subscriptions	-202.58
				annual MA (s): CA,Casey Cottrell, July 2025, AJE FY 202...	6025 · Dues & Subscriptions	-18.42
TOTAL						-361.00

CASH REQUIREMENTS

CASH REQUIRED FOR NEGOTIABLE CHECKS &/OR ELECTRONIC FUNDS TRANSFERS (EFT) FOR CHECK DATE 07/15/24: $104,883.37

IMPORTANT COVID-19 INFORMATION: If you filed IRS Form 7200, please notify your Paychex representative to avoid owing a balance at the end of the quarter and ensure your Form 941 is accurate.

TRANSACTION SUMMARY

SUMMARY BY TRANSACTION TYPE -

TOTAL ELECTRONIC FUNDS TRANSFER (EFT)	104,883.37
CASH REQUIRED FOR NEGOTIABLE CHECKS &/OR EFT	**104,883.37**
TOTAL REMAINING DEDUCTIONS / WITHHOLDINGS / LIABILITIES	7,346.28
CASH REQUIRED FOR CHECK DATE 07/15/24	112,229.65

TRANSACTION DETAIL

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

5TRANS. DATE	BANK NAME	ACCOUNT NUMBER	PRODUCT	DESCRIPTION		BANK DRAFT AMOUNTS & OTHER TOTALS
07/12/24	CHASE BANK, NA	xxxxxxxxxxxxxx506	Direct Deposit	Net Pay Allocations	69,976.76	**69,976.76**
07/12/24	CHASE BANK, NA	xxxxxxxxxxxxxx506	Taxpay®	Employee Withholdings		
				Social Security	6,022.07	
				Medicare	1,408.40	
				Fed Income Tax	14,189.36	
				CA Income Tax	5,856.31	
				Total Withholdings	**27,476.14**	
				Employer Liabilities		
				Social Security	6,022.07	
				Medicare	1,408.40	
				Total Liabilities	**7,430.47**	**34,906.61**
					EFT FOR 07/12/24	**104,883.37**
					TOTAL EFT	**104,883.37**

REMAINING DEDUCTIONS / WITHHOLDINGS / LIABILITIES - *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
07/15/24	Refer to your records for account Information		Payroll	Employee Deductions		
				401A Member Contribu	4,547.41	
				Calpers 457B Roth	968.00	
				Calpers 457B TRDL	1,526.67	
				Med 125	170.87	

CASH REQUIREMENTS

CASH REQUIRED FOR NEGOTIABLE CHECKS &/OR ELECTRONIC FUNDS TRANSFERS (EFT) FOR CHECK DATE 07/15/24: $104,883.37

REMAINING DEDUCTIONS / WITHHOLDINGS / LIABILITIES (cont.) - *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
07/15/24	Refer to your records for account Information		Payroll	Employee Deductions **(cont.)**		
				Med FSA EE Pretax	133.33	
				Total Deductions	**7,346.28**	

TOTAL REMAINING DEDUCTIONS / WITHHOLDINGS / LIABILITIES **7,346.28**

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

DUE DATE	PRODUCT	DESCRIPTION	
07/19/24	Taxpay®	FED IT PMT Group	29,050.30
07/19/24	Taxpay®	CA IT PMT Group	5,856.31

CASH REQUIREMENTS

CASH REQUIRED FOR NEGOTIABLE CHECKS &/OR ELECTRONIC FUNDS TRANSFERS (EFT) FOR CHECK DATE 07/31/24: $73,440.22

IMPORTANT COVID-19 INFORMATION: If you filed IRS Form 7200, please notify your Paychex representative to avoid owing a balance at the end of the quarter and ensure your Form 941 is accurate.

TRANSACTION SUMMARY

SUMMARY BY TRANSACTION TYPE -

TOTAL ELECTRONIC FUNDS TRANSFER (EFT)	73,440.22
CASH REQUIRED FOR NEGOTIABLE CHECKS &/OR EFT	**73,440.22**
TOTAL REMAINING DEDUCTIONS / WITHHOLDINGS / LIABILITIES	8,923.22
CASH REQUIRED FOR CHECK DATE 07/31/24	82,363.44

TRANSACTION DETAIL

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

5TRANS. DATE	BANK NAME	ACCOUNT NUMBER	PRODUCT	DESCRIPTION		BANK DRAFT AMOUNTS & OTHER TOTALS
07/30/24	CHASE BANK, NA	xxxxxxxxxxxxxx506	Direct Deposit	Net Pay Allocations	47,400.66	**47,400.66**
07/30/24	CHASE BANK, NA	xxxxxxxxxxxxxx506	Taxpay®	Employee Withholdings		
				Social Security	4,711.73	
				Medicare	1,101.93	
				Fed Income Tax	10,168.58	
				CA Income Tax	4,243.65	
				Total Withholdings	**20,225.89**	
				Employer Liabilities		
				Social Security	4,711.74	
				Medicare	1,101.93	
				Total Liabilities	**5,813.67**	**26,039.56**
					EFT FOR 07/30/24	**73,440.22**
					TOTAL EFT	**73,440.22**

REMAINING DEDUCTIONS / WITHHOLDINGS / LIABILITIES - *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
07/31/24	Refer to your records for account Information		Payroll	Employee Deductions		
				401A Member Contribu	4,539.35	
				Calpers 457B Roth	1,333.00	
				Calpers 457B TRDL	2,746.67	
				Med 125	170.87	

CASH REQUIREMENTS

CASH REQUIRED FOR NEGOTIABLE CHECKS &/OR ELECTRONIC FUNDS TRANSFERS (EFT) FOR CHECK DATE 07/31/24: $73,440.22

REMAINING DEDUCTIONS / WITHHOLDINGS / LIABILITIES (cont.) - *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
07/31/24	Refer to your records for account Information		Payroll	Employee Deductions **(cont.)**		
				Med FSA EE Pretax	133.33	
				Total Deductions	**8,923.22**	

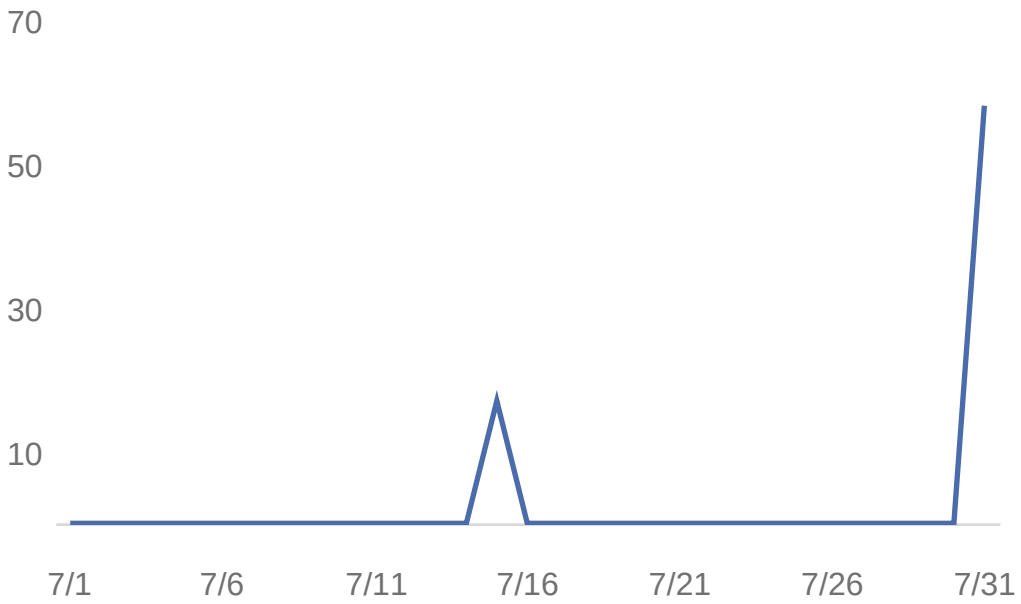
TOTAL REMAINING DEDUCTIONS / WITHHOLDINGS / LIABILITIES **8,923.22**

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

DUE DATE	PRODUCT	DESCRIPTION	
08/07/24	Taxpay®	FED IT PMT Group	21,795.91
08/07/24	Taxpay®	CA IT PMT Group	4,243.65

Overtime hours

Check date



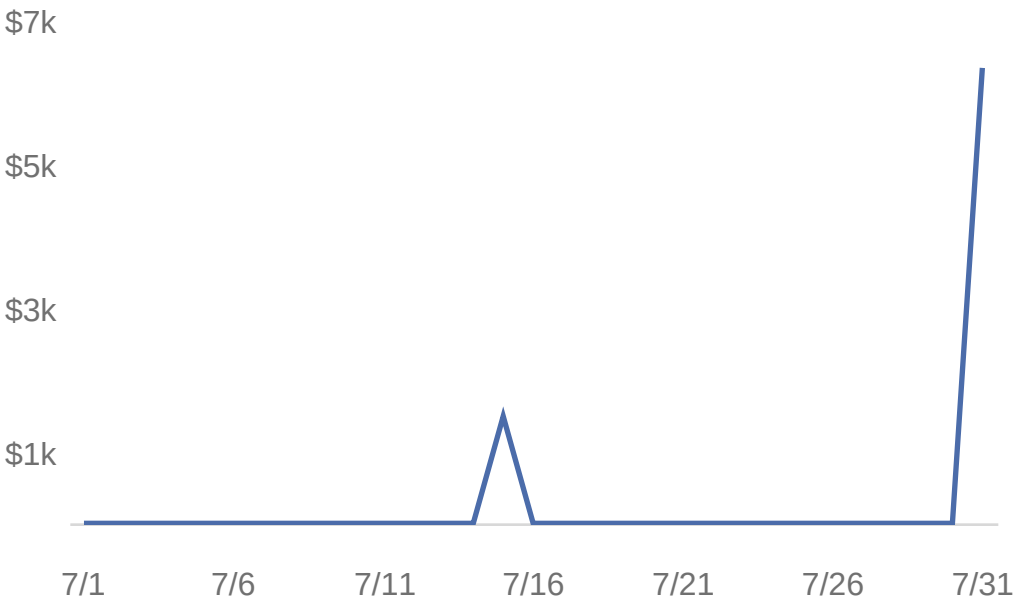
Jul 1, 2024 - Jul 31, 2024

My Company

75 hrs

Overtime amounts

Check date



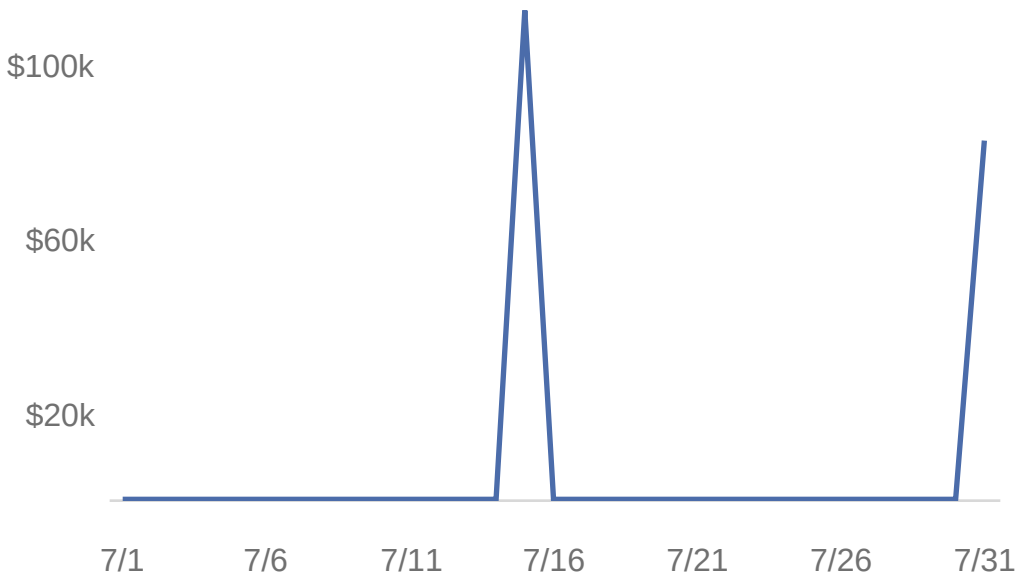
Jul 1, 2024 - Jul 31, 2024

My Company

$7,812.27

Labor cost

Check date



Jul 1, 2024 - Jul 31, 2024

My Company

$194,593.09

Full name	Overtime amounts	Overtime hours
Alvarez, Joel		
Balf, Abigail	347.03	5.00
Bilsborough Sr., Chad E	1054.00	9.50
Collodi, Pete		
Cottrell III, Rulon K	747.81	6.00
LaTorre, Daniel P	2449.20	21.00
Rosser, John M	589.00	6.00
Rubio, Antonio		
Salazar, Ignacio G		
Screechfield-Lablue, Pierce L	377.73	5.00
Triola, Joseph	2247.50	22.50
	7812.27	**75.00**

1:59 PM
08/05/24

Sanitary District No.5 of Marin County
Annual Budget vs Actual Expenses
July 2024 through June 2025

	Jul '24 - Jun 25	Budget	$ Over Budget	% of Budget
Ordinary Income/Expense				
Income				
5000 · Property Taxes / AD VALOREM				
5001.2 · TEETER	5,869.74	999,999.00	-994,129.26	0.6%
5002 · UNSEC	0.00	16,000.00	-16,000.00	0.0%
5003 · PUNS / PRIOR UNSECURED	0.00	1,500.00	-1,500.00	0.0%
5004 · REDEMPTION / RDMPT	-4.87	0.00	-4.87	100.0%
5006 · SPLU	0.00	100.00	-100.00	0.0%
5041 · SUPSEC	806.25	20,000.00	-19,193.75	4.0%
5046 · Excess ERAF	0.00	300,000.00	-300,000.00	0.0%
5280 · HOPTR	0.00	3,000.00	-3,000.00	0.0%
5483 · Other tax	7.78	7,000.00	-6,992.22	0.1%
Total 5000 · Property Taxes / AD VALOREM	6,678.90	1,347,599.00	-1,340,920.10	0.5%
5007 · Sewer Service Charge				
5007.1 · Sewer Service - Ops	55,075.95	5,115,266.00	-5,060,190.05	1.1%
5007.2 · Sewer Service - Cap	0.00	1,028,242.00	-1,028,242.00	0.0%
Total 5007 · Sewer Service Charge	55,075.95	6,143,508.00	-6,088,432.05	0.9%
5201 · INTEREST				
5201.1 · Interest County of Marin	-85.55	100.00	-185.55	-85.6%
5201.2 · Interest LAIF	0.00	200,000.00	-200,000.00	0.0%
Total 5201 · INTEREST	-85.55	200,100.00	-200,185.55	-0.0%
5900.10 · Paradise Sewer Line Ext. Fees	0.00	0.00	0.00	0.0%
5900.3 · Connection Fees				
5900.31 · Collection	12,337.00	200,000.00	-187,663.00	6.2%
5900.34 · Treatment	10,165.00	200,000.00	-189,835.00	5.1%
Total 5900.3 · Connection Fees	22,502.00	400,000.00	-377,498.00	5.6%
5900.4 · Permit Inspection & Admin Fees	1,600.00	35,000.00	-33,400.00	4.6%
5900.5 · SASM Expense Reimb.	15,401.45	75,000.00	-59,598.55	20.5%
Total Income	101,172.75	8,201,207.00	-8,100,034.25	1.2%
Gross Profit	101,172.75	8,201,207.00	-8,100,034.25	1.2%
Expense				
6000 · Administrative Expenses				
6008 · Audit & Accounting	0.00	90,000.00	-90,000.00	0.0%
6017 · Consulting Fees	4,005.00	125,000.00	-120,995.00	3.2%
6018 · Travel & Meetings				
6018.1 · Meetings & Travel	735.63	17,000.00	-16,264.37	4.3%
6018.2 · Standby Mileage Expense Reimb	295.58	8,000.00	-7,704.42	3.7%
Total 6018 · Travel & Meetings	1,031.21	25,000.00	-23,968.79	4.1%
6020 · Continuing Education	198.00	10,000.00	-9,802.00	2.0%
6021 · County Fees	0.00	16,590.00	-16,590.00	0.0%
6024 · Director Fees	2,900.00	9,000.00	-6,100.00	32.2%
6025 · Dues & Subscriptions	2,574.39	35,000.00	-32,425.61	7.4%
6026 · Elections	0.00	10,000.00	-10,000.00	0.0%
6033 · Insurance				
6033.1 · Insurance - SD5 Property	69,285.84	100,000.00	-30,714.16	69.3%
6033.2 · Insurance - SD5 Liability	0.00	60,000.00	-60,000.00	0.0%
6033.3 · Insurance - SD5 Auto	3,432.00	10,000.00	-6,568.00	34.3%
Total 6033 · Insurance	72,717.84	170,000.00	-97,282.16	42.8%
6039 · Legal	7,025.00	50,000.00	-42,975.00	14.1%
6047 · Office Supplies	492.64	11,000.00	-10,507.36	4.5%
6056 · Postage	-2,407.70	1,300.00	-3,707.70	-185.2%
6059 · Pollution Prevention/Public Edu	571.32	5,500.00	-4,928.68	10.4%
6065 · Miscellaneous Expense	370.02	0.00	370.02	100.0%
Total 6000 · Administrative Expenses	89,477.72	558,390.00	-468,912.28	16.0%

Sanitary District No.5 of Marin County
Annual Budget vs Actual Expenses
July 2024 through June 2025

	Jul '24 - Jun 25	Budget	$ Over Budget	% of Budget
7000 · Ops & Maintenance Expenses				
7010 · Pumps & Lines Maintenance				
7011 · Pumps & Lines Maintenance	220.39	200,000.00	-199,779.61	0.1%
7013 · Emergency Line Repair	13,466.87	100,000.00	-86,533.13	13.5%
Total 7010 · Pumps & Lines Maintenance	13,687.26	300,000.00	-286,312.74	4.6%
7020 · Main Plant Maintenance				
7021 · Plant Maintenance Supplies	184.35	80,000.00	-79,815.65	0.2%
7022 · Plant Maint. Parts & Service	4,612.49	300,000.00	-295,387.51	1.5%
7023 · Janitorial Supplies & Service	164.46	10,000.00	-9,835.54	1.6%
7024 · Main Plant Chemicals	9,990.46	165,000.00	-155,009.54	6.1%
7025 · Lab Supplies & Chemicals	0.00	25,000.00	-25,000.00	0.0%
7027 · Electrical & Instrument	0.00	30,000.00	-30,000.00	0.0%
7028 · Grounds Maintenance	333.95	8,000.00	-7,666.05	4.2%
7029 · Main Plant Sludge Disposal	0.00	55,000.00	-55,000.00	0.0%
Total 7020 · Main Plant Maintenance	15,285.71	673,000.00	-657,714.29	2.3%
7040 · Paradise Cove Plant Maint				
7041 · Paradise Parts & Service	23.49	20,000.00	-19,976.51	0.1%
7042 · Paradise Supplies & Chemicals	0.00	6,500.00	-6,500.00	0.0%
7043 · Paradise Sludge Disposal	0.00	3,000.00	-3,000.00	0.0%
Total 7040 · Paradise Cove Plant Maint	23.49	29,500.00	-29,476.51	0.1%
7050 · Monitoring				
7051 · Main Plant Lab Monitoring	4,122.25	50,000.00	-45,877.75	8.2%
7052 · Paradise Cove Monitoring	93.10	9,000.00	-8,906.90	1.0%
7053 · Chronic Toxicity	0.00	15,000.00	-15,000.00	0.0%
Total 7050 · Monitoring	4,215.35	74,000.00	-69,784.65	5.7%
7060 · Permits/Fees				
7061 · Main Plant NPDES Renewal	0.00	0.00	0.00	0.0%
7062 · Permits/Fees - General	4,121.67	50,000.00	-45,878.33	8.2%
7063 · Paradise Cove Permits/Fees	0.00	9,000.00	-9,000.00	0.0%
Total 7060 · Permits/Fees	4,121.67	59,000.00	-54,878.33	7.0%
7070 · Truck Maintenance				
7071 · Fuel	0.00	20,000.00	-20,000.00	0.0%
7072 · Maintenance	0.00	30,000.00	-30,000.00	0.0%
Total 7070 · Truck Maintenance	0.00	50,000.00	-50,000.00	0.0%
Total 7000 · Ops & Maintenance Expenses	37,333.48	1,185,500.00	-1,148,166.52	3.1%
8000 · Salaries and Benefits Expenses				
8001 · Salaries	127,960.70	1,636,798.00	-1,508,837.30	7.8%
8003 · Overtime	7,812.27	125,000.00	-117,187.73	6.2%
8004 · Standby Pay	7,756.58	80,000.00	-72,243.42	9.7%
8005 · Employee Incentives	5,000.00	25,000.00	-20,000.00	20.0%
8006 · Vacation Buyout	21,804.40	80,000.00	-58,195.60	27.3%
8013 · Payroll Taxes	18,015.04	110,000.00	-91,984.96	16.4%
8015 · Payroll Service Processing Fees	889.87	8,000.00	-7,110.13	11.1%
8016 · Car Allowance	8,000.00	8,000.00	0.00	100.0%
8019 · PERS Retirement				
8019.05 · PERS Retirement	14,050.46	312,067.00	-298,016.54	4.5%
Total 8019 · PERS Retirement	14,050.46	312,067.00	-298,016.54	4.5%
8020 · Employee Health				
8020.05 · Employee Health	46,180.45	300,000.00	-253,819.55	15.4%
8021 · Employee Health Deductions	-341.74	2,500.00	-2,841.74	-13.7%
8020 · Employee Health - Other	1,906.51			
Total 8020 · Employee Health	47,745.22	302,500.00	-254,754.78	15.8%

Sanitary District No.5 of Marin County
Annual Budget vs Actual Expenses
July 2024 through June 2025

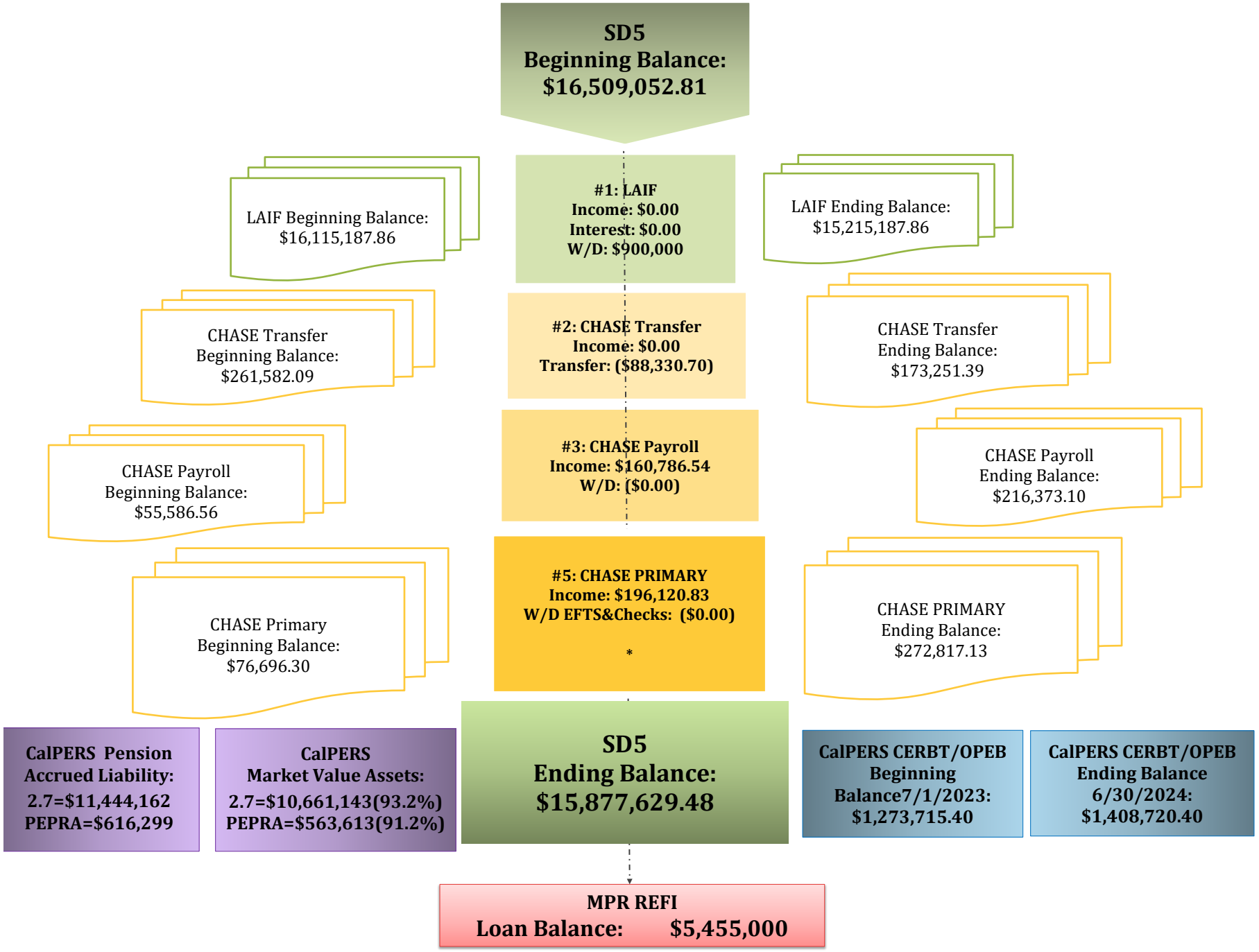
	Jul '24 - Jun 25	Budget	$ Over Budget	% of Budget
8022 · Retiree Health				
8022.05 · Retiree Health	2,241.21	75,000.00	-72,758.79	3.0%
8022.10 · CERBT/OPEB Annual Arc Contribtn	0.00	140,000.00	-140,000.00	0.0%
Total 8022 · Retiree Health	2,241.21	215,000.00	-212,758.79	1.0%
8023 · Workers Comp Insurance	0.00	56,000.00	-56,000.00	0.0%
Total 8000 · Salaries and Benefits Expenses	261,275.75	2,958,365.00	-2,697,089.25	8.8%
8500 · Other Operating Expenses				
8510 · Data/Alarms/IT Supp & Licensing	8,076.65	100,000.00	-91,923.35	8.1%
8515 · Safety	462.00	60,000.00	-59,538.00	0.8%
8520 · Personal Protection/Safety Wear	604.17	15,000.00	-14,395.83	4.0%
8530 · Telephone				
8531 · Main Plant Telephones	1,753.57	12,000.00	-10,246.43	14.6%
8532 · Paradise Cove Telephones	140.96	1,500.00	-1,359.04	9.4%
8533 · Pumps & Lines Telephones	609.42	7,000.00	-6,390.58	8.7%
Total 8530 · Telephone	2,503.95	20,500.00	-17,996.05	12.2%
8540 · Utilities				
8541 · Water	142.40	11,000.00	-10,857.60	1.3%
8542 · Main Plant Utilities	28,455.92	240,000.00	-211,544.08	11.9%
8543 · Paradise Cove Utilities	0.00	35,000.00	-35,000.00	0.0%
8544 · Pump Station Utilities	0.00	65,000.00	-65,000.00	0.0%
Total 8540 · Utilities	28,598.32	351,000.00	-322,401.68	8.1%
Total 8500 · Other Operating Expenses	40,245.09	546,500.00	-506,254.91	7.4%
Total Expense	428,332.04	5,248,755.00	-4,820,422.96	8.2%
Net Ordinary Income	-327,159.29	2,952,452.00	-3,279,611.29	-11.1%
Other Income/Expense				
Other Expense				
9100 · Capital Expenditures	222,211.20	0.00	222,211.20	100.0%
Total Other Expense	222,211.20	0.00	222,211.20	100.0%
Net Other Income	-222,211.20	0.00	-222,211.20	100.0%
Net Income	**-549,370.49**	**2,952,452.00**	**-3,501,822.49**	**-18.6%**

Sanitary District No.5 of Marin County
Comparative Balance Sheet
As of July 31, 2024

	Jul 31, 24	Jun 30, 24	$ Change
ASSETS			
Current Assets			
Checking/Savings			
JP Morgan Chase - Primary 7399	272,817.13	76,696.30	196,120.83
JP Morgan Chase - Payroll 7506	216,373.10	55,586.56	160,786.54
JP Morgan Chase - Transfer 7522	173,251.39	261,582.09	-88,330.70
Local Agency Investment Fund			
SD5 CalPERS Retirement Trust	71,951.00	71,951.00	0.00
SD5 Operating Reserve	1,200,853.05	1,200,853.05	0.00
SD5 Operating	3,217,317.82	4,117,317.82	-900,000.00
SD5 Disaster Recovery Fund	1,000,000.00	1,000,000.00	0.00
SD5 Capital & CIP Reserve	9,725,065.99	9,725,065.99	0.00
Total Local Agency Investment Fund	15,215,187.86	16,115,187.86	-900,000.00
Total Checking/Savings	15,877,629.48	16,509,052.81	-631,423.33
Accounts Receivable			
Accounts Receivable	15,401.45	0.00	15,401.45
Total Accounts Receivable	15,401.45	0.00	15,401.45
Other Current Assets			
Petty Cash	781.92	781.92	0.00
Total Other Current Assets	781.92	781.92	0.00
Total Current Assets	15,893,812.85	16,509,834.73	-616,021.88
Fixed Assets	18,809,155.30	18,809,155.30	0.00
TOTAL ASSETS	**34,702,968.15**	**35,318,990.03**	**-616,021.88**
LIABILITIES & EQUITY	34,702,968.15	35,318,990.03	-616,021.88

CASH FLOW CHART

SANITARY DISTRICT NO. 5 OF MARIN COUNTY: July 2024



August 2024

August 2024

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

September 2024

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
Jul 28	29	30	31	Aug 1 TR CASA Conference	2 T2's due to county of Marin - any last minute changes and T4- request form full draft report request TR CASA Conference	3
4	5	6	7 JK in audit 5:00pm 5:00pm Governance Committee Meeting (2001 Paradise Drive, Tiburon CA 94920)	8 10:30 am -12:00 Finance Committee Meeting; 2001 Pardise Drive, 9:30am Capital Improvement JK in audit	9 T5's due- FInal Annual certification of sewer service fees to authorize county to place charges on property tax bill	10
11	12	13 2024 Sewer Rehab Project Walkthrough Evaluation Meeting Pay Roll Due 9:00am Kat and Brad in for End of FY audit	14	15 5:00pm Regular Scheduled Board of Directors Meeting; 2001 Paradise Drive, Tiburon CA 94920	16	17
18	19	20	21	22	23	24
25	26 TR off-site	27 TR off-site	28 Pay Roll Due TR off site	29 TR off Site	30 TR off site	31

September 2024

September 2024

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					

October 2024

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
Sep 1	2 Annual Sewer Service Bills(non-tax roll bills) Preparation and Mailing	3	4	5	6	7
8	9 CSDA Annual Conference	10 CSDA Annual Conference	11 CSDA Annual Conference PAy Roll Due	12 CSDA Annual Conference 9:30am CIP Committee Meeting (2001 10:30am Finance Committee Meeting	13	14
15	16	17	18	19 5:00pm Board of Directors Meeting (2001 Paradise Drive, Tiburon CA 94920) - HR	20	21
22	23 8:00am TR off site PACP Renewal Training	24 7:30am TR off site PACP Renewal Training	25 7:30am TR off site PACP Renewal Training	26 PAy Roll Due 7:00am TR off site PACP Renewal Training	27	28
29	30	Oct 1	2	3	4	5

Sanitary District No. 5 of Marin County

District Management Report

July 2024

Contents:

Transmittal Memo

Date: August 15, 2024

To: Board of Directors

From: Tony Rubio, District Manager

Subject: Management Report for July 2024

Fiscal Status

Period Covered:	July 1, 2023 –August 15, 2024
Percent of Fiscal Year:	8.3%
Percent of Budgeted Income to Date:	1.2%
Percent of Budgeted Expenditures to Date:	8.2% (operating only)

Personnel

Separations:	None
New Hires:	None
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 July 2024 Include:

Financial/Budgetary/Business Administration

- Bookkeeper Jill Kalehua from DMMS (Daily Money Management Services) continues to assist with monthly AR/AP (accounts receivable/accounts payable)
- Business Server file clean up under way correcting file permissions
- Connection Fee update work with HF&H completed. Ordinances created for 1st reading

HR and Personnel

- Working to implement employee portal through website, as well as portal for Board of Directors

Continuing Education, Safety Training, Pollution Prevention Activities

- Work with DKF solutions on District safety program updates on-going.
- Reviewed Chemical Hygiene CBT Policy (computer based training) (new requirement SB-553)
- SD5 attended monthly Public Education Meeting.

Collection System Performance

Main Plant Tiburon/Belvedere/Paradise Cove

- Tiburon Station #3 Emergency Repair on Force Main on Mar East Street.
- Rodder and Vactor work continues being performed by staff on emergency basis.

Treatment Plant Performance

Paradise Cove WWTP

- Submitted 2nd Quarter SMR and DMR to the RWQCB on CIWQS

Tiburon Main WWTP:

- Submitted June 2024 Monthly SMR and DMR to the RWQCB on CIWQS.
- WW back in service
- DW tanks out of service for valve maintenance and sludge pumping stator replacements
- DW tank wall/stucco repairs completed, and walls painted

Capital Improvement Projects

- 2024 Sewer Rehab Design Underway
- Cove Road MCC and Generator replacement project design at 75%
- Digester Cleaning and Rehab project Notice of award issued- responding to RFI's regarding staging and engineer reviewing glass lined ductile iron pipe submittal
- Roll up doors now installed at Main Plan
- Accepted New service truck delivery.
- (MMWD Beginning Water Project on Paradise Drive- Some staging across the street from plant on mar west)

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 90th 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
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

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
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

Item #5

SANITARY DISTRICT of MARIN COUNTY

No.5

SANITATION DISTRICT NO. 5

Sewer Capacity and Miscellaneous User Fees Study

Final Report – August 6, 2024

HF&H

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HF&H CONSULTANTS, LLC
Managing Tomorrow's Resources Today

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August 6, 2024

Tony Rubio
General Manager
Sanitary District No. 5 of Marin County
2001 Paradise Drive
Tiburon, California 94920

Subject: Sewer Capacity and Miscellaneous User Fees Study – Final Report

Dear Tony Rubio:

HF&H is pleased to submit this report from our study of the Sanitation District No. 5's (District's) sewer capacity and miscellaneous user fees. The report summarizes the analysis that was conducted to develop the recommended fees.

Thank you for the opportunity to assist the District with this study. We express our appreciation to staff for their support of our analysis.

Sincerely,

HF&H CONSULTANTS, LLC

Rick Simonson
Senior Vice President

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TABLE OF CONTENTS

APPENDIX

TABLE OF FIGURES

GLOSSARY

ADU – Accessory Dwelling Unit

CIP - Capital Improvement Program.

District – Sanitation District No. 5

DU – Dwelling Unit, in reference to the number of physical residences served by a sewer connection.

EDU – Equivalent Dwelling Unit in reference to the current sewer service charges.

FY - Fiscal Year.

GPD - Gallons Per Day.

PAYGo - Pay-As-You-Go, in reference to funding capital improvements from cash rather than from borrowed sources such as bonds or loans.

RCN – Replacement Cost New

RCNLD – Replacement Cost New Less Depreciation

SF – Square Feet

ACKNOWLEDGEMENTS

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

City Staff
- Tony Rubio, General Manger

Burke, Williams, Sorenson, LLP
- Ben Stock, General Counsel
- Mariam Sleiman, Associate

HF&H Consultants, LLC
- Rick Simonson, Senior Vice President
- Gabe Sasser, PE, Project Manager
- Alex Santos, Senior Associate

LIMITATIONS

This document was prepared solely for the Sanitation District No. 5 in accordance with the contract between the District and HF&H and is not intended for use by any other party for any other purpose.

In preparing this study, we relied on information from the District, which we consider accurate and reliable. Our analysis is based on the best available information at the time of the study.

Rounding differences caused by stored values in electronic models may exist.

This document represents our understanding of relevant laws, regulations, and court decisions but should not be relied upon as legal advice. Questions concerning the interpretation of legal authorities referenced in this document should be referred to a qualified attorney.

SANITARY DISTRICT of MARIN COUNTY

No.5

SEWER CAPACITY AND MISCELLANEOUS USER FEES STUDY

I. EXECUTIVE SUMMARY

BACKGROUND

Sanitary District No. 5 of Marin County (District) provides collection and treatment of wastewater to residential & commercial customers located in the Town of Tiburon, the City of Belvedere, and to unincorporated Paradise Cove. The District receives supplemental revenues from capacity fees and miscellaneous user fees. The District requested HF&H Consultants (HF&H) to review its current schedule of sewer capacity fees and miscellaneous user fees. This report summarizes the analysis conducted to update existing fees.

New development connecting to the District's sewer system is charged one-time capacity fees at the time of connection. The capacity fee is based on the reasonable cost per connection, or, a fair estimate of the costs incurred by the District to allow for an additional connection to the sewer system. The reasonable cost is derived based on the value of a connection specific to the collection system and treatment facilities serving parcels.

Existing residents and commercial customers pay for the District's service according to the District's schedule of sewer rates. Existing and prospective customers who require additional office and field services are charged user fees based on the District's adopted schedule found in Chapter 3.05 of the District's Code.

In 2014, Sanitation District No. 5 (District) last updated its connection fees to prioritize capacity and rehabilitation improvement projects to be performed as part of its capital improvement program (CIP). Additionally, the District last updated sewer fees in 2014 to better account for increased costs for installing, altering, or repairing sewer facilities.

The following discussion summarizes HF&H's findings and recommendations.

FINDINGS AND RECOMMENDATIONS

Current Capacity Fees

The District charges a connection fee to all new sewer connections. Using the California Plumbing Code, new connections are charged on a per fixture unit basis. Fixture units are a standardized way to measure the load on a sewer system to ensure proper design and capacity. Loads vary by plumbing appliance (e.g. sinks, toilets, showers). A typical residential sewer connection is assumed to provide capacity for 30 fixture units. Thus, the fee associated with one Equivalent Dwelling Unit (EDU) is calculated for 30 fixture units. However, all capacity fees are calculated according to the actual number of fixture units at each property, as defined by Section 3.05.660 of the District's Code.

Figure 1-1 summarizes the existing connection fees by zone. While the District no longer distinguishes sewer service charges by zone, the existing connection fees reflect the value of capacity for a sewer connection in each zone, established during the previous study. The fees were last increased in 2014 and have not been changed to keep pace with inflationary increases.

Figure 1-1. Current Sewer Capacity Fees

Capacity Fee	Current Rates per Fixture Unit	Current Rates per EDU
Paradise Cove	$434	$13,032
Tiburon	$922	$27,668
Belvedere	$1,278	$38,346

Proposed Capacity Fees

It is recommended that the District adopt the terminology of capacity fees in place of "connection fees." The terms are synonymous. However, the term "capacity fee" more accurately reflects what the fee is attributable to. Increases to the District's capacity fees are recommended to reflect the current value of capacity provided by the sewer systems to new connections and projected costs to increase capacity to accommodate growth. The recommended sewer Capacity Fees are shown in **Figure 1-2**. The proposed fees reflect the shared value of capacity provided to all customers. **Figure 1-3** reflects the proposed fee for Accessory Dwelling Units (ADUs). This rate was determined by dividing the proposed rate per EDU by the average area of an existing single-family dwelling unit in Tiburon and Belvedere, 2,496 livable square feet. Appendix C provides a schedule of capacity charges with the proposed rates per fixture unit.

Figure 1-2. Proposed Sewer Capacity Fees

Capacity Fee	Proposed Rates per fixure unit	Proposed Rates per EDU
Paradise Cove	$914	$27,419
Tiburon	$914	$27,419
Belvedere	$914	$27,419

Figure 1-3. Proposed Sewer Capacity Fees for ADUs

Capacity Fee	Proposed Rate
ADU (per sq ft)	$10.98

Current Miscellaneous User Fees

Current miscellaneous user fees for sewer service are provided on the District website under permits & inspections. Existing miscellaneous user fees analyzed in this study include all the following entries:

- Permit Administrative Fee
- Sewer Inspection Fee
- Public Sewer Construction Permit
- Additional Trip Fee
- Additional Inspection Fee

Additional Inspections Proposed Miscellaneous User Fees

Existing miscellaneous user fees require updating to reflect the District's current cost of providing existing and prospective customers with these additional office and field services. **Figure 1-4** includes the recommended miscellaneous user fees for supplemental sewer services provided by the District.

Figure 1-4. Proposed Miscellaneous User Fees for Sewer Services

Miscellaneous User Fees	Current Fee	Proposed Fee	$ Change
Permit Administrative Fee	$50.00	$57.00	$7.00
Sewer Inspection Fee - Each Occurrence			
Single Family Residence[1]	$50.00	$178.00	$128.00
All Others (per 100 lineal feet)[2]	$50.00	$178.00	$128.00
Public Sewer Construction Permit (per 100 lineal feet)	$50.00	$241.00	$191.00
Additional Trip Fee (if applicant not ready for inspection)	$50.00	$57.00	$7.00

[1]Residential inspections for single-family dwellings have a current fee of $50 per residential building sewer installation. The proposed fee would be $178.00 per residential building inspection.

[2]Applies to Commercial, Industrial, Church, School, Multiple Dwelling, Public, and Other Users, per 3.05.690 (2). Commercial inspection fees are charged based on a rate of $50 per 100 lineal feet of sewer line installed, with a minimum inspection fee of $100. Inspections spanning greater than 100 lineal feet are charged at a current rate of $50.00 per 100 lineal feet. The proposed fee would be $178.00 per 100 lineal feet of sewer line installed for Commercial customers and would be pro-rated.

Implementation

To keep up with inflationary cost increases, once the District has adopted updated capacity fees based on the findings of this study, we recommend the District adjust the capacity fees on an annual basis, starting on July 1, 2025, and in each year thereafter, in accordance with any changes in regional construction costs. Specifically, the amount of the adjustment shall be based on the June over June construction cost changes according to the "Construction Cost Index" for the San Francisco Bay Area, as reported monthly in the Engineering News Record. The District should plan on conducting detailed capacity fee studies approximately every five years in keeping with industry practice, which will reflect other changed conditions, such as capital improvement program assumptions and retired debt service.

Similarly, we recommend the adopted miscellaneous user fees be increased to ensure fees keep pace with the costs the District incurs. Commencing on July 1, 2025, and on July 1 of each fiscal year thereafter, the proposed miscellaneous user fees should be administratively revised and increased annually by a factor equal to the net change in average District salaries and benefits costs for that fiscal year. Such net change is measured by dividing the average budgeted District salary and benefit costs for the fiscal year in which the change is to become effective by the average District salary and benefit costs for the prior fiscal year. The average budgeted District salary and benefit costs for any fiscal year shall be determined by dividing the total budgeted salary and benefit costs by the expected total number of full-time equivalent employees for that fiscal year.

II. INTRODUCTION

CAPACITY FEES

Capacity fees, also called connection fees, are a type of development impact fee that public agencies may impose as a condition of development under the authority of California Government Code Section 66000 et seq., the Mitigation Fee Act. The purpose of these fees is to ensure that development pays its fair share of the costs associated with providing system capacity. Capacity fees are a one-time charge paid prior to a physical connection being made. The Act requires that capacity fees be based on the value of facilities in existence at the time a charge is imposed and new public facilities to be acquired or constructed in the future that are of proportional benefit to new development.

The purpose of this report is to document that the conditions have been met to establish that the District's capacity fees are reasonably related to the District's costs of providing capacity in its sewer systems for new development.

MISCELLANEOUS FEES

Existing and prospective customers who require additional and unique office and field services, beyond the services covered by sewer service charges, are charged miscellaneous user fees according to the District's Sanitary Code. Such fees account for the costs of materials, supplies, and labor hours of District personnel required to perform the work associated with the fee. The purpose of this report is to document the calculation and justification for each miscellaneous user fee administered by the District.

While miscellaneous user fees are not subject to the requirements of Proposition 218 or the Mitigation Fee Act, they are subject to Proposition 26, which mandates that the fees cannot exceed the District's costs of providing the service or product. Therefore, this report seeks to establish that the District's miscellaneous user fees for sewer service are reasonable and do not exceed the cost of service.

STUDY PROCESS

In 2023 the District requested HF&H to perform a capacity fees and miscellaneous fees study to establish new fees for 2024. The study has two goals. First, the study seeks to ensure the District's capacity fees are recovering development's fair share of the costs of existing facilities and future facilities. Second, the study seeks to update and modify the District's miscellaneous user fees. The updated fees will ensure all miscellaneous fees and permits for such utility services not funded through sewer service charges and will adequately recover the costs the District incures to provide these additional services.

REPORT ORGANIZATION

The report is divided into the following sections: Capacity Fees and Miscellaneous User Fees.

A Glossary of technical terms and acronyms is provided following the Table of Contents.

III. CAPACITY FEES

EXISTING CAPACITY FEES

New customers connecting to the District's sewer system are charged a one-time fee at the time of connection to reimburse current rate payers for costs they incurred to provide capacity in the sewer system for future growth. New customers may be subjected to additional costs to connect that are not covered by the District's capacity fees, such as sewer construction costs.

The District's current capacity fees were last updated in 2014. **Figure 3-1** summarizes the current sewer capacity fees by zone. Paradise Cove connections are charged $434 per fixture unit while Tiburon and Belvedere connections are charged $922 and $1,278 per fixture unit, respectively. While the District plans to no longer distinguish sewer service charges by zone, the existing connection fees reflect the value of capacity for a sewer connection in each zone, established during the previous study. A typical residential sewer connection is assumed to provide capacity for 30 fixture units. Thus, the fee associated with one Equivalent Dwelling Unit (EDU) is calculated for 30 fixture units. However, all capacity fees are calculated according to the number of fixture units at each property, as defined by Section 3.05.660 of the District's Code.

Figure 3-1. Current Capacity Fees

Capacity Fee	Current Rates per Fixture Unit	Current Rates per EDU
Paradise Cove	$434	$13,032
Tiburon	$922	$27,668
Belvedere	$1,278	$38,346

Note: One EDU is equal to 30 fixture units.

METHODOLOGY

Three steps are required to determine the reasonable costs that can be recovered with capacity fees: (1) facilities that benefit growth must be identified, (2) the cost of those facilities must be derived, and (3) the capacity provided by those facilities must be determined. The approach used in this report to address each of these steps is described below.

Facilities that Benefit Growth

Capacity fees are used to recover growth's fair share of the costs of existing facilities that were funded by rate payers and that provide capacity for growth. Capacity fees can also be used to recover growth's fair share of the costs of future capital improvements that are identified in a facilities master plan or similar capital improvement plan. The combination of the existing and future facilities comprises the facilities that will be needed to serve existing and future customers within the foreseeable planning horizon.

The inventory of the existing sewer system was compiled by the District as of June 30, 2023. The inventory categorizes facilities by description (i.e., pump stations, sewer manholes, sewer lines, land, and buildings). Whereas the value of facilities funded on a pay-as-you-go (PAYGo) basis can include the full cost once the facilities are placed in service, debt-funded facilities should be handled differently to ensure that rate

payers are reimbursed for their costs (i.e., their cumulative debt service payments) and that new connections do not pay for both the construction cost and then the subsequent cost of debt service through their rates.

The future capital improvements were developed by the District and constitute PAYGo capital projects that are budgeted for the next ten years. Future facilities will provide capacity for growth as well as benefit existing ratepayers by improving reliability and upgrading facilities. Therefore, the value of future facilities will be shared proportionally among both the existing customer base and future development.

The combination of the existing and future facilities represents all infrastructure that will be required to meet demands within the near term. Additional facilities introduced will be included in future updates. There will also be other facilities that are currently projected for future construction that are modified or replaced by other facilities. Again, changes like this can be reflected in future updates to the facility inventory and capacity fees.

Value of Facilities

The determination of reasonable costs begins by determining the value of the facilities. The maximum value, replacement cost new (RCN), is the amount that it would cost the District to construct its facilities today. This value represents the original cost escalated from the construction date based on construction cost inflation. By escalating the value, rate payers are compensated for having constructed capacity for growth, if and when development chooses to connect.

After the RCN value is determined, deductions may be appropriate. The most common deduction is for depreciation, which leads to a replacement cost new less depreciation (RCNLD) value. Depreciation serves as a proxy for the maintenance and appreciation in value that the rate payers are entitled to recover since the facility was constructed; however, it is typically the case that substantial maintenance was deferred. To account for this and to accurately reflect the reasonable cost, it is reasonable to exclude some or all depreciation. The amount of depreciation that should be deducted is subject to judgment. This analysis calculates the RCNLD value by fully depreciating the existing infrastructure value. As such, this analysis provides a conservative valuation of existing facilities.

Capital facilities are typically funded either directly from rate revenue on a PAYGo basis or from borrowed funds, such as bonds or loans. When borrowed funds are used, it is reasonable for rate payers to be reimbursed for the debt service they have retired but not for the outstanding debt. Hence, in the case of debt-funded infrastructure, it is appropriate to reduce the value of the existing facilities, represented by RCNLD, by the outstanding debt associated with those facilities.

The value of projected capital improvements is added to the RCNLD calculated value for the existing facilities to include projects that are in the planning stages. A list of capital improvements can be found in Appendix B.

Capacity in Facilities

The capacity of the facilities should correspond to the facilities that are included in determining the value of capacity. The capacity fee represents the unit cost of capacity, made up of two components, the value of existing capacity and the value of future capacity. The value of the existing capacity unit cost is determined by dividing the value of the facilities by the current number of connections served. In this

way, the capacity fee is the average cost paid by today's connections. In order to join the system, new connections need to pay the average cost so that they are at the same level of capital participation as existing connections and thereby have fully reimbursed existing connections so that all connections have borne an equivalent cost. The capacity fee should not be viewed as the cost of a share of the facilities. Paying a capacity fee does not convey an ownership share in the facilities. Paying a capacity fee only provides reimbursement to those who bore the cost of providing capacity for future connections.

The value of the future capacity is determined by dividing the value of the future facilities that will provide further capacity by the combined sum of the existing capacity and the future capacity. All customers, both existing and future, will benefit from the extensions made to the system to support greater capacity. Existing customers will fund construction of future facilities through sewer rates designed to meet capital project needs. In turn, sewer rates will be offset by capacity fee revenues collected from development to reduce the amount of ratepayer-funding needed.

CALCULATION OF PROPOSED FEES

Facilities included in Calculation

Capacity fees are used to recover growth's fair share of the costs of existing facilities that were funded by ratepayers and that provide capacity for growth. Growth can occur anywhere within the service area. Hence, the facilities required to serve the District's current customers are the same facilities that provide service for growth.

The capacity fee also includes projected capital improvements that benefit growth, using a capital improvement plan from the most recent rate study, spanning FY 2024-25 through FY 2032-33.

Figure 3-2 summarizes the current and planned facilities that are included in the capacity fee calculation.

Figure 3-2. Facility Costs Recovered by Capacity Fees

Type of Facility
Pump Station Structures
Sewer Lines
Manholes
Plant Structures
Treatment/Collection
Mechanical - Plant
Odor Control
Mechanical Equipment

Value of Facilities

Figure 3-3 summarizes the various assets that comprise the District's treatment system value, totaling $19,435,926. The District's existing sewer system was valued by using the District's fixed asset listing and escalating the original construction costs to current year costs using the Engineering News Record Construction Cost Index as of December 2023. Depreciation for each asset group category is based on the age and useful life of the type of facility, for purposes of calculating RCNLD. For this study, HF&H assigned

service lives for each asset based on industry standards[1]. **Figure 3-4** provides a summary of the value of the collection facilities, with an estimated cost of $22,809,943. **Figure 3-5** shows the total system value that includes collection assets, treatment assets, and reserves.

Figure 3-3. Existing Sewer Treatment System Value

Assets	System Value
Treatment	
Main Plant - Existing	$21,684,309
Paradise Plant - Existing	3,565,430
	$25,249,738
Vehicles & Office	
Vehicles & Office Equipment	$267,760
Debt Service	
Treatment Debt Service	($6,081,572)
Total Treatment	**$19,435,926**

Figure 3-4. Existing Sewer Collection System Value

Assets	System Value
Sewer Lines - Existing	$18,879,353
Pump Stations - Existing	$3,930,590
Total Collection	**$22,809,943**

Figure 3-5. Existing Sewer System Value

	System Value
Assets	RCNLD
Treatment	$19,435,926
Collection	22,809,943
Reserves	10,725,066
Total	**$52,970,935**

Capacity of Facilities

The capacity in the District's wastewater system is governed by its treatment plant capacity. Each treatment plant is subject to the permitted capacities associated with the San Franscisco Bay Regional Water Quality Control Board permit. The existing connections were factored into the system capacity. The District's sewer service charges are placed on the tax roll through Marin County. The District is able to confirm a total of 3,779 EDUs currently being served by the District.

Using the budgeted plan of CIP projects, the analysis included the value of the facilities as shown in **Figure 3-6**.

[1] *List of useful Lives and Allocation Parameters.* State Water Resources Control Board, Revenue Program Guidelines, 1998.

Figure 3-6. Added System Value from CIP

Assets	Cost
Treatment	$11,396,220
Collection	$15,326,836
CIP Total	**$26,723,056**

Facilities added as a result of the capital improvements are calculated to add $26,723,056 in additional assets. Remaining plant capacity was derived from subtracting current treatment plant flows and wet weather flows from permitted capacity. Assuming average water use of 200 gallons per day (GPD) per EDU. This yielded an additional 1,994 EDUs of available capacity remaining in the system, as shown in **Figure 3-7**. The summation of the capacity from existing facilities and capacity added from future facilities is determined in **Figure 3-8**.

Figure 3-7. Estimated Future Connections based on Remaining Capacity

	Available Capacity	Paradise Cove	Tiburon/ Belvedere
a	Plant Capacity (GPD)	40,000	980,000
b	Plant Flow (GPD)	(15,072)	(536,576)
c	Wet Weather (GPD)	(290)	(69,287)
d=a+b+c	Remaining Capacity (GPD)	24,638	374,137
e	Average GPD/EDU	200	200
f=d/e	**Future Connections (EDUs)**	**123**	**1,871**

Capacity Fees

The value of the facilities in **Figure 3-5** serves as the basis for the capacity fee. The unit capacity fee is determined by dividing the values in **Figure 3-5** by the total EDUs currently served, as shown below in **Figure 3-8**. The resulting equity buy-in component fee of $14,016 per EDU comprises the unit value of capacity of the existing facilities. Dividing the capacity and improvements value from **Figure 3-6** by the number of future EDU connections in **Figure 3-7** results in the growth component of the capacity fee. The sum of the growth component, $13,403, plus the equity buy-in component, yields a total capacity fee of $27,419 per EDU. Appendix C provides a schedule of capacity charges with the proposed rates per fixture unit.

Figure 3-8. Connection Fee Calculation

Capacity Fee	
System Value	$52,970,935
Existing EDUs	3,779
Equity-Buy in (per EDU)	**$14,016**
Growth CIP	$26,723,056
Growth EDUs	1,994
Growth (per EDU)	**$13,403**
Connection Fee (per EDU)	**$27,419**

Figure 3-9. Proposed Sewer Capacity Fees

Capacity Fee (per EDU)	Current Rates	Calculated Rates	$ Change
Paradise Cove	$13,032	$27,419	$14,387
Tiburon	$27,668	$27,419	($249)
Belvedere	$38,346	$27,419	($10,927)
Capacity Fee (per fixture unit)	**Current Rates**	**Calculated Rates**	**$ Change**
Paradise Cove	$434	$914	$480
Tiburon	$922	$914	($8)
Belvedere	$1,278	$914	($364)

The proposed fees reflect the value across the District's system, unifying the capacity fee methodology across all service areas. Consequently, the changes from the current fees to the proposed capacity fees vary. Previous fees assessed to connections in Paradise Cove will increase while fees assessed to connection in Tiburon or Belvedere will decrease relative to the fees previously assessed.

The fees for ADUs were calculated based on the average area of an existing single-family dwelling unit in Tiburon and Belvedere, 2,496 livable square feet, based on the County Assessor's data. ADUs will be charged capacity fees in accordance with Government Code. Section 65852.2(f)(5).

Figure 3-10. Proposed Sewer Capacity Fees for ADUs

Capacity Fee	Proposed Rate
ADU (per sq ft)	$10.98

Implementation

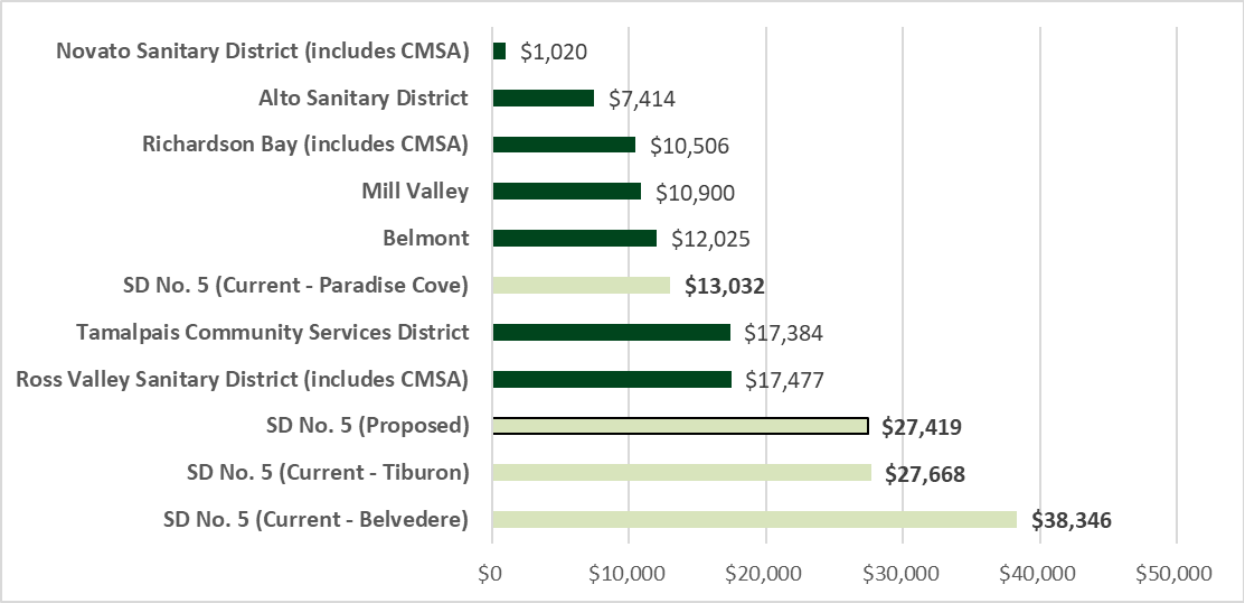
Once the District has adopted updated capacity fees based on the findings of this study, we recommend that the sewer capacity charges shall automatically increase starting on July 1, 2025, and in each year thereafter, in accordance with any changes in regional construction costs. Specifically, the amount of the adjustment shall be based on June over June construction cost changes according to the "Construction Cost Index" for the San Francisco Bay Area, as reported monthly in the Engineering News Record. The District should plan on conducting detailed capacity fee studies approximately every five years in keeping

with industry practice, which will reflect other changed conditions, such as capital improvement program assumptions and retired debt service.

CAPACITY FEE COMPARISON

Figure 3-11 compares the District's existing and proposed capacity fees with other neighboring agencies. We have compared the District's proposed single-family residential capacity fee per EDU.

Figure 3-11. Residential Capacity Fee Comparison



The District's current capacity fees charged for Tiburon and Belvedere connection are higher than all other neighboring agencies that were surveyed. With the proposed fee, the capacity fee charged to District customers exceeds all other capacity fees assessed by other agencies surveyed. There are multiple factors that can lead to differences in capacity fees such as the size of the agency, when the capacity fee was updated last, and whether the capacity fee includes existing facilities, future facilities, or both. Agencies also have the discretion to set their capacity fees lower than the calculated amount as a means of balancing the recovery of growth-related costs between capacity fees and rates or to encourage development. These differences should be considered as the District compares the proposed capacity fees with neighboring agencies.

IV. MISCELLANEOUS USER FEES

EXISTING MISCELLANEOUS USER FEES

Current miscellaneous user fees for sewer service are provided in the District's Sanitary Code, Title 3. Sewer Use, effective July 1, 2022. Current miscellaneous user fees analyzed in this study include all the following entries, including the purpose for collection of the fee:

Permit Administrative Fee – A fee is required for the District staff's time to issue the permit, record information into the District's electronic database, review plans and specifications, and perform administrative duties required to issue the permit.

Sewer Inspection Fee – An inspection fee is required for the District's efforts to ensure proper installation/construction that meet District requirements for sewer installations.

Public Sewer Construction Permit – A fee shall be paid for inspecting the installation of public sewer mains consisting of extensions of the existing public sewer facilities of the District. The District's Sanitary Code states, "no person shall construct, extend or connect to any Public Sewer without first obtaining a written Permit from the District and paying all fees and connection charges."

Additional Trip Fee – A fee shall be paid when an applicant has called for an inspection and is not prepared. This accounts for the time spent by the inspector to travel to and from the inspection site.

Additional Inspections – All sewer construction work, lateral sewers, plumbing, and drainage systems shall be inspected by the District to ensure compliance with any and all regulatory requirements.

METHODOLOGY

The miscellaneous user fees calculated are the summation of the personnel costs and material costs. The personnel costs are the product of the fully burdened (e.g., salaries, benefits, and overhead) hourly rates for the District staff positions required to perform the service associated with each fee.

Figure 4-1, summarizes the calculation of fully-burdened hourly rates by position type. The hourly rates for these fees and charges include the direct salaries and benefits of employees plus overhead costs. Overhead costs include personnel costs that support District operations such as administration, management, and customer service. Overhead costs also include non-personnel overhead associated with functions that support the District's operations and overhead staff. The overhead rate was calculated by the District by dividing the total of all overhead cost categories by the total budgeted salaries and benefits for FY 2024-25. This yielded an overhead rate of 22.45%.

Figure 4-1. Fully Burdened Hourly Rates

Position Title	Annual Salaries & Benefits	Overhead Rate	Hours	Fully Burdened Hourly Rate
a	b	c	d	e= b*(1+c)/d
Administrative Services Manager	$193,085	22.45%	2,080	$113.67
Inspector	$191,475	22.45%	2,080	$112.73
District Manager	$370,049	22.45%	2,080	$217.86

To calculate the proposed fees for each service, the District provided the estimates of time spent by each staff position to provide the requested service, as well as the material costs for each fee. **Figure 4-2** summarizes the proposed fee, by service, based on these calculations.

Figure 4-2. Calculation of Proposed Miscellaneous User Fees

Miscellaneous User Fees	District Manager Hours $217.86 /hour	Administrative Services Manager Hours $113.67 /hour	Inspector Hours $112.73 /hour	Total Personnel Cost	Equipment Cost	Total Fee	Current Fee
Permit Administrative Fee	$0.00	$56.84	$0.00	$56.84	$0.00	$56.84	$50.00
Sewer Inspection Fee - Each Occurrence							
Single Family Residence	$54.46	$0.00	$112.73	$167.19	$10.00	$177.19	$50.00
All Others (per 100 lineal feet)[1]	$54.46	$0.00	$112.73	$167.19	$10.00	$177.19	$50.00
Public Sewer Construction Permit (per 100 lineal feet)	$54.46	$186.00	$0.00	$240.46	$0.00	$240.46	$50.00
Additional Trip Fee (if applicant not ready for inspection)	$0.00	$0.00	$56.36	$56.36	$0.00	$56.36	$50.00

[1]Note: Current fee has a $100 minimum. No minimum is included in the proposed fee.

FEE COMPARISON

Figure 4-3, on the following page, summarizes the existing fee versus the proposed fee for each service. The proposed fee was rounded up to the nearest whole dollar amount from **Figure 4-2**.

Figure 4-3. Summary of Miscellaneous User Fees

Miscellaneous User Fees	Current Fee	Proposed Fee	$ Change
Permit Administrative Fee	$50.00	$57.00	$7.00
Sewer Inspection Fee - Each Occurrence			
Single Family Residence[1]	$50.00	$178.00	$128.00
All Others (per 100 lineal feet)[2]	$50.00	$178.00	$128.00
Public Sewer Construction Permit (per 100 lineal feet)	$50.00	$241.00	$191.00
Additional Trip Fee (if applicant not ready for inspection)	$50.00	$57.00	$7.00

[1]Residential inspections for single-family dwellings have a current fee of $50 per residential building sewer installation. The proposed fee would be $178.00 per residential building inspection.

[2]Applies to Commercial, Industrial, Church, School, Multiple Dwelling, Public, and Other Users, per 3.05.690 (2). Commercial inspection fees are charged based on a rate of $50 per 100 lineal feet of sewer line installed, with a minimum inspection fee of $100. Inspections spanning greater than 100 lineal feet are charged at a current rate of $50.00 per 100 lineal feet. The proposed fee would be $178.00 per 100 lineal feet of sewer line installed for Commercial customers and would be pro-rated.

APPENDIX A

FIXED ASSET LIST

DESCRIPTION	ACQUIRED	COST	Asset Category	LIFE	Accumulated Dep	Annual Depr.	Book Value	Current Age	ENR CCI Index	ENR CCI Ratio	RCN	Useful Life	RCNLD
Plant K1-3,5-25,30,32	Various	$241,910	Plant Structures	50	241,910	4,838	-						
Plant K1-3,5-25,30,32	6/30/1984	$5,587,914	Plant Structures	50	4,417,667	111,758	1,170,247	40	5049.13	3.07	$17,170,579	10	$3,595,943
Plant & structures	6/30/1985	$386,174	Plant Structures	50	297,576	7,723	88,598	39	5055.04	3.07	$1,185,251	11	$271,926
Plant & structures	6/30/1986	$378,959	Plant Structures	50	284,437	7,579	94,522	38	5508.43	2.82	$1,067,373	12	$266,229
Plant & structures, storerm	6/30/1991	$13,745	Plant Structures	50	8,941	275	4,804	33	6222.06	2.49	$34,274	17	$11,978
Plant & structures	6/30/1992	$140,048	Plant Structures	50	88,295	2,801	51,753	32	6294.84	2.46	$345,179	18	$127,555
Plant & structures	6/30/1993	$91,060	Plant Structures	50	55,589	1,821	35,471	31	6477.95	2.40	$218,093	19	$84,955
Plant & structures	6/30/1994	$588,452	Plant Structures	50	347,461	11,769	240,991	30	6530.35	2.38	$1,398,062	20	$572,554
Shop improve	4/30/1997	$7,961	Plant Structures	50	4,249	159	3,712	27	6731.08	2.30	$18,350	23	$8,556
Misc improve	6/30/1997	$32,119	Plant Structures	50	17,036	642	15,083	27	6731.08	2.30	$74,034	23	$34,765
Cap impr,office,fac.expans	6/30/1998	$148,617	Plant Structures	50	75,856	2,972	72,761	26	6845.59	2.27	$336,829	24	$164,908
Oper bldg design	11/30/1999	$20,192	Plant Structures	50	9,733	404	10,459	24	6816.7	2.28	$45,958	26	$23,805
Concrete wall	1/31/2000	$16,650	Plant Structures	50	7,969	333	8,681	24	7447.99	2.08	$34,684	26	$18,083
Interior partitions, gates	4/30/2000	$3,406	Unadjusted	20	3,406	170	-	24	7447.99	2.08	$0	0	$0
Polymer feed system	1/30/2004	$11,522	Unadjusted	15	11,522	768	-	20	8228.39	1.89	$0	0	$0
Flagpole	7/27/2004	$3,676	Unadjusted	20	3,573	184	103	19	8228.39	1.89	$6,931	1	$194
Dewater bldg roof	5/13/2005	$10,340	Unadjusted	25	7,712	414	2,628	19	8462.45	1.83	$18,957	6	$4,818
Guide rails	7/30/2007	$9,859	Unadjusted	15	9,859	657	-	16	9131.81	1.70	$16,751	0	$0
Plant Piping	6/30/1984	$2,185,278	Plant Structures	50	1,727,627	43,706	457,651	40	5049.13	3.07	$6,714,937	10	$1,406,273
R/C gas line	7/1/1998	$3,612	Mechanical - Plant	30	3,072	120	540	26	6845.59	2.27	$8,186	4	$1,223
Main Plant Rehab Project - C/O, Digest Cover	3/31/2014	$614,647	Plant Structures	50	119,966	12,293	494,682	10	10915.84	1.42	$873,616	40	$703,105
Anaerobic Digesters: 3 Way Actuated Temp Cont Vlv	8/20/13	$118,668	Mechanical - Plant	30	41,019	3,956	77,649	10	10898.84	1.42	$168,929	20	$110,536
Anaerobic Digesters: Spiral Heat Exchangers (2)	8/20/13	$316,192	Mechanical - Plant	30	109,295	10,540	206,896	10	10898.84	1.42	$450,113	20	$294,526
Anaerobic Digesters: Digester Appurtenances (1)	8/22/13	$82,088	Mechanical - Plant	30	28,360	2,736	53,728	10	10898.84	1.42	$116,856	20	$76,485
Anaerobic Digesters: Recessed Impeller Pumps (4)	8/22/13	$467,426	Mechanical - Plant	30	161,486	15,581	305,940	10	10898.84	1.42	$665,402	20	$435,519
Thickening: Polymer Blending Equipment (2)	10/15/13	$198,698	Mechanical - Plant	30	67,666	6,623	131,032	10	10898.84	1.42	$282,856	20	$186,530
Thickening: Rotary Drum Thickener (1)	10/15/13	$440,372	Mechanical - Plant	30	149,968	14,679	290,404	10	10898.84	1.42	$626,889	20	$413,403
Blower Room: Duplex Air Compressor	10/17/13	$44,916	Mechanical - Plant	30	15,288	1,497	29,628	10	10898.84	1.42	$63,941	20	$42,177
Dewatering (Screwpress): Plug Valves (1)	10/17/13	$28,219	Mechanical - Plant	30	9,605	941	18,614	10	10898.84	1.42	$40,170	20	$26,498
Dewatering (Screwpress): Progressing Cavity Pumps (1)	10/17/13	$129,614	Mechanical - Plant	30	44,116	4,320	85,498	10	10898.84	1.42	$184,512	20	$121,710
Dewatering (Screwpress): Swing Check Valves (1)	10/17/13	$16,645	Mechanical - Plant	30	5,665	555	10,979	10	10898.84	1.42	$23,694	20	$15,630
Thickening: Plug Valves (2)	10/17/13	$61,250	Mechanical - Plant	30	20,847	2,042	40,403	10	10898.84	1.42	$87,192	20	$57,515
Thickening: Progressing Cavity Pumps (2)	10/17/13	$281,336	Mechanical - Plant	30	95,757	9,378	185,579	10	10898.84	1.42	$400,494	20	$264,180
Thickening: Swing Check Valves (2)	10/17/13	$36,128	Mechanical - Plant	30	12,297	1,204	23,831	10	10898.84	1.42	$51,430	20	$33,925
Aeration Basins: Membrane Disk Fine Bubble Aeration System	10/18/13	$120,268	Mechanical - Plant	30	40,924	4,009	79,344	10	10898.84	1.42	$171,207	20	$112,950
Blower Room: High Speed Turbo Blowers (3)	10/18/13	$735,682	Mechanical - Plant	30	250,334	24,523	485,349	10	10898.84	1.42	$1,047,278	20	$690,916
Secondary Clarifiers: Sludge Collection Equipment-Clarifiers (2)	10/31/13	$633,608	Mechanical - Plant	30	214,848	21,120	418,760	10	10898.84	1.42	$901,971	20	$596,124
Headworks: Submersible Sample Pumps (1)	11/5/13	$33,732	Mechanical - Plant	30	11,423	1,124	22,309	10	10898.84	1.42	$48,019	20	$31,759
Headworks: Open Channel Grinder (3)	11/7/13	$295,925	Mechanical - Plant	30	100,155	9,864	195,770	10	10898.84	1.42	$421,263	20	$278,687
Headworks: Open Channel Grinder Control Panels (3)	11/7/13	$150,818	Mechanical - Plant	30	51,044	5,027	99,774	10	10898.84	1.42	$214,696	20	$142,033
Dry Weather Primary: Sludge Collection Equipment (1)	11/13/13	$590,001	Mechanical - Plant	30	199,361	19,667	390,640	10	10898.84	1.42	$839,893	20	$556,094
Wet Weather Primary: Butterfly Valves (3)	11/13/13	$280,442	Mechanical - Plant	30	94,761	9,348	185,681	10	10898.84	1.42	$399,222	20	$264,325
Wet Weather Primary: Sludge Collection Equipment (1)	11/13/13	$1,132,399	Mechanical - Plant	30	382,637	37,747	749,762	10	10898.84	1.42	$1,612,022	20	$1,067,321
Aeration Basins: Slide Gates (3)	11/14/13	$159,579	Mechanical - Plant	30	53,907	5,319	105,672	10	10898.84	1.42	$227,168	20	$150,428
Headworks: Slide Gates (2)	11/14/13	$172,485	Mechanical - Plant	30	58,267	5,750	114,218	10	10898.84	1.42	$245,540	20	$162,595
Chlorine Contact Basin: Vertical Turbine Pumps (2)	11/19/13	$251,946	Mechanical - Plant	30	84,995	8,398	166,952	10	10898.84	1.42	$358,657	20	$237,664
Return and Waste Activated sludge systems: Horiz.Centrifugal, Nc	11/20/13	$494,961	Mechanical - Plant	30	166,931	16,499	328,030	10	10898.84	1.42	$704,600	20	$466,966
Chlorine Contact Basin: Chemical Induction Units (2)	11/25/13	$197,396	Treatment/Collection	30	66,484	6,580	130,912	10	10898.84	1.42	$281,002	20	$186,360
Chemical Room: Hypo Chemical Tanks (2)	11/26/13	$169,755	Treatment/Collection	30	57,158	5,658	112,596	10	10898.84	1.42	$241,654	20	$160,286
Chemical Room: Magnetic Drive Gear Pumps (12)	11/26/13	$784,409	Mechanical - Plant	30	264,120	26,147	520,289	10	10898.84	1.42	$1,116,642	20	$740,655
Chemical Room: SBS Chemical Tanks (2)	11/26/13	$169,755	Mechanical - Plant	30	57,158	5,658	112,596	10	10898.84	1.42	$241,654	20	$160,286
Chlorine Contact Basin: Cent.Close-Coupled End Suction Pumps (5	12/13/13	$168,133	Mechanical - Plant	30	56,351	5,604	111,782	10	10898.84	1.42	$239,345	20	$159,126
Main Plant Office/ADA Access Project	9/30/2014	$461,556	Plant Structures	50	85,457	9,231	376,099	9	10915.84	1.42	$656,023	41	$534,560
Main Plant, Restroom Remodel	6/30/2015	$33,454	Unadjusted	20	14,234	1,673	19,220	9	11155.41	1.39	$46,528	11	$26,731
Dewatering Feed Pump	3/5/2015	$10,063	Mechanical - Plant	30	2,962	335	7,101	9	11155.41	1.39	$13,996	21	$9,876
Sludge Box	12/10/2015	$13,621	Mechanical - Plant	30	3,661	454	9,960	8	11155.41	1.39	$18,944	22	$13,853
RAS Cover	4/14/2016	$26,745	Mechanical - Plant	30	6,880	891	19,864	8	11609.44	1.34	$35,742	22	$26,547
Wheel shaft	3/10/2016	$10,481	Mechanical - Plant	30	2,730	349	7,751	8	11609.44	1.34	$14,007	22	$10,359
Infl Dry Weather Pump	12/8/2016	$32,164	Mechanical - Plant	30	7,575	1,072	24,589	7	11609.44	1.34	$42,984	23	$32,860
Inflow West Wather Pump	12/8/2016	$56,928	Mechanical - Plant	30	13,408	1,898	43,520	7	11609.44	1.34	$76,079	23	$58,160
Sodiuam HydoCl Feed Pump	3/14/2017	$8,643	Mechanical - Plant	30	1,960	288	6,683	7	12014.72	1.29	$11,162	23	$8,631
Headworks: Grinder Parts	9/12/2017	$33,817	Mechanical - Plant	30	7,106	1,127	26,711	6	12014.72	1.29	$43,669	24	$34,493
LED Lighting updgrade	6/30/2018	$25,066	Unadjusted	15	9,202	1,671	15,864	6	12115.37	1.28	$32,100	9	$20,315
LED Lighting updgrade	12/15/2018	$25,571	Unadjusted	15	8,603	1,705	16,968	5	12115.37	1.28	$32,747	10	$21,730
MP Boiler replacement	4/11/2019	$5,551	Mechanical - Plant	30	874	185	4,676	5	12764.52	1.22	$6,747	25	$5,684
Scrow Press Blend Redundancy	1/15/2019	$15,734	Mechanical - Plant	30	2,602	524	13,132	5	12764.52	1.22	$19,124	25	$15,961
Headworks Grinder replacement	4/1/2019	$18,830	Mechanical - Plant	30	2,984	628	15,846	5	12764.52	1.22	$22,887	25	$19,261
Lateral Camera	9/20/2018	$13,456	Unadjusted	15	4,739	897	8,718	5	12115.37	1.28	$17,232	10	$11,164
Headworks Grinder replacement	9/12/2019	$19,588	Mechanical - Plant	30	2,810	653	16,778	4	12764.52	1.22	$23,809	26	$20,393
Flare	6/8/2021	$10,596	Unadjusted	10	2,717	1,060	7,879	3	14228.24	1.09	$11,554	7	$8,591
ScrewPress PolyBlend Redundancy	6/8/2021	$16,915	Unadjusted	10	4,338	1,691	12,577	3	14228.24	1.09	$18,444	7	$13,714
Headworks Grinder	2/1/2021	$23,487	Mechanical - Plant	30	2,280	783	21,207	3	14228.24	1.09	$25,611	27	$23,125

DESCRIPTION	ACQUIRED	COST	Asset Category	LIFE	Accumulated Dep	Annual Depr.	Book Value	Current Age	ENR CCI Index	ENR CCI Ratio	RCN	Useful Life	RCNLD
Flooring in office	6/8/2021	$15,172	Unadjusted	10	3,891	1,517	11,282	3	14228.24	1.09	$16,544	7	$12,302
C12 Flash Mixer	4/13/2021	$12,161	Treatment/Collection	30	1,102	405	11,059	3	14228.24	1.09	$13,261	27	$12,059
SCADA upgrade	4/4/2021	$18,850	Unadjusted	10	5,170	1,885	13,680	3	14228.24	1.09	$20,555	7	$14,918
Chemical Room Load-Out Effluent Spiral Filter	7/31/2021	$25,545	Unadjusted	10	6,180	2,555	19,365	2	14228.24	1.09	$27,855	8	$21,117
9202 · M.P. Drainage - Other	CIP	$50,000	Unadjusted	10	-	5,000	50,000					0	
35HP Pump @ Dry Weather Pump	11/30/2021	$40,927	Mechanical - Plant	30	2,844	1,364	38,083	2	14228.24	1.09	$44,628	28	$41,527
M.P. Chem Feed Trx Pump Rplcmnt	1/31/2022	$34,831	Mechanical - Plant	30	2,223	1,161	32,607	2	14977.94	1.04	$36,080	28	$33,776
Cl2 Flash Mixer	11/30/2021	$8,582	Treatment/Collection	30	596	286	7,986	2	14228.24	1.09	$9,358	28	$8,708
Repair & Replace Dry Weather Clarifier #2	4/1/2022	$26,558	Mechanical - Plant	30	1,550	885	25,008	2	14977.94	1.04	$27,510	28	$25,905
Ginder	6/15/2023		Unadjusted	10	708	1,298	12,270	1	15515	1.00	$12,978	9	$12,270
Wet Well	11/15/2022		Treatment/Collection	30	1,952	1,733	50,048	1	14977.94	1.04	$53,865	29	$51,843
Treatment collection K4	6/30/1984	$686,628	Treatment/Collection	30	686,628	22,888	-	40	5049.13	3.07	$2,109,875	0	$0
Treatment & collection	6/30/1985	$12,660	Treatment/Collection	30	12,660	422	-	39	5055.04	3.07	$38,856	0	$0
Treatment & collection	6/30/1991	$7,746	Treatment/Collection	30	7,746	258	-	33	6222.06	2.49	$19,315	0	$0
R/C digester rehab	6/30/1996	$42,698	Treatment/Collection	30	39,169	1,423	3,529	28	6629.61	2.34	$99,924	2	$8,259
Dry weather primary clarifier	6/30/2006	$719,201	Treatment/Collection	30	419,895	23,973	299,306	18	9108.66	1.70	$1,225,032	12	$509,815
Sludge box	4/12/2018	$15,442	Treatment/Collection	30	2,946	515	12,496	6	12115.37	1.28	$19,775	24	$16,002
Digester	3/1/2023		Treatment/Collection	30	6,792	8,128	237,035	1	15515	1.00	$243,826	29	$237,035
Digester No 2	7/1/1998	$189,395	Mechanical - Plant	30	161,098	6,313	28,297	26	6845.59	2.27	$429,249	4	$64,133
Digester No 2 cover repl	9/30/1999	$35,234	Mechanical - Plant	30	28,503	1,174	6,731	24	6816.7	2.28	$80,194	6	$15,321
R/C asset #23 digester	6/30/1997	$186,561	Mechanical - Plant	30	164,923	6,219	21,638	27	6731.08	2.30	$430,019	3	$49,874
Dry weather (influent) pump #1	11/26/2007	$23,185	Mechanical - Plant	30	12,448	773	10,737	16	9131.81	1.70	$39,391	14	$18,242
Screw press	6/30/2007	$461,703	Mechanical - Plant	30	254,169	15,390	207,534	17	9131.81	1.70	$784,436	13	$352,602
Digester Cover No. 1 replacemt	3/31/2009	$658,445	Mechanical - Plant	30	323,991	21,948	334,454	15	9722.17	1.60	$1,050,771	15	$533,734
Dry weather influent pump #2 rebuild	9/24/2009	$17,834	Mechanical - Plant	30	8,487	594	9,347	14	9722.17	1.60	$28,460	16	$14,916
Dry Weather Primary: Plug Valves (4)	7/1/13	$32,940	Mechanical - Plant	30	11,536	1,098	21,403	11	10898.84	1.42	$46,891	19	$30,469
Dry Weather Primary: Progressing Cavity Pumps (4)	7/1/13	$151,300	Mechanical - Plant	30	52,989	5,043	98,310	11	10898.84	1.42	$215,382	19	$139,949
Dry Weather Primary: Swing Check Valves (4)	7/1/13	$19,429	Mechanical - Plant	30	6,805	648	12,625	11	10898.84	1.42	$27,659	19	$17,972
Wet Weather Primary: Progressing Cavity Pumps (1)	7/1/13	$59,401	Mechanical - Plant	30	20,804	1,980	38,597	11	10898.84	1.42	$84,560	19	$54,945
Wet Weather Primary: Swing Check Valves (1)	7/1/13	$7,628	Mechanical - Plant	30	2,672	254	4,956	11	10898.84	1.42	$10,859	19	$7,056
Wet Weather Primary: Plug Valves (1)	7/1/13	$12,932	Mechanical - Plant	30	4,529	431	8,403	11	10898.84	1.42	$18,410	19	$11,962
Dewatering (Screwpress): Inline Grinder	7/1/13	$24,088	Mechanical - Plant	30	8,436	803	15,652	11	10898.84	1.42	$34,291	19	$22,281
Dry weather primary - progressing cavity pumps (4)	5/7/2013	$511,483	Mechanical - Plant	30	181,705	17,049	329,778	11	10898.84	1.42	$728,120	19	$469,455
Dry weather primary - swing check valves (4)	5/7/2013	$65,683	Mechanical - Plant	30	23,334	2,189	42,349	11	10898.84	1.42	$93,503	19	$60,286
Dry weather primary - plug valves (4)	5/7/2013	$111,356	Mechanical - Plant	30	39,559	3,712	71,797	11	10898.84	1.42	$158,521	19	$102,206
Wet weather primary - progressing cavity pump (1)	5/7/2013	$200,387	Mechanical - Plant	30	71,188	6,680	129,199	11	10898.84	1.42	$285,260	19	$183,921
Wet weather primary - swing check valve (1)	5/7/2013	$25,733	Mechanical - Plant	30	9,142	858	16,591	11	10898.84	1.42	$36,632	19	$23,618
Wet weather primary - plug valve (1)	5/7/2013	$43,627	Mechanical - Plant	30	15,498	1,454	28,128	11	10898.84	1.42	$62,104	19	$40,042
Chlorine contact mixer	10/31/2007	$10,888	Treatment/Collection	30	5,872	363	5,016	16	9131.81	1.70	$18,499	14	$8,523
Main plant load bank	7/1/1998	$19,844	Unadjusted	25	19,844	794	-	26	6845.59	2.27	$44,975	0	$0
MPR Elecrtrical Equipment	11/7/2013	$711,823	Mechanical - Plant	30	240,915	23,727	470,909	10	10898.84	1.42	$1,013,313	20	$670,360
MPR Instrumentation/SCADA /PLC Equipment	12/4/2013	$1,294,224	Mechanical - Plant	30	434,836	43,141	859,389	10	10898.84	1.42	$1,842,388	20	$1,223,379
Air scrubber	6/30/1997	$20,029	Odor Control	25	20,029	801	-	27	6731.08	2.30	$46,166	0	$0
Tank covers	6/30/1997	$49,113	Odor Control	25	49,113	1,965	-	27	6731.08	2.30	$113,204	0	$0
Eq guard,exhaust duct	6/30/1992	$13,568	Odor Control	25	13,568	543	-	32	6294.84	2.46	$33,441	0	$0
Odor control	6/30/1996	$219,693	Odor Control	25	219,693	8,788	-	28	6629.61	2.34	$514,138	0	$0
Odor control	6/30/1997	$78,491	Odor Control	25	78,491	3,140	-	27	6731.08	2.30	$180,920	0	$0
Odor control	6/30/1998	$18,675	Odor Control	25	18,675	747	-	26	6845.59	2.27	$42,325	0	$0
Odor cont. scrubber/survey cge	7/1/1998	$110,500	Odor Control	25	110,500	4,420	-	26	6845.59	2.27	$250,440	0	$0
Air scrubber cap repl	11/30/1999	$6,801	Odor Control	25	6,557	272	244	24	6816.7	2.28	$15,479	1	$556
Odor control ward tech	1/14/2002	$12,811	Odor Control	25	11,261	512	1,550	22	7644.46	2.03	$26,001	3	$3,146
Foul air scrubber	4/30/2005	$16,020	Odor Control	25	11,972	641	4,048	19	8462.45	1.83	$29,371	6	$7,422
Foul air scrubber recirc pumps	11/26/2007	$10,830	Odor Control	25	6,977	433	3,853	16	9131.81	1.70	$18,400	9	$6,545
Headworks sulfide analyzer	10/5/2009	$7,419	Odor Control	25	4,228	297	3,191	14	9722.17	1.60	$11,840	11	$5,093
Seal Barrier Fluid Tank System	1/13/2014	$15,870	Odor Control	25	6,329	635	9,541	10	10915.84	1.42	$22,556	15	$13,561
Expans. Def. mt	9/30/1999	$800	Unadjusted	10	800	80	-	24	6816.7	2.28	$1,821	0	$0
PVC dplx basket strainer	11/21/1906	$2,517	Unadjusted	10	2,517	252	-	117	119.2303314	130.13	$327,528	0	$0
Waste gas burner	4/30/2000	$1,339	Unadjusted	10	1,339	134	-	24	7447.99	2.08	$2,789	0	$0
Rollup doors	9/24/2001	$11,800	Unadjusted	10	11,800	1,180	-	22	7399.07	2.10	$0	0	$0
Paint clarifier, cons. Fabricator,ITT	1/31/2003	$44,947	Unadjusted	10	44,947	4,495	-	21	7788.8	1.99	$89,533	0	$0
Linscott eng	5/31/2003	$6,496	Unadjusted	10	6,496	650	-	21	7788.8	1.99	$12,940	0	$0
Grinder Motor	2/3/2014	$7,086	Unadjusted	10	7,024	709	62	10	10915.84	1.42	$10,072	0	$88
	6/14/2018	$62,855	Unadjusted	10	34,889	6,286	27,966	6	12115.37	1.28	$80,492	4	$35,814
3 Flyght Pumps	7/19/2019	$52,248	Unadjusted	10	23,275	5,225	28,973	4	12764.52	1.22	$63,506	6	$35,216
Paradise Cove paving	6/30/1998	$27,231	Unadjusted	10	27,231	2,723	-	26	6845.59	2.27	$0	0	$0
Fence	7/1/1985	$1,398	Unadjusted	10	1,398	140	-	39	5055.04	3.07	$4,291	0	$0
Fence	6/30/1997	$697	Unadjusted	10	697	70	-	27	6731.08	2.30	$1,607	0	$0
Paving Paradise Cove	12/1/1997	$22,033	Unadjusted	10	22,033	2,203	-	26	6731.08	2.30	$50,786	0	$0
Ken Grady	2/15/2002	$8,714	Unadjusted	10	8,714	871	-	22	7644.46	2.03	$17,686	0	$0
Para cove WIP from 07-08	3/17/2009	$126,911	Plant Structures	50	37,566	2,538	89,345	15	9722.17	1.60	$202,529	35	$142,581
Paradise Cove Treat Plant-NEW	3/17/2009	$1,719,619	Plant Structures	50	509,007	34,392	1,210,612	15	9722.17	1.60	$2,744,232	35	$1,931,939
Paradise cove - Generator Replacement	10/13/2016	$62,223	Mechanical - Plant	30	14,973	2,074	47,250	7	11609.44	1.34	$83,155	23	$63,145

DESCRIPTION	ACQUIRED	COST	Asset Category	LIFE	Accumulated Dep	Annual Depr.	Book Value	Current Age	ENR CCI Index	ENR CCI Ratio	RCN	Useful Life	RCNLD
Paradise cove - Outfall	12/10/2015	$11,827	Sewer Lines	75	1,271	158	10,556	8	11155.41	1.39	$16,449	67	$14,681
Lateral Camera	9/20/2018	$294	Unadjusted	15	104	20	191	5	12115.37	1.28	$377	10	$244
Infl Access Replcmnt	11/20/2020	$26,547	Unadjusted	10	8,262	2,655	18,285	3	13168.76	1.18	$31,277	7	$21,542
Flow Meter Replacement	9/4/2020	$19,502	Unadjusted	10	6,481	1,950	13,021	3	13168.76	1.18	$22,976	7	$15,341
Cellular P.C.+Seafirth Stations	1/31/2022	$37,817	Unadjusted	10	7,242	3,782	30,575	2	14977.94	1.04	$39,173	8	$31,671
Stairclimbing forklift	5/31/2000	$2,859	Unadjusted	10	2,859	286	-	24	7447.99	2.08	$5,956	0	$0
Mig welder	2/15/2006	$1,333	Unadjusted	7	1,333	190	-	18	9108.66	1.70	$2,271	0	$0
Forklift	11/30/2006	$14,002	Unadjusted	10	14,002	1,400	-	17	9108.66	1.70	$23,850	0	$0
Refrigerated lab sampler	1/25/2010	$5,425	Unadjusted	5	5,425	1,085	-	14	10120.29	1.53	$8,317	0	$0
05 Chev Utility truck	11/15/2005	$25,140	Unadjusted	7	25,140	3,591	-	18	8462.45	1.83	$0	0	$0
07 Emergency trailer	5/31/2007	$5,000	Unadjusted	12	5,000	417	-	17	9131.81	1.70	$8,495	0	$0
2011 Chevy Truck Silv 1500	2/23/2011	$23,013	Unadjusted	7	23,013	3,288	-	13	10204.79	1.52	$34,988	0	$0
Rodder Truck (OK Champion Rodder mounted on 2011 Ford F550)	6/30/2011	$165,078	Unadjusted	12	165,078	13,757	-	13	10204.79	1.52	$250,979	0	$0
2013 Ford F-250 4x4 PU (VIN #-46371)	7/31/2013	$29,312	Unadjusted	7	29,312	4,187	-	10	10898.84	1.42	$41,727	0	$0
2012 4wd Diesel Chevy Silverado (Boom Truck)	3/10/2016	$44,044	Unadjusted	10	34,415	4,404	9,629	8	11609.44	1.34	$58,861	2	$12,869
2015 Golf TDI	7/20/2017	$21,785	Unadjusted	7	20,080	3,112	1,705	6	12014.72	1.29	$28,132	1	$2,202
2020 Vactor Truck 2103 PD (VIN#1FVAHCFE6LMG3509)	7/9/2020	$318,036	Unadjusted	10	110,659	31,804	207,377	3	13168.76	1.18	$374,700	7	$244,325
Office eqpt various	1990's	$1,096	Unadjusted	7	-	157	-					0	
Lab equipment	12/31/1995	$6,119	Unadjusted	5	6,119	1,224	-	28	6558.16	2.37	$14,476	0	$0
Duct work sheet vent covers	1/31/2000	$1,759	Unadjusted	7	1,759	251	-	24	7447.99	2.08	$3,664	0	$0
Air cleaner & microhood	3/31/2000	$732	Unadjusted	7	732	105	-	24	7447.99	2.08	$1,525	0	$0
Frames crafters	3/15/2006	$2,436	Unadjusted	7	2,436	348	-	18	9108.66	1.70	$4,149	0	$0
Elec doc mgmt system	6/30/2010	$8,171	Unadjusted	5	8,171	1,634	-	14	10120.29	1.53	$12,527	0	$0
Multi-purpose copier - Konica bizhub C280	5/11/2012	$6,266	Unadjusted	5	6,266	1,253	-	12	10355.09	1.50	$9,388	0	$0
Office furniture (2 desks, 2 chairs, 2 filing cabinets)	7/1/2012	$4,188	Unadjusted	7	4,188	598	-	12	10355.09	1.50	$6,275	0	$0
Server	6/30/2018	$21,023	Unadjusted	7	16,539	3,003	4,484	6	12115.37	1.28	$26,922	1	$5,743
2nd Server	4/4/2021	$5,324	Unadjusted	5	2,920	1,065	2,404	3	14228.24	1.09	$5,805	2	$2,621
1952 6" Lines	1/1/1952	$526,236	Sewer Lines	75	505,513	7,016	20,723	72	699.4026657	22.18	$11,673,607	3	$459,695
1960 6" Lines	1/1/1960	$177,920	Sewer Lines	75	151,923	2,372	25,997	64	1012.843228	15.32	$2,725,426	11	$398,236
1961 6" Lines	1/1/1961	$78,393	Sewer Lines	75	65,890	1,045	12,503	63	1041.114337	14.90	$1,168,236	12	$186,320
1962 6" Lines	1/1/1962	$1,060,792	Sewer Lines	75	877,464	14,144	183,328	62	1071.843804	14.48	$15,355,025	13	$2,653,685
1967 6" Lines	1/1/1967	$59,976	Sewer Lines	75	45,610	800	14,366	57	1320.137896	11.75	$704,872	18	$168,834
1970 6" Lines	1/1/1970	$34,314	Sewer Lines	75	24,721	458	9,593	54	1697.495749	9.14	$313,628	21	$87,678
1972 6" Lines	1/1/1972	$296,088	Sewer Lines	75	205,417	3,948	90,671	52	2154.750216	7.20	$2,131,943	23	$652,861
1979 6" Lines`	1/1/1979	$13,142	Sewer Lines	75	7,890	175	5,252	45	3806.14	4.08	$53,571	30	$21,409
1986 6" Lines	1/1/1986	$317,983	Sewer Lines	75	161,204	4,240	156,779	38	5508.43	2.82	$895,628	37	$441,582
2000 6" Lines	1/1/2000	$119,925	Sewer Lines	75	38,398	1,599	81,527	24	7447.99	2.08	$249,817	51	$169,830
1960 8" Lines	1/1/1960	$68,471	Sewer Lines	75	58,466	913	10,005	64	1012.843228	15.32	$1,048,857	11	$153,258
1962 8" Lines	1/1/1962	$67,622	Sewer Lines	75	55,935	902	11,687	62	1071.843804	14.48	$978,832	13	$169,164
1962 10" Lines	1/1/1962	$27,635	Sewer Lines	75	22,859	368	4,776	62	1071.843804	14.48	$400,018	13	$69,132
1984 12" Lines	1/1/1984	$64,313	Sewer Lines	75	34,321	858	29,992	40	5049.13	3.07	$197,621	35	$92,158
1960 4" Lines	1/1/1960	$2,235	Sewer Lines	75	1,908	30	327	64	1012.843228	15.32	$34,236	11	$5,003
1970 4" Lines	1/1/1970	$6,992	Sewer Lines	75	5,037	93	1,955	54	1697.495749	9.14	$63,906	21	$17,866
SASM outfall	6/30/1985	$28,993	Sewer Lines	75	14,894	387	14,099	39	5055.04	3.07	$88,986	36	$43,272
Line upgrade	8/31/1994	$13,401	Sewer Lines	75	5,245	179	8,156	29	6530.35	2.38	$31,838	46	$19,378
Per audit	6/30/1995	$5,734	Sewer Lines	75	2,181	76	3,553	29	6558.16	2.37	$13,565	46	$8,406
Per audit	6/30/1994	$26,652	Sewer Lines	75	10,491	355	16,161	30	6530.35	2.38	$63,321	45	$38,395
Capital replacement	6/30/1997	$27,472	Sewer Lines	75	9,714	366	17,758	27	6731.08	2.30	$63,322	48	$40,931
Capital replacement	6/30/1998	$39,425	Sewer Lines	75	13,415	526	26,010	26	6845.59	2.27	$89,354	49	$58,949
Various	7/1/1998	$7,822	Sewer Lines	75	2,661	104	5,161	26	6845.59	2.27	$17,728	49	$11,696
Sewer replacement	7/1/1998	$46,215	Sewer Lines	75	15,724	616	30,491	26	6845.59	2.27	$104,743	49	$69,105
Professional serv legal	7/1/1998	$3,537	Sewer Lines	75	1,203	47	2,334	26	6845.59	2.27	$8,016	49	$5,289
Sewer replacement	6/30/1999	$2,087	Sewer Lines	75	682	28	1,405	25	6816.7	2.28	$4,750	50	$3,197
Legal Hanson B	7/31/1999	$1,350	Sewer Lines	75	440	18	910	24	6816.7	2.28	$3,073	51	$2,072
Cap repl upper main C	7/31/1999	$112,431	Sewer Lines	75	36,631	1,499	75,800	24	6816.7	2.28	$255,896	51	$172,523
Survey lower main	10/31/1999	$2,000	Sewer Lines	75	645	27	1,355	24	6816.7	2.28	$4,552	51	$3,084
Cap repl Main st	2/29/2000	$80,933	Sewer Lines	75	25,739	1,079	55,194	24	7447.99	2.08	$168,593	51	$114,975
Cap repl	4/30/2000	$6,193	Sewer Lines	75	1,956	83	4,237	24	7447.99	2.08	$12,901	51	$8,827
Linscott eng	6/15/2001	$14,770	Unadjusted	15	14,770	985	-	23	7399.07	2.10	$30,971	0	$0
Main st manhole Linscott	8/14/2001	$17,440	Manholes	75	5,207	233	12,233	22	7399.07	2.10	$36,570	53	$25,650
Talavera P & L software	9/15/2001	$13,615	Unadjusted	15	13,615	908	-	22	7399.07	2.10	$28,549	0	$0
Talavera P & L software	2/15/2002	$1,890	Unadjusted	15	1,890	126	-	22	7644.46	2.03	$3,836	0	$0
Talavera P & L software	7/31/2002	$5,490	Unadjusted	15	5,490	366	-	21	7644.46	2.03	$11,142	0	$0
Linscott eng	5/31/2003	$24,659	Unadjusted	15	24,659	1,644	-	21	7788.8	1.99	$49,120	0	$0
Manhole 105 & 106	9/30/2003	$7,992	Manholes	75	2,160	107	5,832	20	7788.8	1.99	$15,920	55	$11,618
Truck computer mapping	12/31/2006	$3,936	Unadjusted	15	3,936	262	-	17	9108.66	1.70	$6,704	0	$0
Sewer line rehab	2/6/2008	$133,379	Sewer Lines	75	28,293	1,778	105,086	16	9781.67	1.59	$211,556	59	$166,679
Mar East rehab	3/31/2005	$168,163	Sewer Lines	75	42,073	2,242	126,090	19	8462.45	1.83	$308,309	56	$231,173
Rehab Diviso, 2300 Par,Lyford	4/14/2009	$69,001	Sewer Lines	75	13,546	920	55,455	15	9722.17	1.60	$110,114	60	$88,498
Sewer line rehab (eng for CIPP lining)	6/30/2010	$5,370	Sewer Lines	75	967	72	4,403	14	10120.29	1.53	$8,233	61	$6,749
Sewer line rehab (CIPP lining)	10/5/2010	$20,116	Sewer Lines	75	3,553	268	16,563	13	10120.29	1.53	$30,839	62	$25,392
Install Manholes/Rodholes	5/26/2011	$23,733	Manholes	75	3,990	316	19,743	13	10204.79	1.52	$36,083	62	$30,017
Sewer line rehab - Owlswood	5/16/2012	$114,282	Sewer Lines	75	17,726	1,524	96,556	12	10355.09	1.50	$171,228	63	$144,670

DESCRIPTION	ACQUIRED	COST	Asset Category	LIFE	Accumulated Dep	Annual Depr.	Book Value	Current Age	ENR CCI Index	ENR CCI Ratio	RCN	Useful Life	RCNLD
Sewer main relocation - 97 Round Hill	1/26/2012	$7,293	Sewer Lines	75	1,161	97	6,132	12	10355.09	1.50	$10,927	63	$9,188
Sewer line rehab - Owlswood (bal due from FY 2011-12, not billed	2/16/2013	$361	Sewer Lines	75	52	5	309	11	10898.84	1.42	$514	64	$439
13-14 Sewer improvement project (Ridge Rd/Lyford)	7/15/2014	$256,007	Sewer Lines	75	32,320	3,413	223,687	9	10915.84	1.42	$363,870	66	$317,933
Lagoon View - line replacement	11/12/2014	$7,240	Sewer Lines	75	882	97	6,358	9	10915.84	1.42	$10,290	66	$9,036
Point Tiburon Assn Annexation	7/1/2015	$147,063	Sewer Lines	75	16,681	1,961	130,382	9	11155.41	1.39	$204,536	66	$181,337
Sewer line - Sphanish hilll, Ridge, Raccoon, Rolling Hills and Heath	6/30/2017	$120,306	Sewer Lines	75	10,438	1,604	109,869	7	12014.72	1.29	$155,355	68	$141,877
Sewer line - Between Marwest & Centro West, Ridge Rd, Spanish	12/21/2017	$423,272	Sewer Lines	75	34,032	5,644	389,240	6	12014.72	1.29	$546,585	69	$502,639
Tib PP#2: 6.8.18-6.30.18:	9/20/2018	$223,223	Sewer Lines	75	15,721	2,976	207,501	5	12115.37	1.28	$285,860	70	$265,727
Tiburon PP#3	2/14/2019	$84,088	Sewer Lines	75	5,471	1,121	78,617	5	12764.52	1.22	$102,207	70	$95,557
Tiburon PP#4	6/30/2019	$132,583	Sewer Lines	75	7,967	1,768	124,616	5	12764.52	1.22	$161,152	70	$151,468
Sewer Line	5/18/2020	$723,555	Sewer Lines	75	34,942	9,647	688,613	4	13168.76	1.18	$852,468	71	$811,301
6" Sewer Line Replacement @ Tiburon Lodge	12/31/2021	$89,785	Sewer Lines	75	2,394	1,197	87,391	2	14228.24	1.09	$97,905	73	$95,294
Sewer Line	3/15/2023		Sewer Lines	75	6,353	7,969	591,291	1	15515	1.00	$597,644	74	$591,291
Shaw pipeline	2/15/2004	$357,700	Sewer Lines	75	94,851	4,769	262,849	20	8228.39	1.89	$674,459	55	$495,614
Rabin line Paradise	8/10/2007	$100,000	Sewer Lines	75	21,870	1,333	78,130	16	9131.81	1.70	$169,901	59	$132,743
Para Dr Sewer Line Extension	1/23/2009	$225,000	Sewer Lines	75	44,836	3,000	180,164	15	9722.17	1.60	$359,063	60	$287,513
Seafirth sewer lines	2/4/2010	$334,994	Sewer Lines	75	62,141	4,467	272,853	14	10120.29	1.53	$513,566	61	$418,300
Paradise Drive	2/14/2019	$8,902	Sewer Lines	75	579	119	8,323	5	12764.52	1.22	$10,821	70	$10,117
PS 1 TIB	9/15/1999	$40,966	Pump Station Structures	50	19,917	819	21,049	24	6816.7	2.28	$93,240	26	$47,907
PS 2 TIB	1/15/1979	$54,977	Pump Station Structures	50	49,467	1,100	5,510	45	3806.14	4.08	$224,103	5	$22,459
PS 3 TIB	8/15/1980	$53,700	Pump Station Structures	50	46,617	1,074	7,083	43	4371.96	3.55	$190,568	7	$25,134
PS 4 TIB	8/15/1991	$22,500	Pump Station Structures	50	14,580	450	7,920	32	6222.06	2.49	$56,105	18	$19,749
PS 5 TIB	11/15/1983	$117,828	Pump Station Structures	50	94,624	2,357	23,204	40	5122.74	3.03	$356,860	10	$70,277
PS 6 TIB	1/15/1992	$29,977	Pump Station Structures	50	19,174	600	10,803	32	6294.84	2.46	$73,885	18	$26,627
PS 7 TIB	9/15/1991	$55,359	Pump Station Structures	50	35,779	1,107	19,580	32	6222.06	2.49	$138,040	18	$48,825
PS 8 TIB	1/15/1985	$22,000	Pump Station Structures	50	17,153	440	4,847	39	5055.04	3.07	$67,523	11	$14,877
PS 9 TIB	1/15/1985	$22,000	Pump Station Structures	50	17,153	440	4,847	39	5055.04	3.07	$67,523	11	$14,877
R/C EMERG BYPASS PUMP	7/1/1998	$5,886	Unadjusted	10	5,886	589	-	26	6845.59	2.27	$13,340	0	$0
R/C SAFETY NET / STA #2	7/1/1998	$8,030	Pump Station Structures	50	4,098	161	3,932	26	6845.59	2.27	$18,199	24	$8,911
HONDA GENERATOR AT STA.	12/31/1999	$5,198	Pump Stations - Electromechanic	30	4,161	173	1,037	24	6816.7	2.28	$11,831	6	$2,360
PUMP, INSPECT. SYSTEM	4/30/2000	$13,159	Pump Stations - Electromechanic	30	10,389	439	2,770	24	7447.99	2.08	$27,412	6	$5,770
PACO PUMPS	3/15/2001	$9,572	Pump Stations - Electromechanic	30	7,278	319	2,294	23	7399.07	2.10	$20,071	7	$4,810
NERVIANI PAVING	4/15/2001	$5,418	Pump Stations - Electromechanic	30	4,104	181	1,314	23	7399.07	2.10	$11,361	7	$2,755
PACO PUMPS	8/15/2001	$5,347	Pump Stations - Electromechanic	30	3,991	178	1,356	22	7399.07	2.10	$11,212	8	$2,843
STEWART & STEVENSON	2/28/2003	$5,986	Pump Stations - Electromechanic	30	4,161	200	1,825	21	7788.8	1.99	$11,924	9	$3,636
SHAPE PUMPS	11/30/2006	$4,488	Pump Stations - Electromechanic	30	2,558	150	1,930	17	9108.66	1.70	$7,645	13	$3,288
SHAPE PUMPS	6/30/2007	$4,567	Pump Stations - Electromechanic	30	2,514	152	2,053	17	9131.81	1.70	$7,759	13	$3,488
Wet Well Pump	9/20/2007	$2,086	Pump Stations - Electromechanic	30	1,133	70	953	16	9131.81	1.70	$3,544	14	$1,620
STA 4 UNDERGROUND	8/27/2007	$6,681	Pump Station Structures	50	2,186	134	4,495	16	9131.81	1.70	$11,351	34	$7,638
MOYNO PUMP REPL (3 moyno pumps, now spare parts)	4/3/2008	$11,507	Pump Stations - Electromechanic	30	6,042	384	5,465	16	9781.67	1.59	$18,252	14	$8,667
PUMP REPL	5/22/2008	$11,744	Pump Stations - Electromechanic	30	6,114	391	5,630	16	9781.67	1.59	$18,628	14	$8,929
REPL PUMP STA 3 GENER	1/28/2009	$29,254	Pump Stations - Electromechanic	30	14,560	975	14,694	15	9722.17	1.60	$46,685	15	$23,449
Seafith Pump Station #1	2/4/2010	$166,610	Pump Station Structures	50	46,359	3,332	120,251	14	10120.29	1.53	$255,423	36	$184,352
Seafith Pump Station #2	2/4/2010	$346,570	Pump Station Structures	50	96,432	6,931	250,138	14	10120.29	1.53	$531,312	36	$383,476
Replace flygt pump - Tib PS #3	2/24/2012	$5,605	Pump Stations - Electromechanic	30	2,215	187	3,390	12	10355.09	1.50	$8,398	18	$5,079
Bioxide tanks for odor control (Tib portion)	12/27/2012	$3,232	Unadjusted	7	3,232	462	-	11	10355.09	1.50	$4,842	0	$0
PS #1 flygt pump replacement (3 hp)	6/10/2013	$4,835	Unadjusted	10	4,835	483	-	11	10898.84	1.42	$6,883	0	$0
PS #2? flygt pump replacement (5 hp)	6/10/2013	$6,179	Unadjusted	10	6,179	618	-	11	10898.84	1.42	$8,796	0	$0
TIB PS #1&2 Control Panel Upgrade	4/15/2014	$29,946	Unadjusted	10	29,101	2,995	845	10	10915.84	1.42	$42,563	0	$1,201
TIB PS#2 - New generator (air permit)	12/10/2013	$28,551	Pump Stations - Electromechanic	30	9,577	952	18,974	10	10898.84	1.42	$40,644	20	$27,010
Mar West Tib PS#5 - Rehab	6/18/2016	$839,601	Pump Stations - Electromechanic	30	211,012	27,987	628,589	8	11609.44	1.34	$1,122,053	22	$840,054
MAR West Tib PS#1-4, Power Feed Project	3/11/2014	$226,731	Pump Stations - Electromechanic	30	74,169	7,558	152,562	10	10915.84	1.42	$322,259	20	$216,841
TPS#3 Control Panel Upgrade	4/7/2015	$30,066	Pump Stations - Electromechanic	30	8,759	1,002	21,307	9	11155.41	1.39	$41,816	21	$29,634
3HP Flygt Pumps, 5HP Fly GT Pumpts	5/10/2016	$13,424	Unadjusted	10	10,264	1,342	3,159	8	11609.44	1.34	$17,939	2	$4,222
Inv #I16-6784, TPS#8, Control Panel Upgrade, 9.14.16	9/14/2016	$14,191	Pump Stations - Electromechanic	30	3,452	473	10,738	7	11609.44	1.34	$18,965	23	$14,351
Inv #I16-6784, TPS#9, Control Panel Upgrade, 9.14.16	9/14/2016	$14,018	Pump Stations - Electromechanic	30	3,410	467	10,608	7	11609.44	1.34	$18,734	23	$14,176
Shape - 5-horse power Flygt Impellers, 3-horse power Flygt Impel	6/30/2017	$17,044	Pump Stations - Electromechanic	30	3,697	568	13,347	7	12014.72	1.29	$22,009	23	$17,236
Inv #0061553-IN, TPS#3 Radio Control Upgrade, 2.9.17	2/9/2017	$33,466	Pump Stations - Electromechanic	30	7,689	1,116	25,776	7	12014.72	1.29	$43,215	23	$33,286
TPS#5 - updgrade, Mar West Phase II	12/14/2017	$807,151	Pump Stations - Electromechanic	30	162,757	26,905	644,394	6	12014.72	1.29	$1,042,300	24	$832,127
Portable Emergency Generator	6/6/2018	$21,866	Pump Stations - Electromechanic	30	4,062	729	17,805	6	12115.37	1.28	$28,002	24	$22,801
Pump & Valve Replacement	6/6/2018	$30,466	Pump Stations - Electromechanic	30	5,659	1,016	24,807	6	12115.37	1.28	$39,015	24	$31,768
Control Panel Upgrade	4/12/2018	$36,122	Pump Stations - Electromechanic	30	6,891	1,204	29,231	6	12115.37	1.28	$46,258	24	$37,433
PS Genreated Replacement	4/12/2018	$47,352	Pump Stations - Electromechanic	30	9,034	1,578	38,319	6	12115.37	1.28	$60,640	24	$49,071
Communication Project	1/15/2019	$41,747	Unadjusted	10	20,713	4,175	21,034	5	12764.52	1.22	$50,743	5	$25,566
Generator Replacement	4/4/2021	$44,914	Pump Stations - Electromechanic	30	4,106	1,497	40,808	3	14228.24	1.09	$48,976	27	$44,499
Pump & Valve Replacement	4/15/2023		Pump Stations - Electromechanic	30	592	831	24,329	1	15515	1.00	$24,921	29	$24,329
PS #1	7/1/1980	$267,000	Pump Station Structures	50	232,444	5,340	34,556	44	4371.96	3.55	$947,517	6	$122,632
PS #10	7/1/1950	$22,000	Pump Station Structures	50	22,000	440	-	74	626.8811239	24.75	$544,489	0	$0
PS #11	7/1/1950	$23,000	Pump Station Structures	50	23,000	460	-	74	626.8811239	24.75	$569,239	0	$0
PS #12	7/1/1950	$24,000	Pump Station Structures	50	24,000	480	-	74	626.8811239	24.75	$593,988	0	$0
PS #13	7/1/1980	$26,200	Pump Station Structures	50	22,809	524	3,391	44	4371.96	3.55	$92,977	6	$12,034
PS #14	7/1/1950	$31,500	Pump Station Structures	50	31,500	630	-	74	626.8811239	24.75	$779,610	0	$0

DESCRIPTION	ACQUIRED	COST	Asset Category	LIFE	Accumulated Dep	Annual Depr.	Book Value	Current Age	ENR CCI Index	ENR CCI Ratio	RCN	Useful Life	RCNLD
PS #15	7/1/1980	$47,000	Pump Station Structures	50	40,917	940	6,083	44	4371.96	3.55	$166,791	6	$21,587
PS #2	7/1/1980	$123,500	Pump Station Structures	50	107,516	2,470	15,984	44	4371.96	3.55	$438,271	6	$56,723
PS #3	7/1/1950	$60,700	Pump Station Structures	50	60,700	1,214	-	74	626.8811239	24.75	$1,502,295	0	$0
PS #5	7/1/1980	$26,200	Pump Station Structures	50	22,809	524	3,391	44	4371.96	3.55	$92,977	6	$12,034
PS #7	7/1/1980	$32,600	Pump Station Structures	50	28,381	652	4,219	44	4371.96	3.55	$115,689	6	$14,973
PS #8	7/1/1980	$23,000	Pump Station Structures	50	20,023	460	2,977	44	4371.96	3.55	$81,621	6	$10,564
PS #9	7/1/1950	$36,700	Pump Station Structures	50	36,700	734	-	74	626.8811239	24.75	$908,307	0	$0
PS #10 Electric	2/28/2007	$3,316	Pump Stations - Electromechanic	30	1,862	111	1,454	17	9131.81	1.70	$5,634	13	$2,470
PS #3 Shape	6/30/2007	$7,985	Pump Stations - Electromechanic	30	4,396	266	3,589	17	9131.81	1.70	$13,567	13	$6,098
Bioxide tanks for odor control (Belv portion)	12/27/2012	$3,232	Unadjusted	7	3,232	462	-	11	10355.09	1.50	$4,842	0	$0
PS #13 valve vault cover - replace	3/6/2013	$8,047	Pump Stations - Electromechanic	30	2,904	268	5,143	11	10898.84	1.42	$11,455	19	$7,321
PS #14 valve vault cover - replace	3/6/2013	$8,047	Pump Stations - Electromechanic	30	2,904	268	5,143	11	10898.84	1.42	$11,455	19	$7,321
PS #15 new pump	9/10/2012	$4,800	Pump Stations - Electromechanic	30	1,810	160	2,990	11	10355.09	1.50	$7,191	19	$4,480
PS #5 flygt pump replacement (3 hp)	6/10/2013	$4,835	Unadjusted	10	4,835	483	-	11	10898.84	1.42	$6,883	0	$0
PS #1 flygt pump replacement (10 hp)	6/10/2013	$8,674	Unadjusted	10	8,674	867	-	11	10898.84	1.42	$12,348	0	$0
Valve Vault cover at 6 Edgeater Rd (Belv PS#12)	7/25/2013	$5,716	Pump Stations - Electromechanic	30	1,989	191	3,727	10	10898.84	1.42	$8,137	20	$5,305
Belv PS #13&14 Communication Board/Panel	12/10/2015	$35,201	Pump Stations - Electromechanic	30	9,461	1,173	25,740	8	11155.41	1.39	$48,958	22	$35,799
3HP Flygt Pumps, 5HP Fly GT Pumpts	5/10/2016	$13,424	Unadjusted	10	10,264	1,342	3,159	8	11609.44	1.34	$17,939	2	$4,222
Inv #I16-6784, BPS#3, Control Panel Upgrade, 9.14.16	9/14/2016	$15,221	Pump Stations - Electromechanic	30	3,703	507	11,518	7	11609.44	1.34	$20,342	23	$15,393
Inv #I16-6784, BPS#15, Control Panel Upgrade, 9.14.16	9/14/2016	$35,852	Pump Stations - Electromechanic	30	8,722	1,195	27,130	7	11609.44	1.34	$47,913	23	$36,256
Shape - 5-horse power Flygt Impellers, 3-horse power Flygt Impel	6/30/2017	$33,894	Unadjusted	10	22,054	3,389	11,840	7	12014.72	1.29	$43,769	3	$15,289
Portable Emergency Generator	6/6/2018	$12,596	Pump Stations - Electromechanic	30	2,340	420	10,256	6	12115.37	1.28	$16,130	24	$13,134
Pump & Valve Replacement	6/6/2018	$18,194	Pump Stations - Electromechanic	30	3,380	606	14,814	6	12115.37	1.28	$23,299	24	$18,971
Control Panel Upgrade	4/12/2018	$49,403	Pump Stations - Electromechanic	30	9,425	1,647	39,978	6	12115.37	1.28	$63,266	24	$51,196
Generator Replacement	1/11/2018	$12,932	Pump Stations - Electromechanic	30	2,575	431	10,357	6	12115.37	1.28	$16,561	24	$13,264
Control Panel Upgrade	11/13/2018	$60,248	Pump Stations - Electromechanic	30	10,311	2,008	49,937	5	12115.37	1.28	$77,154	25	$63,950
Communication Project	6/13/2019	$46,641	Unadjusted	10	21,237	4,664	25,403	5	12764.52	1.22	$56,691	5	$30,877
Generator Replacement	7/15/2019	$16,123	Pump Stations - Electromechanic	30	2,400	537	13,723	4	12764.52	1.22	$19,597	26	$16,680
Generator Replacement	4/4/2021	$45,104	Pump Stations - Electromechanic	30	4,123	1,503	40,981	3	14228.24	1.09	$49,183	27	$44,687
20HP Pump @ BPS#1	10/31/2021	$47,077	Pump Stations - Electromechanic	30	3,401	1,569	43,676	2	14228.24	1.09	$51,334	28	$47,626
Pump & Valve Replacement	4/15/2023		Pump Stations - Electromechanic	30	542	761	22,298	1	15515	1.00	$22,840	29	$22,298
Line #4	7/1/1950	$11,045	Sewer Lines	75	10,832	147	213	74	626.8811239	24.75	$273,358	1	$5,282
Line #6	7/1/1950	$249,477	Sewer Lines	75	244,656	3,326	4,821	74	626.8811239	24.75	$6,174,433	1	$119,316
Line #8	7/1/1950	$110,766	Sewer Lines	75	108,626	1,477	2,140	74	626.8811239	24.75	$2,741,404	1	$52,975
Line #10	7/1/1950	$7,261	Sewer Lines	75	7,121	97	140	74	626.8811239	24.75	$179,706	1	$3,473
Line #12	7/1/1950	$2,767	Sewer Lines	75	2,714	37	53	74	626.8811239	24.75	$68,482	1	$1,323
Line #15	7/1/1950	$400	Sewer Lines	75	392	5	8	74	626.8811239	24.75	$9,900	1	$191
Line #4	7/1/1952	$3,828	Sewer Lines	75	3,652	51	176	72	699.4026657	22.18	$84,917	3	$3,909
Line #6	7/1/1952	$195,196	Sewer Lines	75	186,212	2,603	8,984	72	699.4026657	22.18	$4,330,075	3	$199,302
Line #8	7/1/1952	$33,110	Sewer Lines	75	31,586	441	1,524	72	699.4026657	22.18	$734,486	3	$33,806
Line #15	7/1/1952	$3,220	Sewer Lines	75	3,072	43	148	72	699.4026657	22.18	$71,430	3	$3,288
Line #4	7/1/1955	$6,245	Sewer Lines	75	5,708	83	537	69	811.2579251	19.12	$119,433	6	$10,275
Line #6	7/1/1955	$80,779	Sewer Lines	75	73,830	1,077	6,949	69	811.2579251	19.12	$1,544,868	6	$132,901
Line #8	7/1/1955	$39,819	Sewer Lines	75	36,393	531	3,426	69	811.2579251	19.12	$761,523	6	$65,512
Line #8	7/1/1956	$27,295	Sewer Lines	75	24,582	364	2,713	68	850.5916427	18.24	$497,867	7	$49,487
Line #4	7/1/1957	$36,179	Sewer Lines	75	32,101	482	4,078	67	889.9253602	17.43	$630,746	8	$71,104
Line #6	7/1/1957	$14,454	Sewer Lines	75	12,825	193	1,629	67	889.9253602	17.43	$251,992	8	$28,407
Line #4	7/1/1958	$5,426	Sewer Lines	75	4,742	72	684	66	932.9466138	16.63	$90,235	9	$11,375
Line #6	7/1/1958	$46,283	Sewer Lines	75	40,448	617	5,835	66	932.9466138	16.63	$769,691	9	$97,030
Line #4	7/1/1959	$4,943	Sewer Lines	75	4,254	66	689	65	979.6554035	15.84	$78,283	10	$10,912
Line #6	7/1/1959	$58,055	Sewer Lines	75	49,962	774	8,093	65	979.6554035	15.84	$919,429	10	$128,166
Line #10	7/1/1959	$17,818	Sewer Lines	75	15,334	238	2,484	65	979.6554035	15.84	$282,187	10	$39,336
Line #6	7/1/1960	$171,810	Sewer Lines	75	145,563	2,291	26,247	64	1012.843228	15.32	$2,631,831	11	$402,057
Line #10	7/1/1960	$5,042	Sewer Lines	75	4,272	67	770	64	1012.843228	15.32	$77,235	11	$11,799
Line #12	7/1/1960	$6,921	Sewer Lines	75	5,864	92	1,057	64	1012.843228	15.32	$106,018	11	$16,196
Line #15	7/1/1960	$26,109	Sewer Lines	75	22,120	348	3,989	64	1012.843228	15.32	$399,945	11	$61,098
Line #8	7/1/1965	$42,720	Sewer Lines	75	33,344	570	9,376	59	1193.532493	13.00	$555,327	16	$121,878
Line #6	7/1/1996	$624,628	Sewer Lines	75	229,179	8,328	395,449	28	6629.61	2.34	$1,461,791	47	$925,454
Line #6	7/1/1997	$83,428	Sewer Lines	75	29,498	1,112	53,930	27	6731.08	2.30	$192,300	48	$124,308
Line #6	7/1/1998	$271,710	Sewer Lines	75	92,446	3,623	179,264	26	6845.59	2.27	$615,810	49	$406,288
Sewer line rehab	2/6/2008	$65,159	Sewer Lines	75	13,822	869	51,337	16	9781.67	1.59	$103,351	59	$81,427
Sewer line repl 32 Eucalyptus	3/17/2009	$24,782	Sewer Lines	75	4,890	330	19,892	15	9722.17	1.60	$39,548	60	$31,744
Rehab 17 Cove, 80 Beach	4/14/2009	$41,513	Sewer Lines	75	8,149	554	33,364	15	9722.17	1.60	$66,248	60	$53,243
Rehab 10 Tamalpais Cir (pipe burst)	4/6/2010	$15,239	Sewer Lines	75	2,793	203	12,446	14	10120.29	1.53	$23,362	61	$19,081
Sewer line rehab Cove Rd ($5370 eng for CIPP lining, $2341 repair	6/30/2010	$7,711	Sewer Lines	75	1,389	103	6,322	14	10120.29	1.53	$11,821	61	$9,692
Sewer line rehab Cove Rd (reinstate laterals)	11/29/2010	$7,300	Sewer Lines	75	1,275	97	6,025	13	10120.29	1.53	$11,191	62	$9,237
Sewer line rehab (eng for CIPP lining & CIPP lining work)	6/30/2011	$32,128	Sewer Lines	75	5,360	428	26,768	13	10204.79	1.52	$48,846	62	$40,697
Sewer line rehab (CIPP lining work)	7/31/2011	$3,630	Sewer Lines	75	601	48	3,029	12	10204.79	1.52	$5,519	63	$4,604
Sewer line rehab - Acacia & San Rafael Ave	5/16/2012	$278,173	Sewer Lines	75	43,146	3,709	235,027	12	10355.09	1.50	$416,786	63	$352,140
Sewer line rehab-Bayview	6/30/2014	$259,168	Sewer Lines	75	32,861	3,456	226,307	10	10915.84	1.42	$368,363	65	$321,657
Sewer line rehab-29 Eucalyptus	6/5/2015	$7,794	Sewer Lines	75	891	104	6,903	9	11155.41	1.39	$10,840	66	$9,600
Sewer line rehab-Belvedere Ave	6/12/2015	$9,163	Sewer Lines	75	1,046	122	8,117	9	11155.41	1.39	$12,744	66	$11,290

DESCRIPTION	ACQUIRED	COST	Asset Category	LIFE	Accumulated Dep	Annual Depr.	Book Value	Current Age	ENR CCI Index	ENR CCI Ratio	RCN	Useful Life	RCNLD
Sewer line - Buckeye, Golden gate, Eucalyptus, Beach	6/30/2017	$78,579	Sewer Lines	75	6,817	1,048	71,762	7	12014.72	1.29	$101,472	68	$92,668
Sewer line rehab - Beach Road, Between Eucalyputs/Golden Gate	12/21/2017	$195,440	Sewer Lines	75	15,714	2,606	179,726	6	12014.72	1.29	$252,378	69	$232,086
Belv PP#2: 6.8.18-6.30.18:	6/30/2018	$45,604	Sewer Lines	75	3,348	608	42,256	6	12115.37	1.28	$58,401	69	$54,113
PP#2	9/20/2018	$134,831	Sewer Lines	75	9,496	1,798	125,335	5	12115.37	1.28	$172,665	70	$160,504
PP#3	2/14/2019	$113,533	Sewer Lines	75	7,386	1,514	106,147	5	12764.52	1.22	$137,997	70	$129,019
PP#4	6/30/2019	$50,474	Sewer Lines	75	3,033	673	47,441	5	12764.52	1.22	$61,350	70	$57,663
Cove Road force main	6/30/2019	$19,260	Sewer Lines	75	1,157	257	18,103	5	12764.52	1.22	$23,410	70	$22,003
Underground utility assessment	9/20/2018	$23,578	Sewer Lines	75	1,661	314	21,917	5	12115.37	1.28	$30,194	70	$28,067
Sewer Line	5/18/2020	$891,836	Sewer Lines	75	43,069	11,891	848,767	4	13168.76	1.18	$1,050,732	71	$999,990
Cove Road force main	2/1/2021	$2,268,139	Sewer Lines	75	88,074	30,242	2,180,065	3	14228.24	1.09	$2,473,263	72	$2,377,224
Sewer Line	3/15/2023		Sewer Lines	75	4,242	5,321	394,811	1	15515	1.00	$399,053	74	$394,811

APPENDIX B

CAPITAL IMPROVEMENT PROJECTS

Sanitary District No. 5 of Marin County
Capacity Fees

Capital improvement schedule provided by District during FY 2023-24 rate study, Digester project cost updated per GM in 2024.

	Budgeted	Projected											
	FY 2022-23	**FY 2023-24**	**FY 2024-25**	**FY 2025-26**	**FY 2026-27**	**FY 2027-28**	**FY 2028-29**	**FY 2029-30**	**FY 2030-31**	**FY 2031-32**	**FY 2032-33**	**Projected Total**	**Notes**
Treatment Plant													All projects per District FY 2023-24 budget,
Wet Weather Influent Pump	$0	$0	$0	$0	$75,000	$0	$0	$0	$0	$0	$0	$75,000	provided by email on 3/10/2023
Secondary Clarifier Scum Collector Project		$300,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$300,000	
Dry Weather Influent Pump	$0	$0	$0	$0	$0	$0	$50,000	$0	$0	$0	$0	$50,000	
Main Plant Boiler Replacement	$0	$0	$0	$0	$0	$0	$0	$75,000	$0	$0	$0	$75,000	
Headworks Influent Screen Project		$0	$0	$0	$0	$0	$500,000	$0	$0	$0	$0	$500,000	
Headworks Grinder Replacement	$25,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Main Plant Electric Roll Up Door Install	$0	$75,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$75,000	
MP Corrosion Protection Project		$150,000	$0	$0	$0	$0	$0	$0	$0	$0	$150,000	$300,000	
Chemical Feed Transfer Pump	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
(Utility) Truck purchase	$75,000	$0	$0	$0	$200,000	$0	$0	$0	$100,000	$0	$100,000	$400,000	
Dewatering Redundancy - Screw Press	$0	$0	$0	$0	$0	$300,000	$0	$0	$0	$0	$0	$300,000	
Aeration Basin Diffuser Upgrade	$0	$0	$0	$0	$0	$0	$0	$0	$0	$200,000	$0	$200,000	
Emergency Generator Replacement	$0	$0	$0	$0	$0	$0	$250,000	$0	$0	$0	$0	$250,000	
Maintenance Shop Rehabilitiation	$0	$100,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$100,000	
MP Occupancy Project		$0	$750,000	$750,000	$0	$0	$0	$0	$0	$0	$0	$1,500,000	
Headworks Grinder Retrofit - Channel Monster	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Digester Roof Recoating and Cleaning	$0	$0	$3,000,000	$0	$0	$0	$0	$0	$250,000	$0	$0	$3,250,000	$3M per District on 3/12/2024
Landscaping Improvements Project		$0	$50,000	$0	$0	$0	$0	$0	$0	$0	$0	$50,000	
Dry Weather Primary Tank Cover Replacement	$100,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Odor Control System Rehabilitation	$0	$0	$0	$0	$0	$0	$0	$650,000	$0	$0	$0	$650,000	
Headworks Valve and Check Valve Repl	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
MP Switch Gear Improvements	$100,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
HVAC Replacement Project		$0	$0	$0	$200,000	$0	$0	$0	$0	$0	$0	$200,000	
Chloride Flash Mixer	$0	$0	$0	$35,000	$0	$0	$35,000	$0	$0	$0	$35,000	$105,000	
Undesignated Capital Project	$25,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$500,000	
Subtotal, Treatment Plant	**$325,000**	**$675,000**	**$3,850,000**	**$835,000**	**$525,000**	**$350,000**	**$885,000**	**$775,000**	**$400,000**	**$250,000**	**$335,000**	**$8,880,000**	
Construction Cost Index	1.00	1.05	1.09	1.13	1.17	1.22	1.27	1.31	1.36	1.42	1.47		
Escalated Subtotal, Treatment Plant	**$325,000**	**$708,499**	**$4,195,545**	**$944,728**	**$616,697**	**$426,848**	**$1,120,574**	**$1,018,806**	**$545,937**	**$354,254**	**$492,847**	**$10,424,734**	
Paradise Cove CIP													
Sewer Line Rehabilitation Program	$0	$0	$200,000	$100,000	$100,000	$100,000	$0	$0	$0	$0	$0	$500,000	
Grit Removal Project	$50,000	$0	$0	$0	$0	$0	$0	$50,000	$0	$0	$0	$50,000	
Plant Grating Replacements - Fiberglass	$0	$0	$0	$0	$0	$25,000	$0	$0	$0	$0	$0	$25,000	
Building Rehabilitation	$0	$0	$0	$250,000	$0	$0	$0	$0	$0	$0	$0	$250,000	
Blower Replacement	$0	$0	$20,000	$0	$0	$0	$0	$20,000	$0	$0	$0	$40,000	
UV Disinfection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
PC Access Improvements		$100,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$100,000	
Pump Replacement Program	$25,000	$0	$50,000	$0	$0	$0	$50,000	$0	$0	$0	$50,000	$150,000	
Paint Treatment Plant	$0	$0	$0	$0	$0	$0	$0	$0	$150,000	$0	$0	$150,000	
Undesignated Capital Projects	$0	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$250,000	
Subtotal, Paradise Cove	**$75,000**	**$125,000**	**$295,000**	**$375,000**	**$125,000**	**$150,000**	**$75,000**	**$95,000**	**$175,000**	**$25,000**	**$75,000**	**$1,515,000**	
Construction Cost Index	1.00	1.05	1.09	1.13	1.17	1.22	1.27	1.31	1.36	1.42	1.47		From Table 1B Factor **f.**
Escalated Subtotal, Paradise Cove	**$75,000**	**$131,203**	**$321,477**	**$424,279**	**$146,833**	**$182,935**	**$94,964**	**$124,886**	**$238,847**	**$35,425**	**$110,339**	**$1,811,188**	
Tiburon Zone Pumps & Lines CIP													
Sewer Line Rehabilitation Program	$1,000,000	$0	$1,000,000	$500,000	$500,000	$500,000	$500,000	$500,000	$500,000	$500,000	$325,000	$4,825,000	
CCTV and I&I Iinvestigation Project		$150,000	$0	$0	$0	$0	$0	$0	$0	$0	$150,000	$300,000	
Pump & Valve Replacement Program	$20,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$500,000	
Force Main Rehabilitation - Multiple sites	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Force Main Rehabilitation TPS #2 - 357lf-6"	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Force Main Rehabilitation TPS #4 - 3"	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Force Main Rehabilitation TPS #3 - 379lf-6"	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Force Main Rehabilitation TPS #5 - 1303lf-8"	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Force Main Rehabilitation TPS #7 - 903lf-6"	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Force Main Rehabilitation TPS #6		$0	$0	$0	$0	$75,000	$0	$0	$0	$0	$0	$75,000	
Force Main Rehabilitation TPS #9		$0	$50,000	$0	$0	$0	$0	$0	$0	$0	$0	$50,000	
Man Hole Rehabilitation	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$500,000	
TPS #2 Wet Well Rehab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
TPS #3 Wet Well Rehab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
TPS #4 Wet Well Rehab	$0	$50,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$50,000	
TPS #6 Wet Well Rehab	$0	$0	$0	$0	$0	$400,000	$0	$0	$0	$0	$0	$400,000	
TPS #7 Wet Well Rehab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
TPS #8 Wet Well Rehab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
TPS #9 Wet Well Rehab	$0	$0	$350,000	$0	$0	$0	$0	$0	$0	$0	$0	$350,000	
Portable Pump Replacement	$0	$0	$0	$50,000	$0	$0	$0	$0	$0	$0	$50,000	$100,000	
Undesignated Capital Projects	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$250,000	
Subtotal, Tiburon Lines	**$1,095,000**	**$325,000**	**$1,525,000**	**$675,000**	**$625,000**	**$1,100,000**	**$625,000**	**$625,000**	**$625,000**	**$625,000**	**$650,000**	**$7,400,000**	
Construction Cost Index	1.00	1.05	1.09	1.13	1.17	1.22	1.27	1.31	1.36	1.42	1.47		
Escalated Subtotal, Tiburon Lines	**$1,095,000**	**$341,129**	**$1,661,872**	**$763,702**	**$734,163**	**$1,341,522**	**$791,366**	**$821,618**	**$853,026**	**$885,635**	**$956,270**	**$9,150,302**	

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
79		**Belvedere Zone Pumps & Lines CIP**														
80		Sewer Line Rehabilitation Program		$100,000	$0	$500,000	$250,000	$250,000	$250,000	$200,000	$200,000	$200,000	$200,000	$200,000	$200,000	$2,250,000	
81		Pump & Valve Replacement Program		$20,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$500,000	
82		Force Main Rehabilitation - Multiple sites		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
83		BPS#1 Control Panel Replacement		$500,000	$600,000	$600,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,200,000	
84		CCTV and I&I Inspection			$100,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$100,000	$200,000	
85		BPS#2 Force Main&Wet Well Rehab		$0	$0	$0	$0	$0	$0	$500,000	$0	$0	$0	$0	$0	$500,000	
86		BPS#3 Force Main&Wet Well Rehab		$0	$0	$0	$0	$0	$0	$0	$510,000	$0	$0	$0	$0	$510,000	
87		BPS#7 Wet Well Rehab		$75,000	$0	$0	$420,000	$0	$0	$0	$0	$0	$0	$0	$0	$420,000	
88		BPS#9, 10, 11 Wet Well Rehab		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
89		BPS#5, 8, 12 Wet Well Rehab		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
90		BPS#13 Force Main&Wet Well Rehab		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
91		BPS#14 Force Main&Wet Well Rehab		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
92		Power Feed Improvement Project (BPS#9, 10, 11)		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
93		San Rafael Ave Diverter Line Install		$0	$25,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$25,000	
94		Man Hole Rehabilitation		$11,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$250,000	
95		Undesignated Cap Projects		$68,500	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$250,000	
96		**Subtotal, Belvedere**		**$774,500**	**$825,000**	**$1,200,000**	**$770,000**	**$350,000**	**$350,000**	**$800,000**	**$810,000**	**$300,000**	**$300,000**	**$400,000**	**$6,105,000**	
97		Construction Cost Index		1.00	1.05	1.09	1.13	1.17	1.22	1.27	1.31	1.36	1.42	1.47		
98		**Escalated Subtotal, Belvedere**		**$774,500**	**$865,943**	**$1,307,702**	**$871,186**	**$411,131**	**$426,848**	**$1,012,948**	**$1,064,817**	**$409,452**	**$425,105**	**$588,474**	**$7,383,606**	
99																
100		**Total Planned Capital Spending**		**$2,269,500**	**$1,950,000**	**$6,870,000**	**$2,655,000**	**$1,625,000**	**$1,950,000**	**$2,385,000**	**$2,305,000**	**$1,500,000**	**$1,200,000**	**$1,460,000**	**$23,900,000**	
101																
102		Construction Cost Index		1.00	1.05	1.09	1.13	1.17	1.22	1.27	1.31	1.36	1.42	1.47		CCI from 2023-24 sewer rate study
103																
104		**Escalated Total Planned Capital Spending**		**$2,269,500**	**$2,046,774**	**$7,486,597**	**$3,003,894**	**$1,908,824**	**$2,378,152**	**$3,019,853**	**$3,030,126**	**$2,047,262**	**$1,700,419**	**$2,147,929**	**$28,769,830**	

APPENDIX C

SCHEDULE OF CAPACITY FEE CHARGES

Appendix C
Schedule of Connection Fee Charges

Fixture Units	Charge
1	$914
2	$1,828
3	$2,742
4	$3,656
5	$4,570
6	$5,484
7	$6,398
8	$7,312
9	$8,226
10	$9,140
11	$10,054
12	$10,968
13	$11,882
14	$12,795
15	$13,709
16	$14,623
17	$15,537
18	$16,451
19	$17,365
20	$18,279
21	$19,193
22	$20,107
23	$21,021
24	$21,935
25	$22,849
26	$23,763
27	$24,677
28	$25,591
29	$26,505
30	$27,419
31	$28,333
32	$29,247
33	$30,161
34	$31,075
35	$31,989
36	$32,903
37	$33,817
38	$34,731
39	$35,645
40	$36,559
41	$37,473
42	$38,386
43	$39,300
44	$40,214
45	$41,128
46	$42,042
47	$42,956
48	$43,870
49	$44,784
50	$45,698
51	$46,612
52	$47,526
53	$48,440
54	$49,354
55	$50,268
56	$51,182
57	$52,096
58	$53,010
59	$53,924
60	$54,838
Over 60	The cost per fixture unit multiplied by the total number of fixture units

Accessory Dwelling Units charged at a rate of $10.98 per square foot

ORDINANCE NO. 2024-01~~XX~~

AN ORDINANCE OF SANITARY DISTRICT NO. 5 OF MARIN COUNTY RAISING THE CONNECTION FEES TO THE DISTRICT'S SEWER SYSTEM AND AMENDING ORDINANCE NOS. 70-1, 79-1, 06-01, 06-02, 14-01(B) AND ALL OTHER ORDINANCES AS THEY PERTAIN TO THE SETTING OF CONNECTION FEES

WHEREAS, the Sanitary District No. 5 of Marin County ("District") is authorized by the Sanitary District Act of 1923 (Health & Safety Code § 6400 et seq.) to provide public services and facilities related to the acquisition, construction, replacement, maintenance and operation of wastewater collection facilities within the District's service area; and

WHEREAS, the District is empowered to prescribe, revise and collect fees, rates and charges related to said wastewater collection facilities pursuant to Health and Safety Code §6520.5, including sewer connection fees; and

WHEREAS, the District imposes sewer connection fees in accordance with Government Code §66013; and

WHEREAS, the District finds that the sewer connection fees established by this Ordinance are neither an incident of property ownership nor a property-related service having a direct relationship to property ownership and, therefore, are not subject to the requirements of California Constitution Article XIID (also known as Proposition 218); and

WHEREAS, the District finds that the sewer connection fees established by this Ordinance are not imposed as a condition of approval of a proposed development project as defined in Government Code § 66001 and, therefore, are not subject to the requirements for imposing development fees set forth in Government Code § 66000 et seq.; and

WHEREAS, the District finds that the sewer connection fees established by this Ordinance do not exceed the estimated reasonable cost of providing the service for which the fees are imposed, pursuant to Government Code § 66013 and § 66016; and

WHEREAS, the District finds that the sewer connection fees established by this Ordinance are non-discriminatory as applied to all users of the District's wastewater collection facilities and are established upon a rational basis; and

WHEREAS, the owners and occupants of the properties upon which all sewer connection fees established by this Ordinance desire to discharge wastewater to the District's wastewater collection facilities; and

WHEREAS, in 1970, the District's Board of Directors ("Board") established connection fees to the District's sanitary sewer system through passage of Ordinance No 70-1 and amended the connection fee portion of Ordinance No 70-1 in 1979 with the passage of Ordinance No 79-1; and

WHEREAS, in 2006, the Board raised connection fees for Tiburon and Belvedere sewer connections and amended Ordinance Nos. 70-1, 79-1, and all other Ordinances as they pertained to the setting of connection fees through the passage of Ordinance No. 06-01; and

WHEREAS, in 2006, the Board established new connection fees for the Paradise Cove area for residential connections through the passage of Ordinance No. 06-02; and

WHEREAS, in 2014, the Board raised connection fees for Tiburon, Belvedere and Paradise Cove sewer connections through the passage of Ordinance No. 2014-01(B) and

WHEREAS, the District's need for upgraded and improved wastewater collection was required to protect the public health and safety, and to preserve the environment without damage; and

WHEREAS, there is a significant cost to the District for new connections. These costs are in excess to the connection fees previously established, and it has become appropriate ~~necessary~~ to adjust the fee structure to more ~~accurately~~ reasonably reflect the current financial expenditures required and anticipated to support the infrastructure and service

Commented [A1]: Help with this description

WHEREAS, to demonstrate the reasonableness of the District's sewer connection fees, the calculation method and the basis for determining the connection fees for a fixture unit are presented in a separate report entitled "Marin County Sanitary District No. 5 Connection Fee Update," dated ~~July~~ August ~~6~~18, 2024, which may be referenced by contacting the District; and

WHEREAS, the connection fee is based on the reasonable cost per connection. The reasonable cost is derived based on the value of a connection specific to the collection system and treatment facilities serving parcels in the Districts service area; and

WHEREAS, the sewer connection fees are calculated by dividing the value of the District's sewer facilities at the time the charge is imposed by the total equivalent dwelling units (EDU) accessing those facilities; and

WHEREAS, the District finds that all sewer connection fees established by this Ordinance have been approved by the Board at a noticed public meeting and in accordance with applicable provisions of law; and

WHEREAS, the costs outlined in "Exhibit CA, Schedule of Connection Fee Charges" are based on fixture units as defined in Section 130 of Ordinance No 70-1, and reflect the actual costs to the District for new connections

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE SANITARY DISTRICT NO. 5 OF MARIN COUNTY DOES ORDAIN AS FOLLOWS:

1. All of the above Recitals are true and incorporated by reference herein.

2. The first reading of this Ordinance was conducted at a duly held Board of Directors meeting on August 18, 2024.

3. The District provided notice of the merit hearing for this Ordinance by posting such proposed Ordinance, agendizing the proposed Ordinance for the First Reading on August 18, 2024, agendizing the Merit Hearing for the proposed Ordinance for a hearing on September 19, 2024, and publishing a summary of the proposed Ordinance in a newspaper of general circulation, The Ark, prior to the September 19, 2024, hearing on the proposed Ordinance.

4. The District held a public hearing on the proposed Ordinance on September 19, 2024.

5. The Board finds that the costs of connection outlined in Exhibit "CA" reflect the actual costs to the District for new sewer connections.

6. The costs reflected in Exhibit "CA" are hereby adopted as the new connection fees of the District and these connection fees reflected in Exhibit "A" shall replace all previous connection fees outlined in previous Ordinances including the connection fees outlined in Ordinance Nos. 70-1, 79-1, 06-01, 06-02,and 14-01(B).

7. Exhibit "CA" to this Ordinance is hereby incorporated herein by reference to this Ordinance.

8. This ordinance shall be and is hereby declared to be in full force and effect as of thirty (30) days from and after the date of its passage and shall be published once before the expiration of fifteen (15) days after its passage, with the names of the Directors voting for and against the same in *The ARK*, a newspaper of general circulation within the District and published in the County of Marin.

* * * * *

PASSED AND ADOPTED at a regular meeting of the Board of Directors of Sanitary District No. 5 of Marin County, held on the 19th day of September, 2024, by the following vote.

AYES, in favor thereof, Directors:

NOES, Directors:

ABSENT, Directors:

Approved

Omar Arias-Montez
President, Board of Directors

Attest:

Richard Snyder
Secretary, Board of Directors

ORDINANCE NO. ~~2014-02 (A)~~2024-02~~XX~~

SANITARY DISTRICT NO. 5 OF MARIN COUNTY

AN AMENDED ORDINANCE REGULATING THE USE OF PUBLIC AND PRIVATE SEWERS AND DRAINS, THE INSTALLATION AND CONNECTION OF BUILDING SEWERS, THE INSTALLATION OF SEWER LATERALS AND PUBLIC SEWER MAIN EXTENSIONS, PROVIDING PERMITS AND FIXING FEES FOR THE INSTALLATION AND CONNECTION OF SANITARY SEWERS, REGULATING THE DISCHARGE OF WATERS AND WASTES INTO THE PUBLIC SEWER SYSTEM, AND PROVIDING PENALTIES FOR THE VIOLATION OF THE PROVISIONS THEREOF.

The Sanitary Board of Sanitary District No. 5 of Marin County, California, does ordain as follows:

ARTICLE I. DEFINITIONS

Sec. 100. District shall mean Sanitary District No. 5 of Marin County, California.

Sec. 101. Town shall mean the Town of Tiburon

Sec. 102. City shall mean the City of Belvedere.

Sec. 103. County shall mean the County of Marin, California.

Sec. 104. Board shall mean the Sanitary Board of said District.

Sec. 105. District Engineer shall mean the Engineer appointed by and acting for the Board and shall be a Registered Civil Engineer.

Sec. 106. District Inspector shall mean the Inspector acting for the Board and may be a contractor hired by the District, the District Inspector or any other individual appointed by the District Manager.

Sec. 107. District Secretary shall mean the Secretary of the Board.

Sec. 108. Person shall mean any human being, individual, firm, company, partnership, association, private or public or Municipal Corporation, the United States of America, the State of California, and any district, political subdivision, governmental agency and mandatory thereof.

Sec. 109. Permit shall mean any written authorization required pursuant to this or any other regulation of District.

Sec. 110. Building shall mean any structure or vessel used for human habitation or a place of business, recreation or other purpose containing sanitary facilities. For the purpose of

establishing the Basic Connection Charge, as herein provided, each Unit is deemed a separate Building.

Sec. 111. Applicant shall mean the Person making application for a Permit and shall be the owner of premises to be served by the Sewer for which a Permit is requested, or his authorized agent.

Sec. 112. Contractor shall mean an individual, firm, corporation, partnership or association duly licensed by the State of California to perform the type of work to be done under the Permit.

Sec. 113. Street shall mean any public highway, road, street, avenue, alley, way, public place, public easement or right of way.

Sec. 114. Sewage Works shall mean all facilities owned or controlled by District for collecting, pumping, treating and disposing of sewage.

Sec. 115. Sewage shall mean any and all waste substances, liquid or solid, associated with human habitation or which contains or may be contaminated with human or animal excreta or excrement, offal, or any feculent matter.

Sec. 116. Industrial Waste shall mean any and all liquid or solid waste substance, not Sewage, from any producing, manufacturing or processing operation of whatever nature.

Sec. 117. Sewer shall mean a pipe or conduit for carrying Sewage.

Sec. 118. Public Sewer shall mean a Sewer lying within a Street and which is controlled by or under the jurisdiction of the District.

Sec. 119. Combined Sewer shall mean a Sewer receiving both surface runoff and Sewage.

Sec. 120. Sanitary Sewer shall mean a Sewer which carries Sewage and to which storm, surface and ground waters are not intentionally admitted.

Sec. 121. Storm Sewer or Storm Drain shall mean a pipe or conduit, which carries storm and surface or ground waters and drainage, but excludes Sewage and polluted Industrial Waste.

Sec. 122. Main Sewer shall mean a Public Sewer designed to accommodate more than one Lateral Sewer.

Sec. 123. Lateral Sewer shall mean that portion of any Sewer beginning at the plumbing or drainage outlet of any Building or industrial facility and terminating at the Main Sewer.

Sec. 124. Private Sewer shall mean a Sewer serving one or more Buildings or industrial facilities that is not connected with a Public Sewer. Examples of Private Sewers include, but are not limited to: septic tanks, cesspools, anaerobic tanks, chemical processes, privies, privy vaults, seepage pits, and any other facility intended or used for the disposal of Sewage.

Sec. 125. Outside Sewer shall mean a Sanitary Sewer beyond the limits of the District not subject to the control or jurisdiction of District.

Sec. 126. Sewage Treatment Plant shall mean any arrangement of devices and structures used for treating Sewage.

Sec. 127. Garbage shall include any or all of the following: garbage, swill, refuse, cans, bottles, papers, vegetable matter, carcasses of dead animals, offal, trash, rubbish and radioactive waste material.

Sec. 128. Fixture Unit shall mean fixture unit load values for drainage piping and shall be computed from Chapter 4 of the ~~2013~~ 2022 California Uniform Plumbing Code adopted herein.

Sec. 129. Unit shall mean the place of residence for a single family. When property is improved for multi-family purposes, it shall include the number of Units that the facilities thereon provide in number facilities for single families. When such improvements are for other than residential purposes, the number of Units shall be determined by dividing the total number of persons regularly using or occupying said premises by three. When said property is unimproved and subdivided, each single lot shall be a Unit. When unimproved property is not subdivided, it shall be deemed to have the number of lots that would be allowed for the zoning district in which the property is located as provided in the general plan and zoning regulations of the Town, City, or County, as applicable. When said property is a trailer court, trailer park or mobile home park, it shall be deemed to have the number of Units for which spaces are provided.

Sec. 130. Additional Definitions. For the purpose of this Ordinance additional terms not defined herein shall have the meaning indicated in Chapter 2 of the 2022 ~~2013~~ California Uniform Plumbing Code as adopted herein.

ARTICLE II. GENERAL PROVISIONS

Sec. 201. Rules and Regulations. The following rules and regulations respecting Sewer construction and disposal of Sewage and drainage of Buildings and connection to the Sewage Works of the District are hereby adopted, and all work in respect thereto shall be performed as herein required and not otherwise.

Sec. 202. Purpose. This Ordinance is intended to provide rules and regulations for the use and construction of Sewer facilities hereafter installed, altered or repaired within the District. This Ordinance shall not apply retroactively and, in the event of an alteration or repair hereafter made, it shall apply only to the new materials and methods used therein.

Sec. 203. Short Title. This Ordinance shall be known as the "SANITARY CODE OF SANITARY DISTRICT NO. 5 OF MARIN COUNTY".

Sec. 204. Posting and Publication. The adoption of this ordinance shall be entered in the minutes of the Board, shall be published once in the Ark, a newspaper of general circulation, printed and published in the District, within one (1) week following its passage and adoption, and shall take effect and be in force and effect immediately upon the expiration of one week of publication.

Sec. 205. Violation Unlawful. Following the effective date of this Ordinance, it shall be unlawful for any Person to connect to, construct, install or provide, maintain and use any other means of Sewage disposal from any Building in the District except by connection to a Public Sewer in the manner provided in this Ordinance.

Sec. 206. Relief on Application. When any Person by reason of special circumstances, is of the opinion that any provision of this Ordinance is unjust or inequitable as applied to his premises, he may make written application to the Board, stating the special circumstances, citing the provision complained of, and requesting suspension or modification of that provision as applied to his premises.

If such application be approved, the Board may, by resolution, suspend or modify the

provision complained of, as applied to such premises, to be effective as of the date of the application and continuing during the period of the special circumstances.

Sec. 207. Relief on Own Motion. The Board may, on its own motion, find that by reason of special circumstances any provision of this Ordinance should be suspended or modified as applied to a particular premise and may, by resolution, order such suspension or modification for such premises during the period of such special circumstances, or any part thereof.

Sec. 208. District Inspector, Compensation. The Board shall employ some fit and qualified person or persons to perform the duties of inspecting the installation, connection, maintenance and use of all Side Sewers, Public Sewers, Private Sewer and facilities in connection therewith in the District, to be known as the District Inspector.

Sec. 209. Permits and Fees. No Public Sewer or other Sewage facility within a Street shall be installed, altered or repaired within the District until a Permit for the work has been obtained from the District and all fees paid in accordance with the requirements of Article IX of this Ordinance.

ARTICLE III. USE OF PUBLIC SEWERS REQUIRED

Sec. 301. Disposal of Wastes. It shall be unlawful for any Person to place, deposit, or permit to be deposited in any unsanitary manner upon public or private property within the District, or in any area under the jurisdiction of said District, any Sewage, Garbage, or other objectionable waste.

Sec. 302. Treatment of Wastes Required. It shall be unlawful to discharge to any stream or watercourse any Sewage, industrial wastes, or other polluted waters, except where suitable treatment has been provided in accordance with provisions of this Ordinance.

Sec. 303. Unlawful Disposal. Except as herein provided, it shall be unlawful to construct or maintain any Private Sewer.

Sec. 304. Occupancy Prohibited. No Building, industrial facility or other structure shall be occupied until the owner of the premises has complied with all rules and regulations of District.

Sec. 305. Sewer Connection, When Mandatory. Following the effective date of this Ordinance, it shall be unlawful for any person to connect to, construct, install, provide, maintain and use any other means of sewage disposal in said District, except connection with the Sewage Works of the District in the manner provided in this Ordinance.

ARTICLE IV. PRIVATE SEWAGE DISPOSAL

Sec. 401. Sewer Not Available. Where a Public Sewer is not available to satisfy the provisions of Sec. 305, the Lateral Sewer shall be connected to a Private Sewer complying with the provisions of this Ordinance. A Public Sewer is available if a Main Sewer is located within 400 feet, as measured on a horizontal plane, from the closest edge of any Building on a property. However, a Public Sewer is not considered available if another parcel under separate ownership blocks access to the Main Sewer stub out.

Sec. 402. Permit Required. Before commencement of construction of a Private Sewer the owner shall first obtain a written Permit signed by the District Secretary. The application for such Permit shall be made on a form furnished by the District, which the Applicant shall supplement by any plans, specifications, and other information as deemed necessary by the District Secretary. A Permit and inspection fee shall be paid to the District at the time the application is filed in accordance with the provisions of this Ordinance.

Sec. 403. Inspection Required. A permit for a Private Sewer shall not become effective until the installation is completed to the satisfaction of the District Inspector. He shall be allowed to inspect the work at any stage of construction and, in any event, the Applicant for the Permit shall notify the District Inspector when the work is ready for final inspection, and before any underground portions are covered. The final inspection shall be made within forty-eight (48) hours, Sundays and Holidays excluded, of the receipt of the notice by the District Inspector.

Sec. 404. Design Requirements. The type, capacities, location and layout of a Private Sewer shall comply with all recommendations of the Department of Public Health of the State of California, the Health Officer of County, and any other applicable regulatory authority including, but not limited to, the Building Department of City, Town, or County, as applicable. No Permit shall be issued for any Private Sewer employing subsurface soil absorption facilities

where the characteristics of the property do not indicate sufficient soil absorption qualities. No Private Sewer shall be permitted to discharge to any Public Sewer or any stream or watercourse.

Sec. 405. Abandonment of Facilities. At such time as a Public Sewer becomes available to a property served by a Private Sewer, as defined in Section 401, a direct connection shall be made to the Public Sewer in compliance with the ordinances, rules and regulations of District, and any Private Sewer facilities shall be abandoned and filled with suitable material as determined by the District Inspector.

Sec. 406. Cost of Maintenance by Owner. The owner shall operate and maintain the Private Sewer in a sanitary manner at all times, at no expense to the District.

Sec. 407. Additional Requirements. No statement contained in this Article shall be construed to interfere with any additional requirements that may be imposed by any law, ordinance, rule or regulation or by the Health Officer of the County, the Building Inspector of City, Town, or County, or any other applicable regulatory authority..

Sec. 408 Additional Enforcement Measures. In addition to all other authority the District has to enforce this and other ordinances and regulations, the District may seek to compel connection to an available Public Sewer as required by Sections 303 and 405, (1) as a condition on the issuance of a building permit for the real property where the proposed addition or improvement (or cumulative additions or improvements through multiple projects over the prior 3 years) has a value of $50,000 or greater and (2) when the real property is offered for sale. The District shall notify the City, Town, and County of the connection requirement of Sections 303 and 405 so that issuance of a building permit for non-compliant real property may be conditioned upon connection to the Public Sewer and abandonment of the Private Sewer. If non-compliant real property is sold without connection to the Public Sewer and abandonment of the existing Private Sewer, the District may require the new owner of the property to connect to the Public Sewer and abandon the Private Sewer.

ARTICLE V. UNIFORM PLUMBING CODE

Sec. 501. Uniform Plumbing Code Adopted. All that certain plumbing code, entitled, “California Plumbing Code 2013”, based on the 2012 Uniform Plumbing Code, copies of which are on file in the office of the District for use and examination by the public, except

such sections therein as are shown to be omitted, amended, or added thereto, in said copies, is hereby adopted as the UNIFORM PLUMBING CODE OF SANITARY DISTRICT NO. 5 OF MARIN COUNTY, to which reference is hereby made and is hereby adopted by reference as if set forth in full herein.

Sec. 502. Administrative Authority. Wherever the term "Administrative Authority" is used in the Uniform Plumbing Code of Sanitary District No. 5 of Marin County it shall be construed to mean only those persons duly authorized by the Board to administer the code as follows:

Administration of the code and enforcement of regulations thereof shall be under the direction of the Board.

Main Sewers and Lateral Sewers outside of the building plumbing and drainage system shall be inspected by the District Inspector.

The interpretation of technical provisions of this Ordinance, review of plans and specifications required thereby, determination of the suitability of alternate materials and types of construction and the development of rules and regulations covering unusual conditions not inconsistent with the requirements of this Ordinance, shall be made by the District Engineer.

ARTICLE VI. LATERAL SEWERS AND CONNECTIONS

Sec. 601. Permit Required. In accordance with Article IX of this Ordinance no person shall construct a Lateral Sewer or make a connection with any Public Sewer without first obtaining a written Permit from the District and paying all fees and connection charges as required therein. In addition all applicants shall provide proof that proposed ~~Side~~ Lateral Sewer has been reviewed by the appropriate City, Town, or County agency and that a valid permit for the construction and installation of such ~~Side~~ Lateral Sewer has been issued by such agency.

Sec. 602. Construction Requirements. Construction of Lateral Sewers, when subject to the jurisdiction of District, shall be in accordance with the requirements of the Uniform Plumbing Code of Sanitary District No. 5 of Marin County and all other requirements of the District. Construction plans shall include recommended backfilling, type of backfill material and compaction of backfill as recommended by a licensed soils engineer.

Sec. 603. Minimum Size and Slope. The minimum size of Sewers shall be in accordance with the Uniform Plumbing Code of Sanitary District No. 5 of Marin County and District Standard Specifications, as said code and specifications are heretofore or hereafter adopted by the District.

Sec. 604. Separate Sewers. No two adjacent lots fronting on the same street shall be permitted to join in the use of the same Lateral Sewer. Every Building or industrial facility must be separately connected with a Public Sewer if such Public Sewer exists in the street upon which the property abuts or in an easement which will serve said property. However, one or more buildings located on property belonging to the same owner may be served with the same Lateral Sewer during the period of said ownership. Upon the subsequent subdivision and sale of a portion of said lot the portion not directly connected with such Public Sewer shall be separately so connected with a Public Sewer, and it shall be unlawful for the owner thereof to continue to use or maintain such indirect connection.

Sec. 605. Cleanouts. Cleanouts in Sewers subject to the jurisdiction of the District shall be provided in accordance with the Uniform Plumbing Code of Sanitary District No. 5 of Marin County. Cleanouts shall be the same diameter as the Sewer. All cleanouts shall be maintained watertight and shall be constructed in accordance with the specifications established by the District.

Sec. 606. Sewer Too Low. Whenever a Lateral Sewer is too low to permit gravity flow to the Public Sewer, Sewage carried by such Lateral Sewer shall be lifted by artificial means, approved by the District Engineer, and discharged to the Public Sewer at the expense of the owner.

Sec. 607. Connection to Public Sewer. The connection of a Lateral sewer into the Public Sewer shall be made in accordance with the specifications for such connections established by the District. The connection to the Public Sewer shall be made in the presence of the District Inspector or the District Engineer, and under his supervision and direction. Any damage to the Public Sewer shall be repaired at the cost of the applicant to the satisfaction of the District Inspector or District Engineer.

Sec. 608. Protection of Excavation. All excavations for a Lateral Sewer installation shall be adequately guarded with barricades or lights so as to protect the public from hazard. Streets sidewalks, parkways and other property disturbed in the course of the work shall be restored in a manner satisfactory to the District, the City and the County, or any other person having jurisdiction thereover.

Sec. 609. Maintenance of Lateral Sewer. Lateral Sewers shall be maintained by the owner(s) of the property(s) served thereby.

Sec. 610 Lateral Sewer Inspection Upon Connection Permit Application. As part of any Application for a connection Permit for residential and commercial structures, the owner shall provide the District with a current report and video, not older than one year, and conducted by a Licensed Contractor, of the entire Lateral Sewer serving the structure. The report and video shall include a written and graphic description of the owner's Lateral Sewer, and a compact disc containing photographs of any notable features of the Lateral Sewer. Based on the information contained in the report, the District may require repairs or modifications of the Lateral Sewer. In the event that a Lateral Sewer is shared by multiple properties, the District will notify all of the affected properties of their shared responsibility of the Lateral Sewer, absent a maintenance agreement between the properties the property owners shall be jointly and severally liable for the repairs of the shared Lateral Sewer

Sec. 611. Events Requiring a Lateral Sewer Inspection – All Properties. A property owner shall have the Lateral Sewer of his property inspected and provide the District with a report and video as described in Section 610, and have any necessary repairs to the Sewer Lateral made, upon the occurrence of any of the following events:

(a) Additions or Improvements. Prior to the issuance of a County, City, or Town building permit for an addition or new improvement on the real property where said addition or improvements (or cumulative additions or improvements through multiple projects over three (3) years) have a value of $50,000 or greater. The District shall notify the City, Town, and County of this requirement so that issuance of a building permit is conditioned upon the requirement of a Lateral Sewer inspection and any necessary repairs.

(b) Transfer of Property Title. Where the sale of any real property with

Sewer improvements is proposed, the seller shall have the Lateral Sewer inspected prior to transfer of property title. The responsibility for any repair of a Lateral Sewer is an issue between the buyer and the seller. Should the seller fail to have the inspection conducted and any necessary repairs made prior to the sale of the property, the District shall require the new owner to conduct an inspection and/or make any necessary repairs to the Lateral Sewer.

(c) Repair of Main Sewer or Road Resurfacing On or Near Road Where Lateral Sewer Connects to Main Sewer. Whenever the District is replacing or conducting a repair of a Main Sewer, or whenever the City, Town, or County is carrying out road resurfacing, on or near the road where the Lateral Sewer connects to the Main Sewer. When the work is being carried out by the District, the District will notify owners of the work and the need for an inspection and any necessary repair so that any remedial work on the Lateral Sewer can be completed prior to the construction. Where an owner refuses to have the inspection conducted, the District may conduct an inspection and the owner shall be responsible for the costs of such inspection. The District shall require the owner to carry out any necessary repairs.

(d) Exceptions. The following are exceptions to the requirement for inspection described above:

(i) An owner otherwise required to perform an inspection under Section 611 shall not be required to perform such inspection if the owner (or the owner's predecessor-in-interest) has originally installed or has replaced his property's Lateral Sewer within the twenty (20) years prior to the date of application for a building permit, listing the property for sale, or the road work or sewer repair.

(ii) An owner otherwise required to perform an inspection under Section 611 shall not be required to perform such inspection if the owner has conducted such inspection and completed any necessary repairs within three (3) years prior to the date the inspection would otherwise be required.

(iii) The owner shall provide proof of any prior Lateral Sewer replacement, inspection, and repair in the form of a certificate, paid bill, or other sufficient documentation that ensures such prior replacement, repair, or inspection. The form and content of the document or proof must be deemed sufficient by the District or its authorized

representative

Sec. 612 Installation of Backflow Check Valve Device. As part of any Application for a connection permit for residential and commercial structures, the owner shall install a backflow check valve device, approved by the District, on their Lateral Sewer within two (2) feet of the structure. Property owners shall own the backflow device and its maintenance and replacement shall be the sole obligation of the property owner and any successor in interest. Owners who choose not to install the device for any reason, including the owner's belief that the device is unnecessary or too difficult to install, must submit a letter to the District Manager for consideration. The letter will state the owner will hold the District harmless for any and all damages arising from the owner's sanitary sewer overflows/backflows.

Sec. 613 Sanitary Sewer Lateral Overflows and Stoppages. The District has the authority and responsibility to mitigate all private lateral Sanitary Sewer overflows. Therefore, if a Sanitary Sewer overflow occurs, the District will first attempt to contact the owner(s) of the private Lateral Sewer, residential or commercial, before the District or its contractor clears or repairs the stoppage. If the District cannot contact the owner(s), the District or its contractor will attempt to clear or repair the overflow and will invoice the owner(s) for the work performed by the District or its contractor. When the Lateral Sewer is used by multiple residents, the owners of the Lateral Sewer will negotiate among themselves with respect to apportioning the cost of the clearing or repair. The District will be held harmless for the condition of all private sewer laterals as a result of the clearing or repair.

ARTICLE VII. PUBLIC SEWER CONSTRUCTION

Sec. 701. Permit Required. In accordance with Article IX of this Ordinance, no Person shall construct, extend or connect to any Public Sewer without first obtaining a written Permit from the District and paying all fees and connection charges and furnishing bonds as required therein. The provisions of this section requiring Permits shall not be construed to apply to contractors constructing Sewers and appurtenances under contracts awarded and entered into by District.

Sec. 702. Plans, Profiles and Specifications Required. The Application for a Permit for Public Sewer construction shall be accompanied by complete plans, profiles and

specifications, complying with all applicable ordinances, rules and regulations of District, prepared by a Registered Civil Engineer showing all details of the proposed work based on an accurate survey of the ground. Plans shall include recommended backfilling, type of backfill material and compaction of backfill as recommended by a licensed soils engineer. The Application, together with the plans, profiles and specifications shall be examined by the District Engineer who shall within ten (10) days approve them as filed or , require them to be modified as he deems necessary for proper installation. After examination by the District Engineer, the Application, plans, profiles and specifications shall be submitted to the Board at its next regular meeting for its consideration. When the Board. is satisfied that the proposed work is proper and the plans, profiles and specifications are sufficient and correct, it shall order the issuance of a Permit predicated upon the payment of all connection charges, fees and furnishing bonds as required by the District. The Permit shall prescribe such terms and conditions as the Board finds necessary in the public interest.

Sec. 703. Subdivisions. The requirements of Sections 701 and 702 of this Ordinance shall be fully complied with before any final subdivision map of properties lying in unincorporated areas within the District shall be approved by the Board. The final subdivision map shall provide for the dedication for public use of all streets, easements or rights of way in which public Sewer lines are to be constructed. If a final subdivision map of a tract is recorded and the work of constructing Sewers to serve the tract is not completed within the time limit allowed in the permit, the Sanitary Board may extend the time limit or may complete the work and take appropriate steps to enforce the provisions of the bond furnished by the subdivider.

Sec. 704. Easements or Rights of Way. In the event that an easement is required for the extension of the public Sewer or the making of connections, the Applicant shall procure and have accepted by the Board a proper easement or grant of right of way sufficient in law to allow the laying and maintenance of such extension or connection.

Sec. 705. Persons Authorized to Perform Work. Only properly licensed contractors shall be authorized to perform the work of Public Sewer construction within the District. All terms and conditions of the Permit issued by the District to the Applicant shall be binding on the

contractor. The requirements of this section shall apply to ~~Side~~ Lateral Sewers installed concurrently with Public Sewer construction.

Sec. 706. Grade Stakes. Grade and line stakes shall be set by a Registered Civil Engineer prior to the start of work on any Public Sewer construction. The contractor shall be responsible for accurately transferring grades to grade bars and sewer invert.

Sec. 707. Compliance with Local Regulations. Any person constructing a Sewer within a Street shall comply with all state, County, City, and Town laws, ordinances, rules and regulations pertaining to the cutting of pavement, opening, barricading, lighting and protecting of trenches, backfilling and repaving thereof, and shall obtain all permits and pay all fees required by the agency and/or department having jurisdiction prior to the issuance of a Permit by the District.

Sec. 708. Protection of Excavation. The Applicant shall maintain such barriers, lights and signals as are necessary to give warning to the public at all times that a sewer is under construction and of each dangerous condition to be encountered as a result thereof. He shall also likewise protect the public in the use of the sidewalk against any such conditions in connection with the construction of the Sewer. Streets, sidewalks, parkways and other property disturbed in the course of the work shall be reinstalled in a manner satisfactory to the District, the City, the Town, and the County or any other person or entity having jurisdiction there over.

Sec. 709. Design and Construction Standards. Minimum standards for the design and construction of Sewers within the District and subject to the jurisdiction of the District shall be in accordance with the STANDARD SPECIFICATIONS AND DRAWINGS FOR SEWER CONSTRUCTION of 2014 heretofore or hereafter adopted by the District, copies of which are on file in the District office. The District Engineer may permit modifications or may require higher standards where unusual conditions are encountered.

"As-built" drawings showing the actual location of all mains, structures, Ys, laterals and cleanouts shall be filed with the District before final acceptance of the work.

Sec. 710. Completion of Sewer Required. Before any acceptance of any Sewer line by the District and prior to the admission of any Sewage into the system, the Sewer line shall be tested and shall be complete in full compliance with all requirements of the STANDARD

SPECIFICATIONS AND DRAWINGS FOR SEWER CONSTRUCTION of 2014 and to the satisfaction of the District Engineer.

ARTICLE VIII. USE OF PUBLIC SEWERS

Sec. 801. Drainage into Sanitary Sewers Prohibited. No leaders from roofs and no surface drains for rain water shall be connected to any Sanitary Sewer. No surface or subsurface drainage, rain water, storm water, seepage, cooling water or unpolluted industrial process waters shall be permitted to enter any Sanitary Sewer by any device or method whatsoever.

Sec. 802. Use of Storm Sewers Required. Storm water and all other unpolluted drainage shall be discharged to such Sewers as are specifically designated as Combined Sewers or Storm Sewers, or to a natural outlet approved by the Town or City.

Sec. 803. Types of Wastes Prohibited. Except as hereinafter provided, no person shall discharge or cause to be discharged any of the following described waters or wastes to any Public Sewer:

(a) Any liquid or vapor having a temperature higher than 150° F.

(b) Any water or waste which may contain more than 100 parts per million, by weight, of fat, oil or grease.

(c) Any gasoline, benzene, naptha, fuel oil or other flammable or explosive liquid, solid or gas.

(d) Any Garbage that has not been shredded to such a degree that all particles will be carried freely under the flow conditions normally prevailing in Public Sewers, with no particle greater than one-half inch in any dimension.

(e) Any ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, paunch manure, or any other solid or viscous substance capable of causing obstruction to the flow in Sewers or other interference with the proper operation of the Sewage Works.

(f) Any waters or wastes having a ph lower than 6.0 or higher than 8.0 or having any other corrosive property capable of causing damage

or hazard to structures, equipment and personnel of the Sewage Works.

(g) Any waters or wastes containing a toxic or poisonous substance in sufficient quantity to injure or interfere with any sewage treatment process, constitute a hazard to humans or animals, or create any hazard in the receiving waters of the Sewage Treatment Plant.

(h) Any waters or wastes containing suspended solids of such character and quantity that unusual attention or expense is required to handle such materials at the sewage treatment plant.

(i) Any noxious or malodorous gas or substance capable of creating a public nuisance.

(j) Any septic tank sludge.

Sec. 804. Interceptors Required. Grease, oil and sand interceptors shall be provided when the District determines that they are necessary for the proper handling of liquid wastes containing grease in excessive amounts, or any flammable wastes, sand and other harmful ingredients; except that such interceptors shall not be required for buildings used for residential purposes. All interceptors shall be of a type and capacity approved by the District Engineer, and shall be so located as to be readily and easily accessible for cleaning and inspection.

Sec. 805. Maintenance of Interceptors. All grease, oil and sand interceptors shall be maintained by the owner, at his expense, in continuously efficient operation at all times.

Sec. 806. Preliminary Treatment of Wastes. The admission into the Public Sewers of any waters or wastes having (a) a 5 day Biochemical Oxygen Demand greater than 300 parts per million by weight, or (b) containing more than 350 parts per million by weight of suspended solids, or (c) containing any quantity of substance having the characteristics described in Section 803, or (d) having an average daily flow greater than two percent of the average daily Sewage flow of the District, shall be subject to the review and approval of the District Engineer. Where necessary in the opinion of the District Engineer, the owner shall provide, at his expense, such preliminary treatment as may be necessary to (a) reduce the Biochemical Oxygen Demand to 300 parts per million and the suspended solids to 350 parts per million by weight, or (b) reduce

objectionable characteristics or constituents to within the maximum limits provided for in Section 803, or (c) control the quantities and rates of discharge of such waters or wastes.

Plans, specifications, and any other pertinent information relating to proposed preliminary treatment facilities shall be submitted for the approval of the District Engineer, the Water Resources Control Board of the State of California, and any other agency with regulatory jurisdiction and no construction of such facilities shall be commenced until said approvals are obtained in writing.

Sec. 807. Maintenance of Pretreatment Facilities. Where preliminary treatment facilities are provided for any waters or wastes, they shall be maintained continuously in satisfactory and effective operation by the owner at his expense.

Sec. 808. Control Manholes. When required by the District Engineer, the owner of any property served by a Lateral Sewer carrying industrial wastes shall install a suitable control manhole in the Lateral Sewer to facilitate observation, sampling and measurement of wastes. Such manhole, when required, shall be accessibly and safely located, and shall be constructed in accordance with plans approved by the District Engineer. The manhole shall be installed by the owner at his expense, and shall be maintained by him so as to be safe and accessible at all times.

Sec. 809. Measurements and Tests. All measurements, tests, and analyses of the characteristics of waters and wastes to which reference is made in Sections 803 and 806 shall be determined in accordance with standard methods and shall be determined at the control manhole provided for in Section 808, or upon suitable samples taken at said control manhole. In the event that no special manhole has been required, the control manhole shall be considered to be the nearest downstream manhole in the Public Sewer to the point at which the Lateral Sewer is connected.

Sec. 810. Special Agreements - Private Facilities. No statement contained in this article shall be construed as preventing any special agreement or arrangement between the District and any industrial concern whereby an industrial waste of unusual strength or character may be accepted by the District for treatment, subject to payment therefor by the industrial concern and subject to such terms and conditions as might be required by District.

Sec. 811. Special Agreements - Public Facilities. No statement contained in this article shall be construed as preventing any special agreement or arrangement between the District and any other public corporation or entity, whereby the District undertakes to provide for the construction, acceptance, maintenance or operation of facilities for the collection, pumping or other means of transmission of sewage from the public agencies pursuant to any appropriate legal authorization or pursuant to cooperation, joint powers, or other similar agreement.

Sec. 812. Swimming Pools. It shall be unlawful for any person to discharge the contents of a swimming pool into a Sanitary Sewer except in the manner specified herein. The size of pipe carrying discharge water shall not be larger than two inches and shall not be under a head to exceed twenty (20) feet. If the water is discharged by pumping, the rate of flow shall not exceed one hundred (100) gallons per minute. Each swimming pool discharging to a Sanitary Sewer shall be equipped with an approved separator to preclude any possibility of a backflow of Sewage into the swimming pool or piping system.

ARTICLE IX. PERMITS AND FEES

Sec. 901. Permit Required. No unauthorized person shall uncover, make any connections with or opening into, use, alter, or disturb any Public Sewer or appurtenance or perform any work on any plumbing or drainage system under the jurisdiction of the District, including additions to or modifications of plumbing facilities within a building, without first obtaining a written Permit from the District.

Sec. 902. Application for Permit. Any Person, legally entitled to apply for and receive a Permit, shall make such application on forms provided by the District for that purpose. He shall give a description of the character of the work proposed to be done and the location, ownership, occupancy and use of the premises in connection therewith. The District Engineer may require plans, specifications or drawings and such other information as he may deem necessary. If the District Engineer determines that the plans, specifications, drawings, descriptions or information furnished by the Applicant is in compliance with the ordinances, rules and regulations of the District, the Secretary shall issue the permit applied for upon payment of the required fees as hereinafter fixed.

Sec. 903. Compliance with Permit. After approval of the application, evidenced by the issuance of a Permit, no change shall be made in the location of the Sewer, the grade, materials or other details from those described in the Permit or as shown on the plans and specifications for which the Permit was issued, except with written permission from the District, the District Engineer, or other authorized representatives.

Sec. 904. Agreement. The Applicant's signature on an application for any Permit as set forth in Section 905 hereof, shall constitute an agreement to comply with all of the provisions, terms and requirements of this and other ordinances, rules and regulations of the District, and with the plans and specifications he has filed with his application, if any, together with such corrections or modifications as may be made or permitted by the District, if any. Such agreement shall be binding upon the Applicant and may be altered only by the District upon the written request for the alteration from the Applicant.

Sec. 905. Classes of Permits. There shall be six (6) classes of Permits, as follows:

(a) Single family residential sewer Permit;

(b) Trailer court and multiple dwelling sewer Permit;

(c) Commercial, industrial, church, school, public and other user sewer Permit;

(d) Public sewer construction Permit;

(e) Private sewage disposal Permit; and

(f) Force main connection Permit.

Sec. 906. Fees - Annexation Charges. The owner or owners of lands within areas proposed to be annexed to the District shall deposit with the District Secretary a sum to be fixed by the District Secretary, prior to commencement of proceedings by the Board on the proposed annexation. The amount to be fixed by the District Secretary shall be in a sum estimated to equal the engineering, legal and publication costs and all other charges which may be incurred by the District in preparing and examining maps, legal descriptions, and other documents in relation thereto, and other expenses regularly incurred in connection therewith. Should the amount of the deposit exceed the costs incurred by the District the excess shall be refunded to the owner or owners following the conclusion of the final hearing on the proposed annexation. Should the

amounts of the deposit be insufficient to pay such costs incurred by the District the owner or owners shall advance such additional sums as shall be necessary to pay said costs prior to the final hearing on the proposed annexation.

Sec. 907. Basic Connection Charge. A basic connection charge is hereby established for the privileges of connecting to the Sanitary Sewer system of the District. Except as hereinafter provided, a separate basic charge shall be made for each Building. In the event of dispute as to whether a structure constitutes a new Building or an addition to an existing Building, the determination of the Sanitary Board shall be final.

Before any addition to or modification of plumbing facilities is undertaken which will result in a change in the number of plumbing fixtures by which the amount of the basic connection charge is calculated, as hereinafter set forth, a permit for such addition or modification shall first be obtained from the District upon payment to the District of an amount equal to the difference between the charge based upon the original number of units and that based upon the total number of original plus proposed units.

A Building which is accessory to a single family dwelling, such as a guest house or servants' quarters, is to be considered as a part of the single family dwelling rather than as a separate Building if such accessory Buildings are served by the same lateral as the single family dwelling.

The amount of charge shall be computed on the basis of the number of plumbing fixtures within or about each Building as said fixtures comprise fixture units. The number of fixture units shall be computed from Chapter 4 of the 2022~~13~~ California Uniform Plumbing Code. The method of arriving at the charge per fixture unit and the application of a "diminishing use factor thereof is particularly set forth in Exhibit "A" attached hereto and incorporated by reference herein.

Sec. 908. Fees - Connection Charges. In addition to any other charges established by the ordinances, rules and regulations of the District, there shall be collected, prior to connection to the Sanitary Sewer system of the District, special connection charges, as follows:

(a) Assessment Connection Charge: For any parcel, Unit or lot, or part of said property, lying within the present boundaries of said District or hereafter annexed to said

District, which abuts on or can be directly served by any existing Main Sewer or Sanitary Sewer facilities of the District, constructed pursuant to special assessment proceedings, additional connection charges to be paid prior to the issuance of a Permit for connection in any such areas are hereby established as follows:

(i) Where said facilities constructed pursuant to special assessment proceedings consist of collection mains, together with major interceptor mains and/or any other Sanitary Sewer facilities, an additional connection charge shall be collected, in a sum to be computed by the District Engineer, as said property's share of the cost of the existing Sewer facilities of the District to be used by said property. Said sum shall be the equivalent of the cost to similar properties within the District which have paid for said facilities so to be used. Said sum shall include all costs incident to the installation of such facilities, together with interest charges thereon. Said sum shall not include any amounts for which bonds of the District are then outstanding and to which said property is or shall become subject.

(b) Special Connection Charge: For any parcel, Unit or lot, or part of said property which abuts on or can be directly served by any existing Main Sewer or Sanitary Sewer facilities of said District constructed pursuant to special agreement, wherein the District has agreed to reimburse to the party making the original installation a share of the cost of original construction attributable to parcels of property later connecting to said main or facilities, special connection charges in addition to any other charges established by the District, which must be paid prior to the issuance of a Permit for connection are hereby established as follows:

(i) Where said facilities constructed pursuant to special agreement consist of collection mains together with trunk mains and/or any other sanitary sewerage facility, an additional special connection charge shall be collected in a sum to be computed by the District Engineer as said property's share of the cost of the sewer mains and other Sanitary Sewer facility of the District, constructed pursuant to special agreement, to

be used by said property. Said sum shall be equivalent to the pro rata share of the cost of the installation made pursuant to the special agreement which would have been paid by said property for the facilities so to be used if said property had contributed its equitable share to the original cost of construction. Said sum shall include all costs incident to the installation of such mains and facilities.

Sec. 909. Special Connection Charges. In addition to any other charges established herein, the District may establish special connection charges for any Sewer connection when, in the opinion of the Board, the circumstances of such connection necessitate the establishment of unusual conditions or necessitate the payment of charges over and above those established herein.

Sec. 910. Sewer Permit and Inspection Charges. Permit and inspection charges are hereby established as follows:

(a) Single Family Residence: A fee of Fifty Dollars ($~~50.00~~178~~53.75~~) shall be paid to the District for inspecting each single family residential building sewer installation.

(b) Commercial, Industrial, Church, Trailer Court, Multiple Dwelling, School, Public and Other Users: A fee of Fifty Dollars ($~~50.00~~178~~53.75~~) per one hundred (100) lineal feet of Sewer for inspecting said Sewer installation shall be paid to the District for each Lateral Sewer installation serving commercial, industrial, church, trailer court, multiple dwelling, school, public and other users, with a minimum of One Hundred Dollars ($~~100.00~~178~~53.75~~) for said inspection. Where such property is to be developed for commercial and industrial uses such as, in the opinion of the District Secretary, will necessitate the conduct of special analyses of the effect of the installation on the Sewage effluent, the Person seeking a Permit for such installation shall provide the District with any such analyses as the District may require at the sole cost and expense of the Person seeking such Permit.

(c) Public Sewer Construction Permit: A fee of Fifty Dollars ($~~50.00~~241~~32.75~~) per one hundred (100) lineal feet of Sewer for inspecting said Sewer installation, with a ~~One~~ two Hundred ~~thirty two~~Forty One Dollar ~~and seventy five cents~~

($~~100.00~~24132.75) minimum inspection fee, shall be paid to the District for the issuance of a Permit and inspecting the installation of Public Sewer mains consisting of extensions of the existing Public Sewer facilities of the District. Should the District Secretary deem that the fee provided herein is, or may be, inadequate to pay all of the costs and expenses of the District, he may decline to issue a Permit until the Board has reviewed the application for the Permit. The Board may determine that the Permit be subject to payment of fees in an amount fixed by the District in the estimated cost of all engineering, legal, inspection and other costs which may be incurred by the District required to insure compliance with this Ordinance and all other applicable rules and regulations. If the fee so collected shall be in excess of the actual costs to the District, any surplus shall be refunded to the Applicant, upon completion and satisfactory compliance with the Permit and all applicable rules and regulations. If the fee so established is less than the actual costs to the District the Applicant shall pay the excess costs to the District prior to acceptance of the Sewer facilities by the District.

(d) Connection to Force Main: A fee shall be paid to the District for issuing a Permit and inspecting any work which includes connection of the Sewer to a force main under the jurisdiction of the District in the same manner as provided in Sec. 909(c) hereof.

(e) Additional Fees: The above fees are for initial inspection only. If the Applicant has called for inspection and is not ready for inspection an additional fee of ~~Fifty Dollars~~ Forty Eight Dollars and fifty cents($~~50.00~~48.~~50~~57.00) per inspection for additional calls shall be paid.

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(f). Administrative Fee: An administrative fee of $5749~~50~~ will be charged to each Applicant requesting a Permit. The administrative fee covers the District's cost to issue the permit, recording all information into the District's electronic database, review plans and specifications, and accounting and additional administrative duties required to issue a permit.

Sec. 911. Bond - Public Sewer Construction. Prior to the issuance of a Permit for Public Sewer construction the Applicant shall furnish to the District a faithful performance bond or cash in the amount of the total estimated cost of the work. Said bond shall be in the minimum amount of One Thousand Dollars ($1000.00) and shall be secured by a surety or sureties satisfactory to the District. The cash deposit or faithful performance bond shall be conditioned

upon the performance of the terms and conditions of the Permit and shall guarantee the correction of faulty workmanship and the replacement of defective materials for a period of one (1) year after the date of the District's acceptance of the work.

Sec. 912. Disposition of Fees. All fees collected on behalf of the District shall be deposited with the District Secretary who shall place said funds in the depositary of the District.

Sec. 913. All Work to be Inspected. All Sewer construction work, Lateral Sewers, plumbing and drainage systems shall be inspected by an Inspector of the District, the City, the Town, the County, as applicable, and any other agency or entity having jurisdiction there over, to insure compliance with any and all regulatory requirements. No Sewer shall be covered at any point until it has been inspected and passed for acceptance. No Sewer shall be connected either directly or indirectly to the District's Public Sewer system until the work covered by appropriate Permit has been completed, inspected and approved. All Sewers shall be tested for leakage in the presence of the appropriate Inspector and shall be cleaned of all debris accumulated from construction operations. If the test proves satisfactory, the Inspector shall issue a certificate of satisfactory completion.

Sec. 914. Notification. It shall be the duty of the Person doing the work authorized by Permit to notify the office of the District in writing that said work is ready for inspection. Such notification shall be given not less than forty eight (48) hours before the work is to be inspected. It shall be the duty of the Person doing the work to make sure that the work will stand the tests required by the District before giving the above notification.

Sec. 915. Condemned Work. When any work has been inspected and the work condemned and no certification of satisfactory completion given, a written notice to that effect shall be given instructing the owner of the premises, or the agent of such owner, to repair the Sewer or other work authorized by the Permit in accordance with the ordinances, rules and regulations of the District. An additional fee for re-inspection will be charged for each subsequent inspection. Said additional fee shall be in an amount sufficient to reimburse all District costs and expenses attributable to each re-inspection.

Sec. 916. All Costs Paid by Owner. All costs and expenses incident to the installation and connection of any Sewer or other work for which a Permit has been issued shall

be borne by the owner. The owner shall indemnify the District from any loss or damage that may directly or indirectly be occasioned by the work.

Sec. 917. Outside Sewers. Permission shall not be granted to connect any lot or parcel of land outside the District to any Public Sewer in or under the jurisdiction of the District unless a Permit therefor is obtained. The Applicant shall first enter into a contract in writing whereby he shall bind himself, his heirs, successors and assigns to abide by all ordinances, rules and regulations in regard to the manner in which such Sewer shall be used, the manner of connecting therewith, and the plumbing and drainage in connection therewith and also shall agree to pay all fees required for securing the permit and a monthly fee in the amount set by the District for the privilege of using such Sewer.

Sec. 918. Permit Optional. The granting of such permission for an outside Sewer in any event shall be optional with the Board.

Sec. 919. Special Outside Agreements. Where special conditions exist relating to an outside Sewer, they shall be the subject of a special contract between the applicant and the District.

Sec. 920. Street Excavation Permit. A separate Permit must be secured from the City, Town, or County, as applicable, or any other person or entity having jurisdiction there over by owners or contractors intending to excavate in a public street for the purpose of installing Sewers or making Sewer connections.

Sec. 921. Liability. The District and its officers, agents and employees shall not be answerable for any liability or injury or death to any person or damage to any property arising during or growing out of the performance of any work by any such Applicant. The Applicant shall be answerable for, and shall save the District and its officers, agents and employees harmless from any liability imposed by law upon the District or its officers, agents or employees, including all costs, expenses, fees and interest incurred in defending same or in seeking to enforce this provision. Applicant shall be solely liable for any defects in the performance of his work or any failure which may develop therein.

Sec. 922. Time limit on Permits. If work under a Permit be not commenced within six (6) months from the date of issuance or if after partial completion the work be discontinued

for a period of one (1) year, the Permit shall thereupon become void and no further work shall be done until a new Permit shall have been secured. A new fee shall be paid upon the issuance of said new Permit.

ARTICLE X. ENFORCEMENT

Sec. 1001. Violation. Any Person found to be violating any provision of this or any other ordinance, rule or regulation of the District, except Sections 710 and 1101 hereof, shall be served by the District Secretary or other authorized person with written notice stating the nature of the violation and providing a reasonable time limit for the satisfactory correction thereof. Said time limit shall be not less than two (2) nor more than seven (7) working days. The offender shall, within the period of time stated in such notice, permanently cease all violations. All persons shall be held strictly responsible for any and all acts of agents or employees done under the provisions of this or any other ordinance, rule or regulation of the District. Upon being notified by the District Secretary of any defect arising in any Sewer or of any violation of this Ordinance, the Person(s) having charge of said work shall immediately correct the same.

Sec. 1002. Public Nuisance. Continued habitation of any Building or continued operation of any industrial facility in violation of the provisions of this or any other ordinance, rule or regulation of the District is hereby declared to be a public nuisance. The District may cause proceedings to be brought for the abatement of the occupancy of the Building or industrial facility during the period of such violation.

Sec. 1003. Disconnection. As an alternative method of enforcing the provisions of this or any other ordinance, rule or regulation of the District, the District Engineer shall have the power to disconnect the user or subdivision from the Sewer system of the District. Upon disconnection the District Engineer shall estimate the cost of disconnection from and reconnection to the system, and such user shall deposit the cost, as estimated, of disconnection and reconnection before such user is reconnected to the system. The District Engineer shall refund any part of the deposit remaining after payment of all costs of disconnection and reconnection.

Sec. 1004. Public Nuisance Abatement. During the period of such disconnection, habitation of such premises by human beings shall constitute a public nuisance, whereupon the

District shall cause proceedings to be brought for the abatement of the occupancy of said premises by human beings during the period of such disconnection. In such event, and as a condition of reconnection, there is to be paid to the District a reasonable attorney's fee and cost of suit arising in said action.

Sec. 1005. Means of Enforcement Only. The District hereby declares that the foregoing procedures are established as a means of enforcement of the terms and conditions of its ordinances, rules and regulations, and not as a penalty.

Sec. 1006. Punishment for Violation of Prohibited Discharges: Misdemeanor. Section 6523 of the Health and Safety Code of the State of California provides that the violation of an ordinance, rule or regulation of a sanitary district by any person is a misdemeanor punishable by fine not to exceed One Thousand Dollars ($1000), imprisonment not to exceed 30 days, or both. Each and every connection or occupancy in violation of the ordinances, rules and regulations of the District shall be deemed a separate violation and each and every day or part of a day a violation of the ordinance, rule or regulation continues shall be deemed a separate offence hereunder and shall be punishable as such.

Sec. 1007. Liability for Violation. Any person violating any of the provisions of the ordinances, rules or regulations of the District shall become liable to the District for any expense, loss or damage occasioned by the District by reason of such violation.

ARTICLE XI. MISCELLANEOUS PROVISIONS

Sec. 1101. Protection from Damage. No unauthorized person shall maliciously, willfully, or negligently break, damage, destroy, uncover, deface or tamper with any structure, appurtenance or equipment which is a part of the District Sewage Works. Any person violating this provision shall be subject to the penalties provided by law.

Sec. 1102. Powers and Authorities of Inspectors. The officers, inspectors, engineer and any duly authorized employees of the District shall wear or carry an official badge of office or other evidence establishing his position as such, and upon exhibiting the proper credentials and identification shall be permitted to enter in and upon any and all Buildings, industrial facilities and properties for the purposes of inspection, re-inspection, observation, measurement,

sampling, testing or otherwise performing such duties as may be necessary in the enforcement of the provisions of the ordinances, rules and regulations of the District.,

Sec. 1103. Separability. If any section, subsection, sentence, clause or phrase of this Ordinance or the application thereof to any person or circumstance is for any reason held to be unconstitutional or invalid, such decision shall not affect the validity of the remaining portions of this Ordinance or the application of such provision to other persons or circumstances. The Board hereby declares that it would have passed this Ordinance or any section, subsection, sentence, clause or phrase hereof irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases be declared to be unconstitutional.

Sec. 1104. Repeal of. Inconsistent Ordinances. Ordinance Nos. 1, 2, 4, 4A, 5, 6, 7, 8, 12 , 14, 70-01, 70-02, 73-01, 93-02, 96-01, 2007-02, 2010-01, 2014-02, 2014-02(a) and any other ordinances or parts of ordinances inconsistent herewith are hereby repealed.

* * * * * * * * *

I hereby certify that the foregoing is a full, true and correct copy of an amended ordinance passed and adopted at a regular meeting of the Sanitary Board of Sanitary District No. 5 of Marin County, California, duly held on the 15~~6~~th day of August~~April~~ 2024~~0~~, by the following vote of the members thereof:

AYES, in favor thereof, Directors:

NOES, Directors:

ABSENT, Directors:

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Approved

Attest:

~~Catharine Benediktsson~~Omar Arias-Montez
President, Board of Directors

~~_____~~Richard Snyder
Secretary, Board of Directors

SANITARY DISTRICT NO. 5 OF MARIN COUNTY
SANITARY CODE

EXHIBIT "CA"
SCHEDULE OF BASIC CONNECTION CHARGES
(updated connection fee schedule)

Enter table with the total fixture units per building computed from the Uniform Plumbing Code of Sanitary District No. 5 of Marin County. The corresponding amount is the basic connection charge.

The connection charge for total fixture units of more than 900 is computed at the same rate of charge as those in the table and may be obtained at the offices of the District.

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

Date: August 15, 2024

To: Board of Directors – Regular Board Meeting

From: District Manager – Tony Rubio

Subject: Review and Consideration to accept proposal from Carollo Engineers regarding the Main WWTP Nutrient Removal Study

STAFF REPORT:

The SF Bay Regional Water Quality Control Board has now adopted the 3rd Nutrient Watershed Permit on July 10, 2024 which goes into effect on October 1, 2024. The new Waste Discharge Requirements establish interim effluent limits for the summer discharge months for both the Main WWTP and Paradise Cove WWTP.

The Total Inorganic Nitrogen (kg/day) Effluent limit for the two Facilities is below:

Interim Effluent Limits Beginning October 1, 2024:

- Main WWTP Total Inorganic Nitrogen= 69 kg/day
- Paradise Cove WWTP Total Inorganic Nitrogen= 3.7 kg/day

Final Effluent Limits are targeted beginning 2034 at:

- Main WWTP Total Inorganic Nitrogen= 47 kg/day
- Paradise Cove WWTP Total Inorganic Nitrogen= 3.5 kg/day

Both WWTP's are required to sample its effluent for Nutrients twice a year. The Main WWTP under the targeted Final Effluent Limit 10 years from now would be right at the 47kg/day effluent limit based on 2023 Effluent Data while the Paradise Cove WWTP would be well under the compliance limit with a 2023 avg effluent discharge of 1.45kg/day, therefore as of now, only the Main WWTP will need to have an evaluation performed because it will be approaching the proposed 10 year effluent limits.

The new Nutrient Watershed Permit includes a compliance milestone schedule for all of the dischargers identified in the permit with the first compliance deadline being April 1, 2025. That milestone is to Identify compliance alternatives *"Discharger shall identify preliminary alternatives for meeting final effluent limitations, this may include traditional*

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treatment infrastructure, optimization, nature- based solutions, recycled water, trading or a combination thereof."

I have reached out to Carollo Engineers to provide a proposal for the evaluation and providing of a technical memorandum regarding options for the District to reduce nutrient discharge loading as required by the first compliance milestone.

Carollo engineers experience with the district through the design of the 1980's secondary expansion of the Main WWTP and design of the Districts 2012 Main Plant Rehabilitation Project will play a crucial role in performing this study in an expeditious and cost effective manner as we will not have to spend much staff time in getting a different consultant up to speed on the operation of the facility.

As the Chief Plant Operator, I worked daily with Carollo Engineers in respect to the implementation/construction of the 2012 MPR Project to which we had a successful project that was violation free and achieved the objective of the original design which began around 2010. They have always been very receptive and responsive to my requests for assistance.

FISCAL IMPACT:

Amount not to exceed $55,234 in consulting fees for 2024 Main WWTP Nutrient Removal Study (*study was budgeted for in FY2024-2025 budget*)

CEQA (California Environmental Quality Act)

Exempt

Recommendation:

To accept the proposal and authorize the District Manager to enter into a professional services agreement with Carollo Engineers for the Main WWTP Nutrient Removal Study.

ATTACHMENTS:

Nutrient Watershed Permit
Carollo Proposal

2795 Mitchell Drive
Walnut Creek, California 94598
P 925-932-1710
carollo.com

April 2, 2024

Tony Rubio - District Manager
Sanitary District No. 5 of Marin County
2001 Paradise Drive
Tiburon, CA 94920

Subject: Sanitary District No. 5 of Marin County - Main WWTP Nutrient Removal Study

Dear Tony:

Carollo Engineers is pleased to provide the Sanitary District No. 5 of Marin County with this proposal to provide an evaluation of alternatives for optimizing and increasing nutrient removal.

We have assembled a team with technical expertise in nutrient removal to lead the alternatives evaluation. Andre Gharagozian, our wastewater process expert, has more than 22 years of experience in wastewater treatment and will lead the effort. Andre will direct the data collection, and alternative analyses that will support our evaluation of alternatives for optimizing and increasing nitrogen removal. Andre will be supported by discipline and staff engineers that will provide a complete evaluation of alternatives. Our detailed scope is provided in Exhibit A of our proposal.

Andre will be assisted by Doug Wing, who has a long history of working with the District. Doug will provide institutional knowledge and overall project management for the project.

Carollo is excited at this opportunity and appreciates your consideration of our qualifications and hopes to collaborate with you on this project. Please feel free to contact Doug Wing or Andre Gharagozian with any questions.

Sincerely,
CAROLLO ENGINEERS, INC.

Douglas Wing, PE
Principal Engineer and Associate Vice President

dwing@carollo.com

Andre Gharagozian, PE
Project Manager

agharagozian@carollo.com

Attachments: Exhibit A Scope of Services, Exhibit B Fee Estimate, 2024 CA Rate Schedule

Exhibit A

SCOPE OF SERVICES

Project Understanding

The Sanitary District No. 5 of Marin County (District) serves a population of approximately 8,400 and owns and operates the Tiburon Main Wastewater Treatment Plant (WWTP), which discharges to the Central San Fransico Bay. The WWTP has a permitted capacity of 0.98 mgd average dry weather flow (ADWF) and a peak wet weather capacity of 2.3 mgd. Dry season flows have averaged 0.53 mgd over the last 12 years with no significant increasing or decreasing trends.

The WWTP performs secondary treatment using an activated sludge treatment process, which is capable of meeting discharge requirements in the National Pollutant Discharge Elimination System (NPDES) Permit. However, new regulations in the 3rd Nutrient Watershed Permit (Permit) are expected to require compliance with dry weather (May-September) discharge limits for Total Inorganic Nitrogen (TIN). The Administrative Draft of the 3rd Permit indicates the WWTP will need to comply with a limit of 46 kg/d by 2034. Over the last 12 years, the WWTP's discharge has averaged 49 kg/d during dry season. No influent nitrogen data is available to confirm this, however, effluent data suggests that some ammonia and nitrogen removal is already occurring. So that the District can reliably meet the anticipated effluent limit for TIN in 2034, the District would like to evaluate alternatives for optimizing and increasing nitrogen removal.

Scope of Work

Task 1 Meetings

The following meetings are included in the scope:

- Kickoff Meeting – Two (2) Carollo staff will attend an in-person kickoff meeting to review the scope and schedule. It is assumed the District will be available to provide a tour of the WWTP and identify any unique features or issues team should be aware of for the analysis.
- Virtual Progress Meeting 1 – A virtual meeting will be performed to present results from Tasks 2 and 3, and confirm alternatives that will be evaluated for Task 4.
- Virtual Progress Meeting 2 – A virtual meeting will be performed to present results from Task 4.

Task 2 Review Existing Information

Review Two (2) years of recent daily operations data to confirm current influent and effluent characteristics as well as unit process performance, sludge production, and process air usage.

Task 3 Model Development

Develop a plant-wide steady state process model. The model will be Envirosim's Biowin, version 6.2 and will be calibrated to operations data reviewed in Task 2.

Task 4 Alternatives Evaluation

Using the model developed in Task 3, develop sizing and performance criteria for three (3) alternatives. In addition, process flow diagrams, site layouts, and Class 5 capital costs will be developed for each of the alternatives. Alternatives to be developed will be identified with the District during one of the progress meetings, and could include any of the following, for example:

- LE or MLE Conversion – This alternative would consist of operating at a longer solids residence time (SRT) to nitrify more reliably and aeration tank modifications to add a selector zone to promote denitrification (Ludzack-Ettinger process or LE). The selector zone will be important for denitrification, but will also help improve settleability, recover alkalinity (which is important for nitrification) and improve process stability overall. The benefits of including internal mixed liquor recirculation (Modified Ludzack-Ettinger or MLE) will also be quantified.
- Sidestream Treatment – Since the District may not require a large TIN reduction to meet the anticipated limits, it may be feasible to do so with the addition of sidestream treatment. Sidestream treatment will reduce nitrogen in the excess water removed from the dewatering stream. It is a cost-effective approach because sidestreams are concentrated in nitrogen and are a low volume compared to the main process flow.
- Simultaneous NdN – This alternative consists of incorporating more advanced aeration controls to provide improved performance and the capability to reliably operate at low DO concentrations. While some agencies have had success removing nitrogen with this approach, low DO operation is susceptible to having poor settleability. Therefore, this alternative could also include densification with hydrocyclones to maintain good settleability.
- Intensification of the Activated Sludge Process – If there isn't sufficient aeration tank volume to reliably remove nitrogen, intensification could be considered. There are many intensification technologies such as membrane aerated biofilm reactors (MABRs) or integrated fixed film activated sludge (IFAS).

Task 5 Technical Memorandum

Prepare a draft technical memorandum (TM) summarizing the findings in Tasks 2 through 4 as well as minutes from kickoff and progress meetings. A final TM will be prepared to address any comments provided by the District. Three (3) hard copies of the final report will be provided as well as electronic pdf files for the draft and final.

Exhibit B
BUDGET/FEE PROPOSAL

Nutrient Removal Study Scope Sanitary District No. 5 Of Marin County													
Task No.	Task Description	Labor Hours							Total Labor Costs	Other Direct Costs (ODC's)			Total Estimated Costs
		PIC	Project Manager	Project Engineer	Staff Engineers	Graphic Design	Doc Processing	Total Labor Hours		PECE	Travel	Total	
	Hourly Rate	$340	$340	$274	$223	$201	$149			$15	$0.65		
1	Meetings and Project Management	6	8	6	6	0	0	26	$7,742	$390	$65	$390	$8,197
2	Review Existing Information	0	2	2	8	0	0	12	$3,012	$180		$180	$3,192
3	Model Development	0	4	0	16	0	0	20	$4,928	$300		$300	$5,228
4	Alternatives Evaluation	86	12	36	24	18	0	96	$25,625	$1,440		$1,440	$27,095
5	Technical Memorandum	2	4	8	24	0	8	46	$10,776	$690	$65	$755	$11,531
	TOTAL	**14**	**30**	**52**	**78**	**18**	**8**	**200**	**$51,403**	**$3,000**	**$65**	**$3,065**	**$55,243**

Note: Fees will be billed at the 2024 Rate Schedule attached

CAROLLO ENGINEERS, INC.
FEE SCHEDULE

As of January 1, 2024
California

	Hourly Rate
Engineers/Scientists	
Assistant Professional	$223.00
Professional	274.00
Project Professional	324.00
Lead Project Professional	340.00
Senior Professional	360.00
Technicians	
Technicians	168.00
Senior Technicians	233.00
Support Staff	
Document Processing / Clerical	149.00
Project Equipment Communication Expense (PECE) Per DL Hour	**15.00**
Other Direct Expenses	
Travel and Subsistence	at cost
Mileage at IRS Reimbursement Rate Effective January 1, 2024	$0.67 per mile
Subconsultant	cost + 10%
Other Direct Cost	cost + 10%
Expert Witness	Rate x 2.0

This fee schedule is subject to annual revisions due to labor adjustments.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION
1515 Clay Street, Suite 1400, Oakland, California 94612
waterboards.ca.gov/sanfranciscobay

ORDER R2-2024-0013
NPDES PERMIT CA0038873

The following dischargers (collectively, Dischargers and, individually, Discharger) are subject to waste discharge requirements (WDRs) set forth in this Order, for the purpose of regulating nutrient discharges to San Francisco Bay[1] and its contiguous bay segments:

Table 1. Discharger Information

Discharger	Facility Name	Facility Address	Minor/ Major
American Canyon, City of	Wastewater Treatment and Reclamation Facility	151 Mezzetta Court American Canyon, CA 94503	Major
Benicia, City of	Benicia Wastewater Treatment Plant	614 East Fifth Street Benicia, CA 94510	Major
Burlingame, City of	Burlingame Wastewater Treatment Plant	1103 Airport Boulevard Burlingame, CA 94010	Major
Central Contra Costa Sanitary District	Central Contra Costa Sanitary District Wastewater Treatment Plant	5019 Imhoff Place Martinez, CA 94553	Major
Central Marin Sanitation Agency	Central Marin Sanitation Agency Wastewater Treatment Plant	1301 Andersen Drive San Rafael, CA 94901	Major
Crockett Community Services District	Port Costa Wastewater Treatment Plant	End of Canyon Lake Drive Port Costa, CA 94569	Minor
Delta Diablo	Delta Diablo Wastewater Treatment Plant	2500 Pittsburg-Antioch Highway Antioch, CA 94509	Major
East Bay Dischargers Authority (EBDA); Cities of Hayward and San Leandro; Oro Loma Sanitary District; Castro Valley Sanitary District; Union Sanitary District; East Bay Regional Parks District; Livermore-Amador Valley Water	EBDA Common Outfall	EBDA Common Outfall 14150 Monarch Bay Drive San Leandro, CA 94577	Major
	Hayward Water Pollution Control Facility		
	San Leandro Water Pollution Control Plant		
	Oro Loma/Castro Valley Sanitary Districts Water Pollution Control Plant		
	Raymond A. Boege Alvarado Wastewater Treatment Plant		

[1] San Francisco Bay consists of the Sacramento/San Joaquin River Delta, Suisun Bay, Carquinez Strait, San Pablo Bay, Central San Francisco Bay, Richardson Bay, Lower San Francisco Bay, and South San Francisco Bay.

Discharger	Facility Name	Facility Address	Minor/ Major
Management Agency; Dublin Ramon Services District; and City of Livermore	Livermore-Amador Valley Water Management Agency Export and Storage Facilities		
	Dublin San Ramon Services District Wastewater Treatment Plant		
	City of Livermore Water Reclamation Plant		
East Bay Municipal Utility District	East Bay Municipal Utility District, Special District No. 1 Wastewater Treatment Plant	2020 Wake Avenue Oakland, CA 94607	Major
Fairfield-Suisun Sewer District	Fairfield-Suisun Wastewater Treatment Plant	1010 Chadbourne Road Fairfield, CA 94534	Major
Las Gallinas Valley Sanitary District	Las Gallinas Valley Sanitary District Sewage Treatment Plant	300 Smith Ranch Road San Rafael, CA 94903	Major
Marin County (Paradise Cove), Sanitary District No. 5 of	Paradise Cove Treatment Plant	3700 Paradise Drive Tiburon, CA 94920	Minor
Marin County (Tiburon), Sanitary District No. 5 of	Wastewater Treatment Plant	2001 Paradise Drive Tiburon, CA 94920	Minor
Millbrae, City of	Water Pollution Control Plant	400 East Millbrae Avenue Millbrae, CA 94030	Major
Mt. View Sanitary District	Mt. View Sanitary District Wastewater Treatment Plant	3800 Arthur Road Martinez, CA 94553	Major
Napa Sanitation District	Soscol Water Recycling Facility	1515 Soscol Ferry Road Napa, CA 94558	Major
Novato Sanitary District	Novato Sanitary District Wastewater Treatment Plant	500 Davidson Street Novato, CA 94945	Major
Palo Alto, City of	Palo Alto Regional Water Quality Control Plant	2501 Embarcadero Way Palo Alto, CA 94303	Major
Petaluma, City of	Municipal Wastewater Treatment Plant	3890 Cypress Drive Petaluma, CA 94954	Major
Pinole, City of	Pinole-Hercules Water Pollution Control Plant	11 Tennent Avenue Pinole, CA, 94564	Major
Rodeo Sanitary District	Rodeo Sanitary District Water Pollution Control Facility	800 San Pablo Avenue Rodeo, CA 94572	Major
San Francisco (San Francisco International Airport), City and County of	Mel Leong Treatment Plant, Sanitary Plant	Bldg. 924 Clearwater Drive San Francisco, CA 94128	Major
San Francisco (Southeast Plant), City and County of	Southeast Water Pollution Control Plant	750 Phelps Street San Francisco, CA 94124	Major
San Jose and Santa Clara, Cities of	San Jose/Santa Clara Water Pollution Control Plant	700 Los Esteros Road San Jose, CA 95134	Major
San Mateo, City of	City of San Mateo Wastewater Treatment Plant	2050 Detroit Drive San Mateo, CA 94404	Major
Sausalito-Marin City Sanitary District	Sausalito-Marin City Sanitary District Wastewater Treatment Plant	1 East Road Sausalito, CA 94965	Major

Discharger	Facility Name	Facility Address	Minor/ Major
Sewerage Agency of Southern Marin	Sewerage Agency of Southern Marin Wastewater Treatment Plant	450 Sycamore Avenue Mill Valley, CA 94941	Major
Silicon Valley Clean Water	Silicon Valley Clean Water Wastewater Treatment Plant	1400 Radio Road Redwood City, CA 94065	Major
Sonoma Valley County Sanitation District	Municipal Wastewater Treatment Plant	22675 8th Street East Sonoma, CA 95476	Major
South San Francisco and San Bruno, Cities of	South San Francisco and San Bruno Water Quality Control Plant	195 Belle Air Road South San Francisco, CA 94080	Major
Sunnyvale, City of	Sunnyvale Water Pollution Control Plant	1444 Borregas Avenue, Sunnyvale, CA 94089	Major
Treasure Island Development Authority	Treasure Island Wastewater Treatment Plant	1220 Avenue M San Francisco, CA 94130	Major
Vallejo Flood and Wastewater District	Vallejo Flood and Wastewater District Wastewater Treatment Plant	450 Ryder Street Vallejo, CA 94590	Major
West County Agency; West County Wastewater District; City of Richmond; and Richmond Municipal Sewer District	West County Agency Combined Outfall	2910 Hilltop Drive Richmond, CA 94806	Major
	West County Wastewater District Treatment Plant		
	Richmond Municipal Sewer District Water Pollution Control Plant		

Table 2. Discharge Locations

Discharge locations are specified in the individual NPDES permits listed in Attachment B.

This Order was adopted on: **July 10, 2024**
This Order shall become effective on: **October 1, 2024**
This Order shall expire on: **September 30, 2029**
CIWQS regulatory measure number: **457777**

I hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the San Francisco Bay Regional Water Quality Control Board (Regional Water Board) on the date indicated above.

Eileen White, Executive Officer

CONTENTS

TABLES

ATTACHMENTS

1. FACILITY INFORMATION

Information describing the facilities subject to this Order is summarized in Table 1 and in Fact Sheet (Attachment F) sections 1 and 2.

2. FINDINGS

The Regional Water Board finds the following:

2.1. Legal Authorities. This Order serves as WDRs pursuant to California Water Code article 4, chapter 4, division 7 (commencing with § 13260). This Order is also issued pursuant to federal Clean Water Act (CWA) section 402 and implementing regulations adopted by U.S. EPA and Water Code chapter 5.5, division 7 (commencing with § 13370). It shall serve as a National Pollutant Discharge Elimination System (NPDES) permit for point source discharges of nutrients from the Discharger facilities listed in Attachment B to surface waters.

2.2. Background and Rationale for Requirements. San Francisco Bay is the West Coast's largest estuary and home to over seven million people. It has long been recognized as a nutrient-enriched estuary with higher nitrogen and phosphorus concentrations than most estuaries in the world. Too much nitrogen and phosphorous can result in excessive phytoplankton growth, which can be associated with harmful algal blooms and low dissolved oxygen levels. In San Francisco Bay, nitrogen has more influence on phytoplankton growth than phosphorous. During the dry season, the Dischargers account for about 86 percent of the total nitrogen loading to San Francisco Bay.

Despite being nutrient rich, the Bay has historically resisted excessive phytoplankton growth due to its turbidity, which limits the light penetration necessary for phytoplankton growth; strong tidal mixing, which limits periods of stratification necessary for phytoplankton to thrive at the Bay's surface; and filter-feeding clams, which graze on phytoplankton. However, increasing phytoplankton levels in the early 2000s indicated that the Bay's resilience may be weakening, and the Region's population growth could increase nitrogen loads.

The Regional Water Board initiated a Nutrient Management Strategy in 2012 and convened a Steering Committee in 2014, with the participation of U.S. EPA, the Dischargers, scientific researchers, and non-governmental organizations. The Steering Committee oversees a Nutrient Science Program managed by the San Francisco Estuary Institute (SFEI).[1] The Nutrient Science Program includes

[1] SFEI is a premier science organization that has been rigorously monitoring and analyzing San Francisco Bay for pollutants through the Regional Monitoring Program and nutrients through the Nutrients Science Program through coordination with publicly owned treatment works, the Regional Water Board, U.S. EPA, and non-governmental organizations.

monitoring, modeling, and special studies to better understand and respond to the possibility that the Bay could be losing its resilience to high nutrient levels, to evaluate nutrient reduction alternatives to prevent or resolve adverse impacts to the Bay, and to establish a scientific basis for regulatory actions.

In 2014, the Regional Water Board issued the first Nutrients Watershed Permit to provide a consistent approach for regulating municipal wastewater treatment plants within the San Francisco Bay watershed. The permit required the Dischargers to (1) contribute $880,000 per year to the Nutrient Science Program to support receiving water monitoring, modeling, and special studies to characterize the Bay's response to current and future nutrient loads; (2) monitor their effluent to characterize nutrient discharge concentrations and loads; and (3) evaluate opportunities to reduce nutrient discharges through treatment plant optimization and upgrades.

In 2019, the Regional Water Board reissued the Nutrients Watershed Permit. The permit required the Dischargers to (1) to contribute $2.2 million per year to continue and enhance the Nutrient Science Program; (2) continue to monitor their effluent to characterize nutrient discharge concentrations and loads; and (3) to evaluate opportunities to reduce nutrient discharges through recycling treated wastewater or using wetlands systems and other nature-based or multi-benefit systems. The resulting information, with the previously compiled information about potential opportunities to reduce nutrient discharges through treatment plant optimization and upgrades, provides a complete suite of nutrient reduction strategies from which the Dischargers can select the most cost-effective actions that provide the most benefits.

In July and August 2022, San Francisco Bay experienced a significant harmful algal bloom that resulted in nuisance odors and massive fish kills due in part to loss of dissolved oxygen in the water from decaying algae. The harmful algal bloom resulted in thousands of dead fish and made national news.[2] While the causes of the harmful algal bloom are unknown, high levels of nutrients in Bay waters enabled its extensive propagation by providing fuel for the algae to consume. This event provided cause for the Regional Water Board to establish requirements in this reissued Nutrients Watershed Permit for nutrient load reductions to prevent or minimize the propagation of a future harmful algal bloom that could adversely affect beneficial uses of the Bay. Modeling and observational data demonstrate that San Francisco Bay can no longer assimilate current nutrient loads during the summer months without fueling a large algal bloom and significant fish kills as occurred in July and August 2022. Nutrient load reductions are necessary to comply with the biostimulatory substances water quality

[2] See, e.g., https://www.nytimes.com/2022/08/30/us/fish-dead-algae-bloom-california.html?searchResultPosition=1 and https://www.cnn.com/2022/09/03/us/san-francisco-bay-area-algae-fish/index.html.

objective, which provides that waters shall not contain such substances in concentrations that promote aquatic growths to the extent that they cause nuisance or adversely affect beneficial uses.

The Regional Water Board developed the requirements in this Order based on information the Dischargers submitted, information obtained through monitoring and reporting programs, and other available information. The Fact Sheet contains background information and rationales for this Order's requirements and is hereby incorporated into, and constitutes findings for, this Order. Attachments A, B, C, D, and E are also incorporated into this Order.

This Order requires the Dischargers to reduce dry season total inorganic nitrogen loads to San Francisco Bay by 40 percent regionwide compared to 2022 loads over a 10-year period, which is the maximum time allowed in an NPDES permit by the State Water Resources Control Board's (State Water Board) *Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits* (Compliance Schedule Policy; Resolution 2008-0025). The load reduction was developed using a model created by SFEI, which manages the Nutrients Science Program. The nitrogen load reductions this Order requires are the minimum necessary to protect the Bay's aquatic life from an algal bloom that could form under ambient conditions similar to those in July and August 2022 (e.g., weak tides, solar irradiance, low wind speed, low turbidity, and warm temperature) when the large algal bloom fueled by available nitrogen resulted in massive fish kills.

The cost to implement these load reductions will be significant. In response to the first Nutrients Watershed Permit requirement to evaluate opportunities to reduce nutrient discharges through treatment plant optimization and upgrades, the Dischargers prepared a report, *Bay Area Clean Water Agencies Nutrient Reduction Study: Potential Nutrient Reduction by Treatment Optimization, Sidestream Treatment, Treatment Upgrades, and Other Means*, dated June 22, 2018. The evaluation found that to implement conventional technologies to reduce total nitrogen concentrations below 15 mg/L during the dry season would cost about $8.8 billion regionwide in 2018 dollars, which amounts to nearly $11 billion in 2024.

This Order requires Dischargers to take steps to comply with the 40 percent load reduction requirement within 10 years, while maintaining at least current performance in the interim. If a Discharger cannot comply within 10 years, the Regional Water Board will consider regulatory mechanisms as warranted and as available to grant more time (see Fact Sheet section 6.3.5). This Order recognizes that multi-benefit solutions, such as nature-based treatment or water recycling, may take longer than 10 years to implement, and the Regional Water Board will use any available regulatory mechanisms to allow more time for these projects to be implemented.

This Order requires Dischargers to continue funding the Nutrient Science Program. For the permit reissuance scheduled for 2029, the Regional Water Board will consider any new information available (e.g., observational data, improved load response modeling, and other scientific updates generated by the Nutrient Science Program) to reassess and refine the final limits in this Order to ensure that they remain appropriate to protect San Francisco Bay beneficial uses. This may involve adjusting the magnitude of the required load reductions, the spatial scale for the load reductions (e.g., by subembayment instead of baywide), or the time-period used to evaluate nitrogen loading.

2.3. Notification of Interested Parties. The Regional Water Board notified the Dischargers and interested agencies and persons of its intent to prescribe these WDRs and has provided an opportunity to submit written comments and recommendations. Fact Sheet section 8.1 provides details regarding the notification.

2.4. Consideration of Public Comment. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Fact Sheet section 8.4 provides details regarding the public hearing.

THEREFORE, IT IS HEREBY ORDERED that Order R2-2019-0017 (previous order) is rescinded upon the effective date of this Order, except for enforcement purposes, and, in order to meet the provisions contained in Water Code division 7 (commencing with § 13000) and regulations adopted thereunder and the provisions of the CWA and regulations and guidelines adopted thereunder, the Dischargers shall comply with the requirements in this Order. This action in no way prevents the Regional Water Board from taking enforcement action for violations of the previous order.

3. DISCHARGE PROHIBITIONS

This Order does not establish additional discharge prohibitions beyond those established in the individual NPDES permits listed in Attachment B of this Order.

4. EFFLUENT LIMITATIONS

4.1. Interim Effluent Limitations. The Dischargers shall comply with the following interim seasonal effluent limitations at the discharge points and monitoring locations specified in the Monitoring and Reporting Program (MRP) (Attachment E). Final effluent limitations shall become effective in accordance with the compliance schedule established by Provision 6.3.3 of this Order. Compliance with these interim limitations shall be determined seasonally for each Discharger based on discharges from May 1 through September 30. Mass loads shall be determined by calculating each daily average total inorganic nitrogen load from daily flows and concentrations, averaging all resulting daily loads, and rounding to two significant figures.

Table 3. Interim Effluent Limitations

Discharger	Total Inorganic Nitrogen (kg/day)
American Canyon, City of	79
Benicia, City of	290
Burlingame, City of	610
Central Contra Costa Sanitary District	4,300
Central Marin Sanitation Agency	1,300
Crockett Community Services District	5.3
Delta Diablo	2,000
East Bay Dischargers Authority (EBDA)	9,000
City of Hayward	
City of San Leandro	
Oro Loma Sanitary District and Castro Valley Sanitary District	
Union Sanitary District	
Livermore-Amador Valley Water Management Agency	
Dublin San Ramon Services District	
City of Livermore	
East Bay Municipal Utility District	11,000
Fairfield-Suisun Sewer District	1,600
Marin County (Paradise Cove), Sanitary District No. 5 of	3.7
Marin County (Tiburon), Sanitary District No. 5 of	69
Millbrae, City of	340
Mt. View Sanitary District	190
Novato Sanitary District	210
Palo Alto, City of	2,900
Pinole, City of	460
Rodeo Sanitary District	50
San Francisco (San Francisco International Airport), City and County of	560
San Francisco (Southeast Plant), City and County of	11,000
San Jose and Santa Clara, Cities of	6,400
San Mateo, City of	1,700
Sausalito-Marin City Sanitary District	180
Sewerage Agency of Southern Marin	280
Silicon Valley Clean Water	3,000
South San Francisco and San Bruno, Cities of	1,500
Sunnyvale, City of	830
Treasure Island Development Authority	29
Vallejo Flood and Wastewater District	1,000

Discharger	Total Inorganic Nitrogen (kg/day)
West County Agency	1,100
West County Wastewater District	
City of Richmond and Richmond Municipal Sewer District	

4.2. Final Effluent Limitations. In accordance with the compliance schedule established by this Order in Provision 6.3.3, starting October 1, 2034, the Dischargers shall comply with the following final seasonal water quality-based effluent limitations at the discharge points and monitoring locations specified in the MRP. Compliance with these final limitations shall be determined seasonally based on discharges from May 1 through September 30. If the sum of all the individual Dischargers' total inorganic nitrogen mass loads is greater than the Aggregate Mass Load Limit set forth below, the Dischargers whose total inorganic nitrogen mass loads exceed their individual limitations shall be in violation of their individual limitations. Mass loads shall be determined by calculating each daily average total inorganic nitrogen load from daily flows and concentrations, averaging all resulting daily loads, and rounding to two significant figures. The Aggregate Mass Load shall be determined by summing each individual Dischargers' average mass load.

Table 4. Final Effluent Limitations

Discharger	Total Inorganic Nitrogen (kg/day) [2]
American Canyon, City of	62
Benicia, City of	120
Burlingame, City of	160
Central Contra Costa Sanitary District	2,300
Central Marin Sanitation Agency	480
Crockett Community Services District	3.7
Delta Diablo [1]	920
East Bay Dischargers Authority (EBDA)	4,200
City of Hayward	
City of San Leandro	
Oro Loma Sanitary District and Castro Valley Sanitary District	
Union Sanitary District	
Livermore-Amador Valley Water Management Agency	
Dublin San Ramon Services District	
City of Livermore	
East Bay Municipal Utility District	3,300
Fairfield-Suisun Sewer District	880
Marin County (Paradise Cove), Sanitary District No. 5 of	3.5

Discharger	Total Inorganic Nitrogen (kg/day) [2]
Marin County (Tiburon), Sanitary District No. 5 of	47
Millbrae, City of	100
Mt. View Sanitary District	78
Novato Sanitary District	140
Palo Alto, City of	1,200
Pinole, City of	190
Rodeo Sanitary District	38
San Francisco (San Francisco International Airport), City and County of	71
San Francisco (Southeast Plant), City and County of	3,300
San Jose and Santa Clara, Cities of	5,000
San Mateo, City of	670
Sausalito-Marin City Sanitary District	69
Sewerage Agency of Southern Marin	140
Silicon Valley Clean Water	880
South San Francisco and San Bruno, Cities of	560
Sunnyvale, City of	740
Treasure Island Development Authority	21
Vallejo Flood and Wastewater District	580
West County Agency	430
West County Wastewater District	
City of Richmond and Richmond Municipal Sewer District	
Aggregate Mass Load Limit (kg/day)	26,700

Footnote:

[1] Delta Diablo may apply a discharge adjustment to its final discharge mass emission when determining compliance with its limit. The adjustment shall be based on measured total inorganic nitrogen levels from the reverse osmosis concentrate it receives from the City of Antioch's Brackish Water Desalination Project. Delta Diablo shall calculate the adjustment by using flow and total inorganic nitrogen concentrations in reverse osmosis concentrate that must be monitored at the same monitoring frequency as effluent in MRP Table E-4.

[2] If a Discharger accepts wastewater from another agency for its recycled water supply, but then is unable to recycle it due to uncontrollable factors, the Discharger shall document such factors in its related self-monitoring reports.

5. RECEIVING WATER LIMITATIONS

The receiving water limitations for the biostimulatory substances water quality objective that are applicable to the Dischargers are established in the individual NPDES permits listed in Attachment B.

6. PROVISIONS

6.1. Standard Provisions. The Dischargers shall comply with the standard provisions in Attachment D and G of their individual NPDES permits listed in Attachment B of this Order.

6.2. Monitoring and Reporting Provisions. The Discharger shall comply with the Monitoring and Reporting Program (MRP, Attachment E) and future revisions thereto, and applicable monitoring and reporting requirements in Attachments D and G of their individual NPDES permits listed in Attachment B of this Order.

6.3. Special Provisions

6.3.1. **Reopener Provisions**. The Regional Water Board may modify or reopen this Order prior to its expiration date in any of the following circumstances as allowed by law or as otherwise authorized by law. Any Discharger may request a permit modification in accordance with 40 C.F.R section 122.62. With any such request, the Discharger shall include antidegradation and anti-backsliding analyses as necessary.

6.3.1.1. If present or future investigations demonstrate that the discharges governed by this Order have or will have a reasonable potential to cause or contribute to adverse impacts on water quality or beneficial uses of the receiving waters;

6.3.1.2. If new or revised water quality objectives or total maximum daily loads (TMDLs) come into effect for San Francisco Bay or contiguous water bodies (whether statewide, regional, or site-specific). In such cases, effluent limitations in this Order may be modified as necessary to reflect the updated water quality objectives or wasteload allocations. Adoption of the effluent limitations in this Order does not restrict in any way future modifications based on legally adopted water quality objectives or TMDLs or as otherwise permitted under federal regulations governing NPDES permit modifications;

6.3.1.3. If studies provide a basis for determining that a permit condition should be modified;

6.3.1.4. If a State Water Board precedential decision, new policy, new law, or new regulation is adopted;

6.3.1.5. If an administrative or judicial decision on a separate NPDES permit or WDRs addresses requirements similar to this discharge; or

6.3.1.6. If the final effluent limitations for total inorganic nitrogen do not attain and maintain applicable water quality standards.

6.3.2. **Monitoring, Modeling, and Subembayment Studies.** Each Discharger listed in Table 1 shall conduct, or cause to be conducted, studies to continue to address the potential adverse impacts of nutrients on San Francisco Bay beneficial uses. The studies shall include the efforts described below:

6.3.2.1. **Support Receiving Water Monitoring.** Individually or in collaboration with other regional stakeholders, support receiving water monitoring for nutrients

and related constituents. These efforts shall supplement the monitoring the Regional Monitoring Program and other entities already undertake, by providing the following:

6.3.2.1.1. A network of nutrient monitoring locations to track nutrient concentrations, dissolved oxygen, turbidity, and phytoplankton biomass in San Francisco Bay;

6.3.2.1.2. Adequate data to support continued modeling of nutrient fate and transport in San Francisco Bay; and

6.3.2.1.3. Studies furthering the understanding of harmful algae bloom development, including, at a minimum, monitoring for algae species and toxins.

6.3.2.2 **Increase San Francisco Bay's Resilience**. Explore opportunities to restore wetlands or to increase the resiliency of San Francisco Bay against nutrient loading (e.g., eelgrass beds to increase dissolved oxygen).

6.3.2.3. **Support Science Plan Development and Implementation.** Individually or in collaboration with other regional stakeholders, support further development, update, and implementation of the Nutrient Science Program to implement the San Francisco Bay Nutrient Management Strategy and support consideration of future management actions, including the development of nutrient water quality objectives. The Nutrient Science Program shall include studies necessary to assess water quality attainment scenarios for San Francisco Bay as a whole and for specific subembayments. The modeling and monitoring described in Provision 6.3.2.1, above, shall inform the Nutrient Science Program and any future management actions.

By June 1, 2025, submit, or cause to be submitted, an updated science plan and schedule for proposed studies, and annually update and revise the plan and schedule as necessary by June 1 of each subsequent year.

6.3.3. Compliance Schedule Milestones and Progress Reporting

This Order establishes compliance schedules for Dischargers in Table 4 to meet the final water quality-based effluent limitations for total inorganic nitrogen within 10 years consistent with the State Water Board's Compliance Schedule Policy, as further explained in Fact Sheet section 4.2.1. To demonstrate progress in meeting these limits, each Discharger listed in Table 4 shall submit the information required below with the Annual Nutrients Report required by MRP section 5.2.2 starting with the Group Annual Report due April 1, 2025, and each year thereafter:

6.3.3.1. Summary of progress toward meeting the total inorganic nitrogen final effluent limitations in Table 4, including actions taken to reduce total

inorganic nitrogen loads. Table 5, below, includes specific milestones that must also be completed. Early Actors defined by Provision 6.3.6 shall instead provide annual status updates on project implementation.

Table 5. Compliance Schedule Milestones

Milestone	Compliance Date
Identify Compliance Alternatives. Dischargers shall identify preliminary alternatives for meeting the final effluent limitations in Table 4. This may include traditional treatment infrastructure, optimization, nature-based solutions, recycled water, trading, or a combination thereof. The submittal shall note whether the identified alternatives require pilot projects. If a Discharger has already identified a compliance pathway (selected alternative or combination of alternatives), the Discharger shall instead describe the compliance pathway, begin implementation, and provide a status update.	April 1, 2025
Perform Alternatives Analysis. Dischargers shall evaluate the compliance alternatives and identify which alternative or combination of alternatives (i.e., compliance pathway) best achieves compliance with the final effluent limitations in Table 4. If a Discharger has already identified a compliance pathway, the Discharger shall provide a status update regarding implementation. If a Discharger plans to meet the final effluent limits in Table 4 solely or in part through treatment optimization, it shall include a schedule to complete the optimization portion of the work no later than May 1, 2028, and begin implementation in accordance with its schedule.	April 1, 2026
Submit Compliance Plan. Dischargers shall describe proposed improvements and provide an implementation schedule for major milestones for the compliance pathway identified above, including a schedule for design and construction of improvements. If a Discharger chooses to implement a Multi-Benefit Solution consistent with Provision 6.3.5, it shall submit a governance plan that documents partnerships and a memorandum of understanding or agreement among parties to implement nature-based solutions (e.g., land ownership and funding partnerships) or wastewater recycling (e.g., agreement between wastewater agencies, water purification entity, water contractors).	April 1, 2027 [1]
Submit Design Progress Report. If a Discharger intends to implement a capital project, such as sidestream, split-stream, or full-scale treatment, to comply with the final effluent limits in Table 4, it shall provide project details for each capital project, including a project description, estimated nutrient removal from the project, evidence that the planned improvements have moved into the design stage, the percent completion of the design, an updated implementation schedule, estimated capital costs, a financial assessment, and a funding strategy.	April 1, 2028 [1]
Submit Design Progress Report and Compliance Update. Dischargers shall summarize their progress toward meeting the final effluent limits in Table 4 and provide a status update regarding	April 1, 2029 [1]

implementation of their compliance pathway and an updated implementation schedule. If a Discharger is implementing a capital project, it shall provide a status update on its progress from the previous year, including, at minimum, the percent completion of the design, the status of contract documents used to bid projects, and an updated implementation schedule for the capital project.	

Footnote:

[1] The compliance date for this task shall be extended by one year if a Discharger experiences significant delays related to (1) the need to conduct pilot studies prior to design, (2) unsuccessful pilot studies that cause the Discharger to change course, (3) the need to develop agreements to pursue water recycling or nature-based solutions, (4) legal challenges, or (5) engineering challenges that are beyond the Discharger's control. The Discharger shall notify the Executive Officer at least 90 days before the deadline and provide documentation that it satisfies one of the conditions for an extension above.

6.3.3.2. Summary of changes to the project plans and design and construction schedules listed in the previous year's update and rationale for the changes along with any additional plans for nitrogen reductions if current planned projects will not achieve the final effluent limits in Table 4.

6.3.3.3. Notification of the Discharger's compliance or noncompliance with this provision.

6.3.4. **Regional Planning to Reduce Total Inorganic Nitrogen Loads.** The Dischargers listed in Table 4 and designated as "major" in Table 1 shall, individually or in collaboration with other regional stakeholders, develop a report that describes regionwide planning efforts to meet the final effluent limitations required by the end of the compliance schedule established through this permit. The report will complement individual reporting required by Provision 6.3.3 and provide a regionwide perspective toward ensuring compliance is achieved as soon as possible. The report shall include the following:

a. Regional schedule that lays out the phasing of identified future projects;

b. Identification of anticipated capital, operation, and maintenance costs of proposed projects, to the extent feasible for the level of planning;

c. Description of anticipated financing alternatives and impacts on agency rates (i.e., the cost to the community) associated with the identified projects;

d. Assessment of the impact of the proposed projects on other regulations or requirements (e.g., air and biosolids regulations);

e. Identification of nutrient reduction projects that would occur beyond the compliance schedule established in Provision 6.3.3 (with a focus on recycled water and nature-based solution projects) with the potential to reduce baywide total inorganic nitrogen load to below 22,000 kg/day and below 17,600 kg/day (50 percent and 60 percent reduction from 2022 total inorganic nitrogen load); and

f. Nutrient trading program, if Dischargers seek to engage in trading[3], consistent with U.S. EPA's *Water Quality Trading Policy* (January 13, 2003) to facilitate achieving total inorganic nitrogen load reductions in Table 4. The proposed trading program should evaluate baywide and subembayment trading allowances that are supported by the best available science.

6.3.4.1. **Scoping Plan.** By July 1, 2025, the Dischargers shall, individually or in collaboration with regional stakeholders, submit a Scoping Plan describing the work proposed to develop the Final Report required below.

6.3.4.2. **Status Reports.** By July 1, 2026, and again by July 1, 2027, the Dischargers shall submit, or cause to be submitted, a status report describing the tasks completed and preliminary findings.

6.3.4.3. **Final Report.** By March 31, 2029, the Dischargers shall submit, or cause to be submitted, a Final Report describing the results of their evaluations.

6.3.5. **Multi-Benefit Solutions for Load Reductions.** Dischargers that identify long-term multi-benefit solutions[4] (e.g., water recycling or nature-based solutions) that cannot be completed by the effective date of the final effluent limitations in Table 4 shall identify such projects by, and their intent to pursue and implement them, as required by Provision 6.3.3.1, including the due dates in Table 5. If these projects result in total inorganic nitrogen loads at or below the individual final effluent limitations in Table 4, the Regional Water Board will consider available regulatory mechanisms to provide more time to comply as explained in the Fact Sheet.

Dischargers pursuing long-term multi-benefit solutions shall satisfy the requirements in Provision 6.3.3.

6.3.6. **Recognition of Early Actors**. Dischargers that have already completed or begun construction or implementation of projects to reduce total inorganic nitrogen discharges to San Francisco Bay by the effective date of this Order may qualify as early actors. These Dischargers shall provide updates with each

[3] Water quality trading is a market-based approach that offers efficiency in achieving water quality improvements on a watershed basis. With more stringent limits for total inorganic nitrogen, water quality trading would allow one Discharger to control nitrogen at levels greater than required and sell "credits" to another Discharger, which would use the credits to supplement its level of treatment to comply with final effluent limitations. Trading capitalizes on economies of scale and the control cost differentials between and among sources.

[4] Multi-benefit solutions refer to initiatives that incorporate nature-based solutions, such as horizontal levees, open water treatment wetlands, or wastewater recycling (both potable and non-potable). These projects are designed to reduce nutrient loads while also providing other benefits, such as enhancing flood control, increasing water supply, or improving habitat quality.

Annual Nutrients Report required by MRP section 5.2.2. Upon completion of these projects, if a Discharger's total inorganic nitrogen loads are above the individual final effluent limitations in Table 4, the Regional Water Board will consider available regulatory mechanisms to provide more time to comply as explained in Fact Sheet section 6.3.5.

6.3.7. **Report of Waste Discharge.** Each Discharger shall file a report of waste discharge as an application for updated WDRs in accordance with title 23, California Code of Regulations, section 2235.1 and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than March 31, 2029. To comply with this requirement, each Discharger may reference the date its individual permit application was submitted for reissuance of its individual permit. Additionally, each Discharger's application for permit reissuance must include nutrient data required by this Order. This requirement may also be satisfied by referencing individual self-monitoring reports. Alternatively, the Dischargers may choose to submit a collective report of waste discharge by including the above information for each Discharger covered by this Order in one application.

ATTACHMENT A – DEFINITIONS AND ABBREVIATIONS

DEFINITIONS

Arithmetic Mean (μ)
Also called the average, sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

Arithmetic mean = $\mu = \Sigma x / n$

where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples

Bioaccumulative
Taken up by an organism from its surrounding medium through gill membranes, through epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Calendar Month(s)
Period from the first day of a month through the last day of a month (e.g., January 1 to January 31). For toxicity monitoring, the period is from the first day of a routine monitoring test to the day before the corresponding day of the next month (e.g., from June 15 to July 14), or to the last day of the next month if there is no corresponding day (e.g., January 31 to February 28).

Carcinogenic
Known to cause cancer in living organisms.

Daily Discharge
Either: (1) the total mass of a constituent discharged over a calendar day (12:00 a.m. through 11:59 p.m.) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit) for a constituent with limitations expressed in units of mass; or (2) the unweighted arithmetic mean measurement of a constituent over a day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period is considered the result for the calendar day in which the 24-hour period ends.

Detected, but Not Quantified (DNQ)
Sample results less than the RL, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

Dilution Credit
Amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

Enclosed Bays
Indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

Estimated Chemical Concentration
Concentration that results from the confirmed detection of a substance below the ML by the analytical method.

Estuaries
Waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters are considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220; Suisun Bay; Carquinez Strait downstream to the Carquinez Bridge; and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inland Surface Waters
All surface waters of the state that are not the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation
Highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation
Lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Median
Middle measurement in a data set. The median of a data set is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = $(X_{n/2} + X_{(n/2+1)})/2$ (i.e., the midpoint between n/2 and n/2+1).

Method Detection Limit (MDL)
Minimum concentration of a substance that can be reported with 99 percent confidence that the measured concentration is distinguishable from method blank results, as defined in 40 C.F.R. part 136, Appendix B.

Minimum Level (ML)
Concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Mixing Zone
Limited volume of receiving water allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

Not Detected (ND)
Sample results less than the laboratory's MDL.

Persistent Pollutants
Substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program
Program of waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of a Pollutant Minimization Program is to reduce all potential sources of a priority pollutant through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. Cost effectiveness may be considered when establishing the requirements of a Pollutant Minimization Program. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), is considered to fulfill the Pollutant Minimization Program requirements.

Pollution Prevention
Any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State Water Resources Control Board or Regional Water Board.

Regulatory Management Decision (RMD)
Decision that represents the maximum allowable error rates and thresholds for toxicity and non-toxicity that would result in an acceptable risk to aquatic life.

Reporting Level (RL)
ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order, including an additional factor if applicable as discussed herein. For priority pollutants, the MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from State Implementation Plan (SIP) Appendix 4 in accordance with SIP section 2.4.2 or established in accordance with SIP section 2.4.3. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

Source of Drinking Water
Any water designated as municipal or domestic supply (MUN) beneficial use.

Standard Deviation (σ)
Measure of variability calculated as follows:

Standard deviation = $\sigma = (\Sigma[(x - \mu)^2]/(n - 1))^{0.5}$

where: x is the observed value
μ is the arithmetic mean of the observed values
n is the number of samples

ABBREVIATIONS

°F	degrees Fahrenheit
°C	degrees Celsius
%	Percent
µg/L	Micrograms per liter
1/Discharge	Once per discharge
1/Day	Once per day
1/Month	Once per month
1/Quarter	Once per quarter
1/Week	Once per week
1/Year	Once per year
2/Month	Two times per month

2/Week	Twice per week
2/Year	Twice per year
B	Background concentration
C	Water quality criterion or objective
C-24	24-hour composite
CIWQS	California Integrated Water Quality System
Continuous	Measured continuously
Continuous/D	Measured continuously, and recorded and reported daily
Continuous/H	Measured continuously, and recorded and reported hourly
CTR	California Toxics Rule
CV	Coefficient of Variation
DMR	Discharge Monitoring Report
DNQ	Detected, but not quantified
DL	Detection level
ECA	Effluent Concentration Allowance
Grab	Grab sample
MDL	Method detection limit
MEC	Maximum effluent concentration
MG	Million gallons
mg/L	Milligrams per liter
mg/L as N	Milligrams per liter as nitrogen
MGD	Million gallons per day
ML	Minimum level
MRP	Monitoring and Reporting Program (Attachment E)
ND	Not detected
NTR	National Toxics Rule
NTU	Nephelometric turbidity units
ppt	Parts per thousand
RL	Reporting level
RPA	Reasonable potential analysis
SIP	*Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy)

SMR	Self-Monitoring Report
s.u.	Standard pH units
WDRs	Waste discharge requirements
WQBEL	Water quality-based effluent limitation

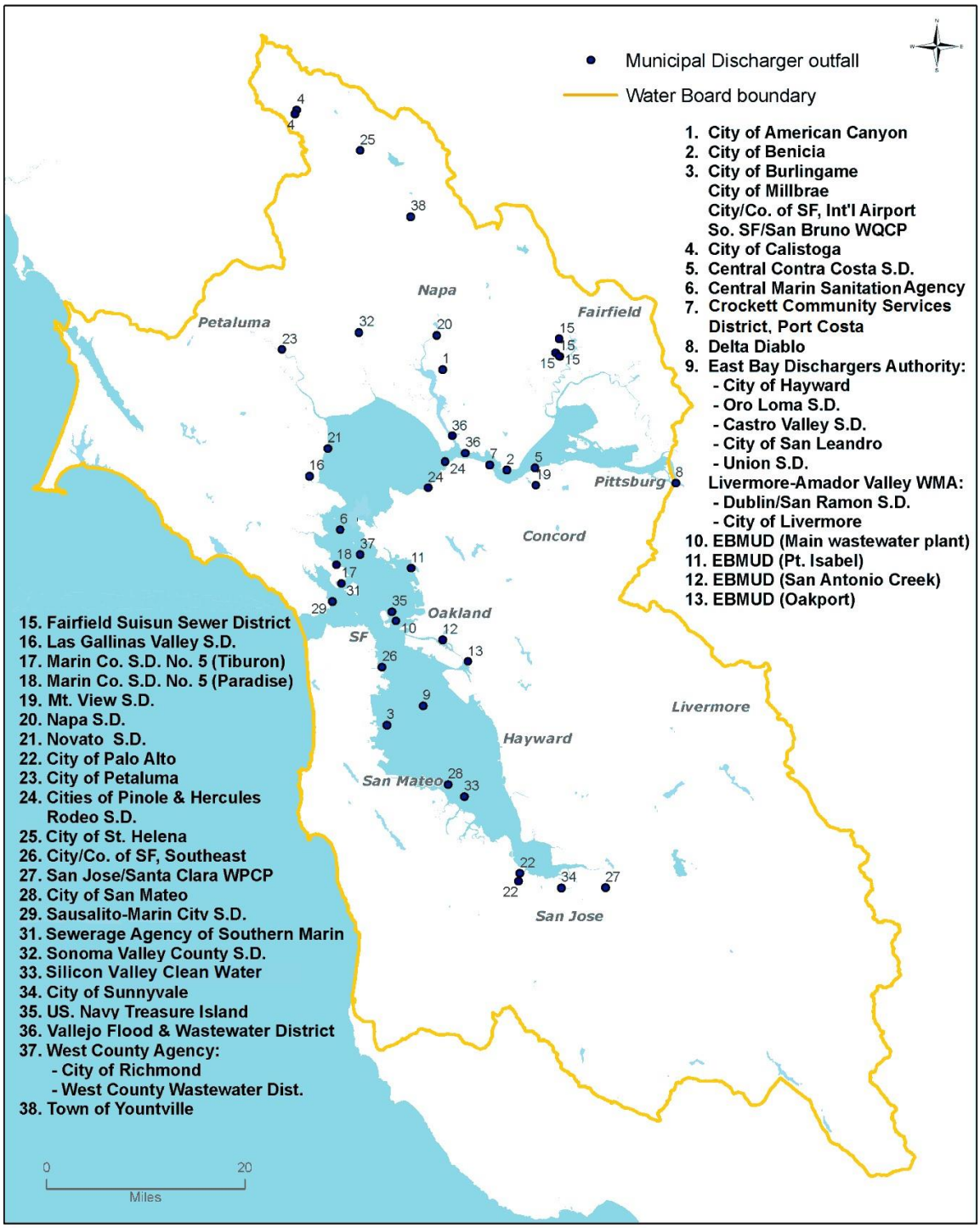
ATTACHMENT B – INDIVIDUAL NPDES PERMITS AND ORDER NUMBERS

Discharger	Individual NPDES Permit	Individual Order	Effective Date	Expiration Date
American Canyon, City of	CA0038768	R2-2022-0019	8/01/2022	7/31/2027
Benicia, City of	CA0038091	R2-2019-0034	2/01/2020	1/31/2025
Burlingame, City of	CA0037788	R2-2023-0010	1/01/2024	12/31/2028
Central Contra Costa Sanitary District	CA0037648	R2-2022-0020	8/01/2022	7/31/2027
Central Marin Sanitation Agency	CA0038628	R2-2023-0006	7/01/2023	6/30/2028
Crockett Community Services District	CA0037885	R2-2024-0009	8/01/2024	7/31/2029
Delta Diablo	CA0038547	R2-2019-0035	2/01/2020	1/31/2025
East Bay Dischargers Authority (EBDA)	CA0038769	R2-2022-0023	9/01/2022	8/31/2027
City of Hayward				
City of San Leandro				
Oro Loma Sanitary District and Castro Valley Sanitary District				
Union Sanitary District				
Livermore-Amador Valley Water Management Agency	CA0038679	R2-2021-0007	7/01/2021	6/30/2026
City of San Leandro – Treatment Wetland	CA0038881	R2-2022-0006	6/01/2022	5/31/2027
Oro Loma Sanitary District and Castro Valley Sanitary District – Wet Weather	CA0037559	R2-2024-0006	6/01/2024	5/31/2029
Union Sanitary District – Wet Weather	CA0038733	R2-2020-0027	12/01/2020	11/30/2025
Dublin San Ramon Services District	CA0037613	R2-2022-0024	9/01/2022	8/31/2027
City of Livermore	CA0038008	R2-2022-0025	9/01/2022	8/31/2027
East Bay Municipal Utility District	CA0037702	R2-2020-0024	11/01/2020	10/31/2025
Fairfield-Suisun Sewer District	CA0038024	R2-2020-0012	5/01/2020	4/30/2025
Las Gallinas Valley Sanitary District	CA0037851	R2-2020-0022	9/01/2020	8/31/2025
Marin County (Paradise Cove), Sanitary District No. 5 of	CA0037427	R2-2021-0017	12/01/2021	11/30/2026
Marin County (Tiburon), Sanitary District No. 5 of	CA0037753	R2-2023-0018	12/01/2023	11/30/2028
Millbrae, City of	CA0037532	R2-2024-0005	5/01/2024	4/30/2029
Mt. View Sanitary District	CA0037770	R2-2021-0026	2/01/2022	1/31/2027
Napa Sanitation District	CA0037575	R2-2022-0003	4/01/2022	3/31/2027
Novato Sanitary District	CA0037958	R2-2020-0019	9/01/2020	8/31/2025
Palo Alto, City of	CA0037834	R2-2019-0015	6/1/2019	5/31/2024
Petaluma, City of	CA0037810	R2-2021-0008	7/01/2021	6/30/2026
Pinole, City of	CA0037796	R2-2023-0008	8/01/2023	7/31/2028
Rodeo Sanitary District	CA0037826	R2-2022-0037	2/01/2023	1/31/2028

Discharger	Individual NPDES Permit	Individual Order	Effective Date	Expiration Date
San Francisco (San Francisco International Airport), City and County of	CA0038318	R2-2018-0045	12/01/2018	11/30/2023
San Francisco (Southeast Plant), City and County of	CA0037664	R2-2013-0029	10/01/2013	9/30/2018
San Jose and Santa Clara, Cities of	CA0037842	R2-2020-0001	4/01/2020	3/31/2025
San Mateo, City of	CA0037541	R2-2023-0017	12/01/2023	11/30/2028
Sausalito-Marin City Sanitary District	CA0038067	R2-2023-0022	1/01/2024	12/31/2028
Sewerage Agency of Southern Marin	CA0037711	R2-2023-0021	1/01/2024	12/31/2028
Silicon Valley Clean Water	CA0038369	R2-2023-0003	5/01/2023	4/30/2028
Sonoma Valley County Sanitation District	CA0037800	R2-2019-0019	9/01/2019	8/31/2024
South San Francisco and San Bruno, Cities of	CA0038130	R2-2019-0021	9/01/2019	8/31/2024
Sunnyvale, City of	CA0037621	R2-2020-0002	4/01/2020	3/31/2025
Treasure Island Development Authority	CA0110116	R2-2020-0020	8/01/2020	7/31/2025
Vallejo Flood and Wastewater District	CA0037699	R2-2023-0001	4/01/2023	3/31/2028
West County Agency	CA0038539	R2-2024-0008	8/01/2024	7/31/2029
West County Wastewater District				
City of Richmond and Richmond Municipal Sewer District				

ATTACHMENT C – MAP OF MUNICIPAL DISCHARGE LOCATIONS

Municipal Discharger outfall locations



ATTACHMENT D – STANDARD PROVISIONS

Refer to Attachment D in the individual permits listed in Attachment B of this Order.

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

CONTENTS

TABLES

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Clean Water Act (CWA) section 308 and 40 C.F.R. sections 122.41(h), (j)-(l), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code section 13383 also authorizes the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. This MRP establishes monitoring, reporting, and recordkeeping requirements that implement the federal and state laws and regulations.

1. GENERAL MONITORING PROVISIONS

1.1. Dischargers shall comply with this MRP. The Executive Officer may amend this MRP pursuant to 40 C.F.R. section 122.63. If any discrepancies exist between this MRP and the "Regional Standard Provisions, and Monitoring and Reporting Requirements (Supplement to Attachment D) for NPDES Wastewater Discharge Permits" (Attachment G) in the individual permits listed in Attachment B of this Order, this MRP shall prevail.

1.2. Sampling is required during the entire year when discharging. Dischargers shall conduct all monitoring in accordance with Attachment D section 3, as supplemented by Attachment G of the individual permits listed in Attachment B. Equivalent test methods must be more sensitive than those specified in 40 C.F.R. section 136 and must be specified in this permit.

2. MONITORING LOCATIONS

Dischargers shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements of this Order:

Table E-1. Monitoring Locations

Discharge Point	Monitoring Location	Monitoring Location Description
Influent	Individual monitoring locations for influent wastewater (normally Monitoring Location INF-001) are specified in the MRPs of the individual NPDES permits listed in Attachment B of this Order.[1]	Individual monitoring location descriptions are provided in the MRPs of the individual NPDES permits listed in Attachment B of this Order.
Effluent	Individual monitoring locations for discharges of treated wastewater (normally Monitoring Location EFF-001) are specified in the MRPs of the individual NPDES permits listed in Attachment B of this Order.[2]	Individual monitoring location descriptions are provided in the MRPs of the individual NPDES permits listed in Attachment B of this Order.

Footnotes:

[1] For the City and County of San Francisco (Southeast Plant), influent monitoring shall occur only during dry weather (i.e., not during wet weather as defined in its individual NPDES permit as listed in Attachment B).

[2] For the City and County of San Francisco (Southeast Plant), the monitoring location shall be Monitoring Location EFF-001A. For the Fairfield-Suisun Sewer District, the monitoring location shall be Monitoring Location EFF-001D.

3. INFLUENT MONITORING

Dischargers with a design flow ≥ 10 MGD, as described in Fact Sheet Table F-1, shall monitor treatment plant influent (typically at Monitoring Location INF-001) as shown in Tables E-2 and E-4, below.

Table E-2. Influent Monitoring

Parameter [1]	Unit	Sample Type [2]
Ammonia, Total	mg/L and kg/day as N	C-24
Total Kjeldahl Nitrogen (TKN)	mg/L and kg/day as N	C-24
Nitrate-Nitrite [3]	mg/L and kg/day as N	C-24
Phosphorus, Total	mg/L and kg/day as p	C-24

Footnotes:

[1] Influent samples shall be collected concurrently with effluent samples.

[2] 24-hour composites may be made up of four discrete grab samples collected over a 24-hour period and volumetrically or mathematically flow-weighed. During a 24-hour period, the samples may be collected only when the plant is staffed, if necessary.

[3] If two years of monitoring data show all nitrate-nitrite concentrations a Discharger measures are below 2.0 mg/L, the Discharger may discontinue influent monitoring for this parameter.

4. EFFLUENT MONITORING

Dischargers shall monitor treatment plant effluent (typically at Monitoring Location EFF-001) as follows:

Table E-3. Effluent Monitoring

Parameter	Unit	Sample Type [1]
Ammonia, Total	mg/L and kg/day as N	C-24
Nitrate-nitrite	mg/L and kg/day as N	C-24
Inorganic Nitrogen, Total [2]	mg/L and kg/day as N	Calculated
Phosphorus, Total	mg/L and kg/day as p	C-24

Footnotes:

[1] The 24-hour composites may be made up of four discrete grab samples collected over a 24-hour period and volumetrically or mathematically flow-weighed. During a 24-hour period, the samples may be collected only when the plant is staffed, if necessary. Monitoring for total ammonia, nitrate-nitrite, and total phosphorus shall be performed on the same day.

[2] Total Inorganic Nitrogen = Total Ammonia + Nitrate-Nitrite. Dischargers may use approved analytical techniques that require filtration for analyte measurements that comprise Total Inorganic Nitrogen. When calculating total inorganic nitrogen, the Discharger shall assume data reported below the method detection limit equal half of the detection limit.

Table E-4. Minimum Sampling Frequencies

Discharger Size	Total Ammonia, Nitrate-Nitrite, Influent TKN, Effluent Total Inorganic Nitrogen Sampling Frequencies [1,2,3,4]	Total Phosphorous Sampling Frequency [1,2,3,4]
Major Dischargers (design flow ≥ 10 MGD)	Twice per month for effluent Once per quarter for influent	Once per month for effluent Twice per year for influent
Major Dischargers (design flow < 10 MGD)	Once per month for effluent	Once per quarter for effluent

Discharger Size	Total Ammonia, Nitrate-Nitrite, Influent TKN, Effluent Total Inorganic Nitrogen Sampling Frequencies [1,2,3,4]	Total Phosphorous Sampling Frequency [1,2,3,4]
Minor Dischargers (design flow < 1.0 MGD)	Twice per year for effluent [5]	Once per year for effluent

Footnotes:

[1] Samples need only to be collected when discharging (i.e., seasonal Dischargers shall collect samples only during the discharge season). For compliance monitoring (between May 1 and September 30), samples shall be representative of dry season conditions. If effluent flows are higher than normal due to unseasonal wet weather that increases flows to the treatment plant or results in reduced recycled water demand the Discharger shall exclude these results from the dry season average used for compliance determination and shall include documentation in the transmittal letter of its monthly self-monitoring report that explains effluent flows during that period were higher than normal due to wet weather.

[2] Dischargers that discharge through the East Bay Dischargers Authority Common Outfall (i.e., City of Hayward, City of San Leandro, Oro Loma Sanitary District and Castro Valley Sanitary District, Union Sanitary District, City of San Leandro – Treatment Wetland, and Dublin San Ramon Services District, and City of Livermore) shall monitor their individual wastewater treatment plant influent and effluent at least once per quarter.

[3] Dischargers that discharge through the West County Agency Combined Outfall (i.e., West County Wastewater District and City of Richmond and Richmond Municipal Sewer District) shall monitor their individual wastewater treatment plant influent and effluent at least once per quarter.

[4] The Livermore-Amador Valley Water Management Agency is not required to monitor influent or effluent, and neither the Union Sanitary District nor the Oro Loma Sanitary District is required to monitor effluent from its wet weather outfall.

[5] Monitoring shall occur during the dry season (May - September).

5. REPORTING REQUIREMENTS

5.1. General Monitoring and Reporting Requirements. The Dischargers shall comply with all Standard Provisions (Attachments D and G of the individual NPDES permits) related to monitoring, reporting, and recordkeeping.

5.2. Individual Reporting in Self-Monitoring Reports (SMRs)

5.2.1. **Routine SMRs.** The Dischargers shall submit nutrients data collected to comply with this Order in the routine monthly or quarterly SMRs required by each Discharger's individual NPDES permit. Each SMR shall include all new nutrients monitoring results obtained since the last SMR was submitted. If a Discharger monitors nutrients more frequently than required by this Order at a monitoring location described in Table E-1, it shall include the results of such monitoring in the calculations and reporting for the relevant SMR.

5.2.2. **Annual Nutrients Report.** By January 1 of each year, each Discharger shall provide its nutrient information in a separate annual report or state that it is participating in a group report the Bay Area Clean Water Agencies (BACWA) will submit pursuant to Provision 5.2.2.5, below. Each Discharger shall submit the following:

5.2.2.1. Documentation that the Discharger is complying with Provisions 6.3.2, 6.3.3, 6.3.5, and 6.3.6 of the Order. If reporting through a group report as described below, the Discharger shall submit certification that it has provided adequate support (i.e., contributed its portion of the required contribution) in accordance with Provision 6.3.2.

5.2.2.2. Summary tables depicting the Discharger's annual and monthly flows, nutrient concentrations, and nutrient mass loads, calculated as described in Attachment G section 8.1 (Arithmetic Calculations) of individual NPDES permits. The summary tables shall cover October 1 before the preceding year through September 30 of the preceding year and at least the previous five years of available data. Each Discharger shall document its nutrient loads relative to other facilities covered by this Order that discharge into the same subembayment (i.e., Suisun Bay, San Pablo Bay, Central Bay, South Bay, and Lower South Bay). These subembayment delineations may be refined through Provision 6.3.2 of the Order, in which case each Discharger shall document loads relative to the most recent delineation. Nutrient data from other Dischargers may be obtained from the State Water Board's California Integrated Water Quality System (CIWQS) website (https://www.waterboards.ca.gov/ciwqs/index.html).

5.2.2.3. Analysis of nutrient trends and load variability, and assessment as to whether nutrient mass loads are increasing or decreasing.

5.2.2.4 A summary of the amount of water recycled annually by the Discharger, the corresponding decrease in the level of nutrients discharged to the Bay, and any updates to future water recycling plans.

5.2.2.5. Status and plans for investigation if the trend analysis shows a significant change in nutrient loading. In such cases, the Discharger shall investigate the cause. In the annual reports, the Discharger shall set forth its plans for investigation and report its results, providing necessary updates in subsequent annual reports. The investigation shall include, at a minimum, whether treatment process changes, increasing or decreasing water reclamation, or changes in total influent flow related to water conservation, population growth, transient work community, new industry, or wet weather flows have reduced or increased nutrient discharges.

As an alternative to submitting an individual Annual Nutrients Report, each Discharger may instead participate in a group report to be submitted by BACWA. By April 1 of each year, the Annual Group Nutrients Report shall include the information detailed in this provision.

5.2.3. **Monitoring Periods.** Monitoring periods for all required monitoring shall be as set forth below unless otherwise specified:

Table E-5. Monitoring Periods

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period
Continuous/D	Order effective date	All times
1/Week	First Sunday following or on Order effective date	Sunday through Saturday

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period
1/Month	First day of calendar month following or on Order effective date	First day of calendar month through last day of calendar month
1/Quarter	Closest January 1, April 1, July 1, or October 1 before or after Order effective date [1][2]	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31
1/Year	Closest January 1 before or after Order effective date [1]	January 1 through December 31
2/Year	Closest January 1 before or after Order effective date [1]	January 1 through June 30 July 1 through December 31

Footnote:

[1] Monitoring performed during the previous order term may be used to satisfy monitoring required by this Order.

[2] Definitions of 1/Quarter in the individual NPDES permits listed in Attachment B of this Order supersede this definition.

5.2.4. **RL and MDL Reporting.** The Discharger shall report with each sample result the Reporting Level (RL) and Method Detection Limit (MDL) as determined by the procedure in 40 C.F.R. part 136. The Dischargers shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

5.2.4.1. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

5.2.4.2. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

For purposes of data collection, the Dischargers shall require the laboratory to write the estimated chemical concentration next to DNQ. The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (± a percentage of the reported value), numerical ranges (low to high), or any other means the laboratory considers appropriate.

5.2.5.3. Sample results less than the laboratory's MDL shall be reported as "Not Detected", or ND.

5.2.5.4. The Dischargers shall instruct laboratories to establish calibration standards so that the minimum level (ML) value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is any Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

5.2.6. **Compliance Determination.** Compliance with effluent limitations shall be determined using sample reporting protocols defined above, in the Fact Sheet, in Attachment A, and in Attachments D and G of each individual permit. For purposes of reporting and enforcement, a Discharger shall be deemed out of compliance with interim effluent limitations if the average dry season (May 1 through September 30) mass load of total inorganic nitrogen in the dry season monitoring samples is greater than its individual effluent limitation.

For purposes of reporting and enforcement, a Discharger shall be deemed out of compliance with final effluent limitations if the average dry season mass load of the total inorganic nitrogen in dry season monitoring samples is greater than its effluent limitation and if the sum of all individual Dischargers' total inorganic nitrogen mass loads is greater than the Aggregate Mass Load Limit.

5.3. Discharge Monitoring Reports (DMRs). DMRs are U.S. EPA reporting requirements. The Dischargers shall electronically certify and submit DMRs together with SMRs using Electronic Self-Monitoring Reports module eSMR 2.5 or the latest upgraded version. Electronic DMR submittal shall be in addition to electronic SMR submittal. Information about electronic DMR submittal is available at the DMR website (waterboards.ca.gov/water_issues/programs/discharge_monitoring).

ATTACHMENT F – FACT SHEET

CONTENTS

TABLES

ATTACHMENT F – FACT SHEET

This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order. As described in the findings of the Order, the Regional Water Board incorporates this Fact Sheet as findings supporting the issuance of the Order.

1. PERMIT INFORMATION

The following tables summarize administrative information related to each Discharger's facility.

Table F-1. Facility Information

Discharger	Facility Contact, Title, and Phone	Mailing Address	Effluent Description	Facility Design Flow (MGD)
American Canyon, City of	Pam Phillips Environmental Services Manager (707) 647-4544	151 Mezzetta Court American Canyon, CA 94503 Napa County	Advanced Secondary	2.5
Benicia, City of	Jeff Gregory Wastewater Treatment Plant Superintendent (707) 746-4336	614 East Fifth Street Benicia, CA 94510 Solano County	Secondary	4.5
Burlingame, City of	Manuel Molina General Manager (650) 342-3727	501 Primrose Road Burlingame, CA 94010 San Mateo County	Secondary	5.5
Central Contra Costa Sanitary District	Lori Schectel Env. Compliance Manager (925) 229-7143	5019 Imhoff Place Martinez, CA 94553 Contra Costa County	Secondary	53.8
Central Marin Sanitation Agency	Chris Finton Treatment Plant Manager (415) 459-1455 x101	1301 Andersen Drive San Rafael, CA 94901 Marin County	Secondary	10
Crockett Community Services District	James Barnhill Sanitary Department Manager (510) 787-2992	P.O. Box 578 Crockett, CA 94525 Contra Costa County	Secondary	0.033
Delta Diablo	Amanda Roa Environmental Programs Manager (925) 756-1940	2500 Pittsburg-Antioch Highway Antioch, CA 94509 Contra Costa County	Secondary	19.5
East Bay Dischargers Authority (EBDA)	Jacqueline Zipkin General Manager (510) 278-5910	2651 Grant Avenue San Lorenzo, CA 94580 Alameda County	Secondary	107.8
City of Hayward				
City of San Leandro				
Oro Loma Sanitary District and Castro Valley Sanitary District				
Union Sanitary District				

Discharger	Facility Contact, Title, and Phone	Mailing Address	Effluent Description	Facility Design Flow (MGD)
Livermore-Amador Valley Water Management Agency				
Dublin San Ramon Services District				
City of Livermore				
East Bay Municipal Utility District	Donald Gray Senior EH&S Specialist (925) 640-4738	P.O. Box 24055 Oakland, CA 94623-1055 Alameda County	Secondary	120
Fairfield-Suisun Sewer District	Meg Herston Director of Environmental Services (707) 428-9109	1010 Chadbourne Road Fairfield, CA 94534 Solano County	Advanced Secondary	23.7
Las Gallinas Valley Sanitary District	Mel Liebmann Chief Plant Operator (415) 472-1734	300 Smith Ranch Road San Rafael, CA 94903 Marin County	Secondary	2.92
Marin County (Paradise Cove), Sanitary District No. 5 of	Tony Rubio District Manager (415) 435-1501	P.O. Box 227 Tiburon, CA 94920 Marin County	Secondary	0.04
Marin County (Tiburon), Sanitary District No. 5 of	Tony Rubio District Manager (415) 435-1501	2001 Paradise Drive Tiburon, CA 94920 Marin County	Secondary	0.98
Millbrae, City of	Sam Bautista Public Works Director (650) 259-2347	621 Magnolia Avenue Millbrae, CA 94030 San Mateo County	Secondary	3.0
Mt. View Sanitary District	Lilia Corona District Manager (925) 228-5635 ext. 18	P.O. Box 2757 Martinez, CA 94553 Contra Costa County	Advanced Secondary	3.2
Napa Sanitation District	Andrew Damron General Manager (707) 258-6007	1515 Soscol Ferry Road Napa, CA 94558 Napa County	Secondary	15.4
Novato Sanitary District	Sandeep Karkal General Manager-Chief Engineer (415) 892-1694	500 Davidson Street Novato, CA 94945 Marin County	Secondary	7.0
Palo Alto, City of	James Allen Plant Manager (650) 329-2243	2501 Embarcadero Way, Palo Alto, CA 94303 Santa Clara County	Advanced Secondary	39
Petaluma, City of	Matthew Pierce Operations Supervisor (707) 776-3726	202 N. McDowell Blvd. Petaluma, CA 94954 Sonoma County	Secondary	6.7
Pinole, City of	Josh Binder Plant Manager (510) 724-8964	2131 Pear Street, Pinole, CA 94564 Contra Costa County	Secondary	4.06
Rodeo Sanitary District	Steve Beall District Manager (510) 799-2970 ext. 100	800 San Pablo Avenue Rodeo, CA 94572 Contra Costa County	Secondary	1.14

Discharger	Facility Contact, Title, and Phone	Mailing Address	Effluent Description	Facility Design Flow (MGD)
San Francisco (San Francisco International Airport), City and County of	Jennifer Acton Env. Operations Manager (650) 455-9241	P.O. Box 8097 San Francisco, CA 94128 San Mateo County	Secondary	2.2
San Francisco (Southeast Plant), City and County of	Amy Chastain Regulatory Manager (415) 554-1683	1155 Market St., 11th Floor San Francisco, CA 94103 San Francisco County	Secondary	85.4
San Jose and Santa Clara, Cities of	Eric Dunlavey Wastewater Compliance Program Manager (408) 635-4017	700 Los Esteros Road San Jose, CA 95134 Santa Clara County	Advanced Secondary	167
San Mateo, City of	Michael Sutter Operations Superintendent (650) 522-7380	330 West 20th Avenue San Mateo, CA 94403	Secondary	15.7
Sausalito-Marin City Sanitary District	Jeffrey Kingston General Manager (415) 332-0244	1 East Road Sausalito, CA 94965 Marin County	Secondary	1.8
Sewerage Agency of Southern Marin	Mark Grushayev General Manager (415) 388-2402	26 Corte Madera Ave. Mill Valley, CA 94941 Marin County	Secondary	3.6
Silicon Valley Clean Water	Monte Hamamoto Chief Operating Officer (650) 832-6266	1400 Radio Road Redwood City, CA 94065 San Mateo County	Secondary	29
Sonoma Valley County Sanitation District	Frank Mello Operations Coordinator (707) 521-1843	Sonoma County Water Agency 404 Aviation Blvd. Santa Rosa, CA 95403 Sonoma County	Secondary	3.0
South San Francisco and San Bruno, Cities of	Brian Schumacker Plant Superintendent (650) 829-3844	195 Belle Air Road South San Francisco, CA 94080 San Mateo County	Secondary	13
Sunnyvale, City of	Rohan Wikramanayake Water Pollution Control Plant Division Manager (781) 491-6177	Sunnyvale Water Pollution Control Plant P.O. Box 3707 Sunnyvale, CA 94088-3707 Santa Clara County	Advanced Secondary	29.5
Treasure Island Development Authority	Amy Chastain Regulatory Manager (415) 554-1683	1 Avenue of the Palms, Ste 241 San Francisco, CA 94130 San Francisco County	Secondary	2.0
Vallejo Flood and Wastewater District	Jennifer Harrington Environmental Services Director (707) 652-7806	450 Ryder Street Vallejo, CA 94590 Solano County	Secondary	15.5
West County Agency			Secondary	28.5

Discharger	Facility Contact, Title, and Phone	Mailing Address	Effluent Description	Facility Design Flow (MGD)
West County Wastewater District	Aaron Winer Director of Water Quality and Resource Recovery (510) 837-6223	2910 Hilltop Drive Richmond, CA 94806 Contra Costa County		
City of Richmond and Richmond Municipal Sewer District				

Table F-2. Additional Facility Information

Discharger	Authorized Person to Sign and Submit Reports	Billing Address
American Canyon, City of	Pam Phillips Environmental Services Manager (707) 647-4544	151 Mezzetta Court American Canyon, CA 94503 Napa County
Benicia, City of	Jeff Gregory Wastewater Treatment Plant Superintendent (707) 746-4336	614 East Fifth Street Benicia, CA 94510 Solano County
Burlingame, City of	Manuel Molina General Manager (650) 342-3727	501 Primrose Road Burlingame, CA 94010 San Mateo County
Central Contra Costa Sanitary District	Lori Schectel Env. Compliance Manager (925) 229-7143	5019 Imhoff Place Martinez, CA 94553 Contra Costa County
Central Marin Sanitation Agency	Chris Finton Treatment Plant Manager (415) 459-1455 ext. 101	1301 Andersen Drive San Rafael, CA 94901 Marin County
Crockett Community Services District	James Barnhill Sanitary Department Manager (510) 787-2992	P.O. Box 578 Crockett, CA 94525 Contra Costa County
Delta Diablo	Joaquin Gonzalez Operations Manager (925) 756-1971	2500 Pittsburg-Antioch Highway Antioch, CA 94509 Contra Costa County
East Bay Dischargers Authority (EBDA)	Jacqueline Zipkin General Manager (510) 278-5910	2651 Grant Avenue San Lorenzo, CA 94580 Alameda County
City of Hayward		
City of San Leandro		
Oro Loma Sanitary District and Castro Valley Sanitary District		
Union Sanitary District		
Livermore-Amador Valley Water Management Agency		
Dublin San Ramon Services District		

Discharger	Authorized Person to Sign and Submit Reports	Billing Address
City of Livermore		
East Bay Municipal Utility District	Amit Mutsuddy Director of Wastewater (510) 287-1407	P.O. Box 24055, MS#59 Oakland, CA 94623-1055 Alameda County
Fairfield-Suisun Sewer District	Jordan Damerel Assistant General Manager/District Engineer (707) 428-9155	1010 Chadbourne Road Fairfield, CA 94534 Solano County
Las Gallinas Valley Sanitary District	Mel Liebmann Chief Plant Operator (415) 472-1734	300 Smith Ranch Road San Rafael, CA 94903 Marin County
Marin County (Paradise Cove), Sanitary District No. 5 of	Tony Rubio District Manager (415) 435-1501	P.O. Box 227 Tiburon, CA 94920 Marin County
Marin County (Tiburon), Sanitary District No. 5 of	Tony Rubio District Manager (415) 435-1501	2001 Paradise Drive Tiburon, CA 94920 Marin County
Millbrae, City of	Craig Centis Deputy Director of Public Works (650) 259-2376	621 Magnolia Avenue Millbrae, CA 94030 San Mateo County
Mt. View Sanitary District	Stacey Ambrose Environmental Services Manager (925) 228-5635 ext. 12	P.O. Box 2757 Martinez, CA 94553 Contra Costa County
Napa Sanitation District	Andrew Damron General Manager (707) 258-6007	1515 Soscol Ferry Road Napa, CA 94558 Napa County
Novato Sanitary District	Sandeep Karkal General Manager-Chief Engineer (415) 892-1694	500 Davidson Street Novato, CA 94945 Marin County
Palo Alto, City of	James Allen Plant Manager (650) 329-2243	2501 Embarcadero Way, Palo Alto, CA 94303 Santa Clara County
Petaluma, City of	Matthew Pierce Operations Supervisor (707) 776-3726	202 N. McDowell Blvd. Petaluma, CA 94954 Sonoma County
Pinole, City of	Josh Binder Plant Manager (510) 724-8964	2131 Pear Street, Pinole, CA 94564 Contra Costa County
Rodeo Sanitary District	Steve Beall District Manager (510) 799-2970 ext. 100	800 San Pablo Avenue Rodeo, CA 94572 Contra Costa County
San Francisco (San Francisco International Airport), City and County of	Leroy Sisneros Director of Facilities (650) 821-5400	P.O. Box 8097 San Francisco, CA 94128 San Mateo County

Discharger	Authorized Person to Sign and Submit Reports	Billing Address
San Francisco (Southeast Plant), City and County of	Andrew Clark Operations Superintendent (415) 920-4944	1155 Market St., 11th Floor San Francisco, CA 94103 San Francisco County
San Jose and Santa Clara, Cities of	Eric Dunlavey Wastewater Compliance Program Manager (408) 635-4017	700 Los Esteros Road San Jose, CA 95134 Santa Clara County
San Mateo, City of	Michael Sutter Operations Superintendent (650) 522-7380	330 West 20th Avenue San Mateo, CA 94403
Sausalito-Marin City Sanitary District	Jeffrey Kingston General Manager (415) 332-0244	1 East Road Sausalito, CA 94965 Marin County
Sewerage Agency of Southern Marin	Mark Grushayev General Manager (415) 388-2402	26 Corte Madera Ave. Mill Valley, CA 94941 Marin County
Silicon Valley Clean Water	Monte Hamamoto Chief Operating Officer (650) 832-6266	1400 Radio Road Redwood City, CA 94065 San Mateo County
Sonoma Valley County Sanitation District	Frank Mello Operations Coordinator (707) 521-1843	Sonoma County Water Agency 404 Aviation Blvd. Santa Rosa, CA 95403 Sonoma County
South San Francisco and San Bruno, Cities of	Brian Schumacker Plant Superintendent (650) 829-3844	195 Belle Air Road South San Francisco, CA 94080 San Mateo County
Sunnyvale, City of	Rohan Wikramanayake Water Pollution Control Plant Division Manager (781) 491-6177	Sunnyvale Water Pollution Control Plant P.O. Box 3707 Sunnyvale, CA 94088-3707 Santa Clara County
Treasure Island Development Authority	Andrew Clark Operations Superintendent (415) 920-4944	1 Avenue of the Palms, Ste 161 San Francisco, CA 94130 San Francisco County
Vallejo Flood and Wastewater District	Jennifer Harrington Environmental Services Director (707) 652-7806	450 Ryder Street Vallejo, CA 94590 Solano County
West County Agency West County Wastewater District	Andrew Clough Agency Manager (510) 237-6603	2910 Hilltop Drive Richmond, CA 94806 Contra Costa County

Discharger	Authorized Person to Sign and Submit Reports	Billing Address
City of Richmond and Richmond Municipal Sewer District		

1.1. The Dischargers listed in Table 1 own and operate their respective wastewater treatment plants and collection systems. The Dischargers provide secondary or advanced secondary treatment of wastewater collected from their service areas. After treatment, the Dischargers discharge to San Francisco Bay[1] and its tributaries, which are waters of the United States within the San Francisco Bay watershed. Details of the wastewater treatment processes and discharges are described in the individual NPDES permits listed in Attachment B. Attachment C shows a map of the primary discharge locations subject to this Order.

For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and state laws, regulations, plans, and policies are held to be equivalent to references to the Discharger herein.

1.2. The Dischargers are regulated pursuant to the individual NPDES permits listed in Attachment B and NPDES Permit CA0038873, previously Order R2-2019-0017 (previous order).

1.3. The Dischargers are authorized to discharge nutrients subject to waste discharge requirements (WDRs) in this Order. Clean Water Act section 402(b)(1)(B) limits the duration of NPDES permits to a fixed term not to exceed five years (33 U.S.C. §1342(b)(1)(B); see also 40 C.F.R. § 122.46). Accordingly, Table 3 of this Order limits the effective period for this discharge authorization. Pursuant to California Code of Regulations, title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Dischargers comply with all requirements for continuation of expired permits (40 C.F.R § 122.6(d)).

1.4. This Order is the third phase of what the Regional Water Board expects to be a multiple-permit-term effort. It establishes new interim and final effluent limitations to limit excessive eutrophication in San Francisco Bay. The purpose of this phase is to (1) establish interim effluent limitations for total inorganic nitrogen to ensure nutrient loads do not increase at individual treatment plants, (2) track and evaluate current and future nutrient loads from municipal dischargers, (3) fund nutrient monitoring programs, (4) support load response modeling, and (5) establish final numeric water quality-based effluent limitations that modeling and data indicate

[1] San Francisco Bay, as the term is used in this Order, refers to the Sacramento/San Joaquin River Delta generally west of and including Montezuma Island, Suisun Bay, Carquinez Strait, San Pablo Bay, Central San Francisco Bay, Richardson Bay, Lower San Francisco Bay, and South San Francisco Bay.

will meet the narrative biostimulatory water quality objective to protect beneficial uses and a compliance schedule to attain these final effluent limitations.

2. FACILITY DESCRIPTIONS

2.1. Wastewater Collection and Treatment

2.1.1. **Location and Service Area**. The municipal wastewater treatment plants are located throughout the San Francisco Bay region and described in the individual permits listed in Attachment B.

2.1.2. **Wastewater Treatment**. Municipal wastewater treatment plants provide secondary treatment, which includes screening, skimming, settling, and biological treatment. Some plants provide advanced secondary treatment, which can nitrify ammonia to make nitrate nitrogen. Plants also denitrify at various levels, which removes nitrogen from wastewater. The primary source of nutrients in municipal wastewater is human waste; therefore, most Dischargers have no practical way of controlling influent nutrient concentrations.

2.2. Discharge Point and Receiving Waters. Municipal wastewater treatment plants discharge throughout San Francisco Bay, including the Sacramento/San Joaquin River Delta generally west of and including Montezuma Island, Suisun Bay, Carquinez Strait, San Pablo Bay, Central San Francisco Bay, Richardson Bay, Lower San Francisco Bay, South San Francisco Bay, and connected tributaries. Discharge points and receiving waters are described in the individual permits listed in Attachment B. Primary discharge points are also shown in Attachment C.

2.3. Previous Requirements and Monitoring Data. The previous order required the Dischargers to continue developing and supporting necessary studies to support implementation of the San Francisco Bay Nutrient Management Strategy. The Dischargers submitted a Science Plan for the San Francisco Bay Nutrient Management Strategy on January 30, 2020, and have since submitted annual updates and continue to implement the studies.

The previous order also required the Dischargers to evaluate potential nutrient reduction by natural systems and water recycling. The Dischargers submitted a Nature-Based Solution for Nutrient Removal report on June 30, 2023. The report was prepared by the San Francisco Estuary Institute (SFEI), which conducted a regional desktop analysis to identify Dischargers that have the best opportunities to implement nature-based solutions for nutrient reduction. SFEI then conducted outreach to these Dischargers to develop and identify constraints and site-scale models. The results are summarized below:

- **Central Contra Costa Sanitary District**. The district is currently reviewing strategies to reduce total inorganic nitrogen discharges. One of the potential methods would be to convert its wet weather earthen basins to water treatment wetlands. This project is in the early evaluation stages.

- **Delta Diablo**. Delta Diablo was identified to be a strong candidate for nutrient removal using nature-based solution by preliminary assessments. It is currently developing designs and cost estimates. The project has not yet been reviewed by Delta Diablo executive staff or its board of directors.

- **Fairfield Suisun Sewer District**. The district is considering adding treatment wetlands to its treatment process. The facility has large wet-weather equalization basins and additional land where the district is evaluating construction of a multi-benefit wetland for resiliency and nutrient removal benefits. The district is seeking funding from outside sources for implementation.

- **Novato Sanitary District**. The district could construct either a horizontal levee or a vegetated freshwater wetland to augment its treatment system. It could partner with Marin County on existing funded projects in the area while seeking other funding sources through regional, state, and federal levels.

- **Sewerage Agency of Southern Marin**. The agency could build horizontal levees in its surrounding tidal marsh or retrofit its equalization basins with treatment wetlands.

- **San Jose/Santa Clara**. San Jose maintains significant open water wetlands and has begun evaluating the feasibility of converting decommissioned sludge lagoons to nature-based treatment. A regional flood protection levee project (i.e., the South San Francisco Bay Shoreline Project) would need to be completed before any potential nature-based treatment could be pursued.

- **South San Francisco/San Bruno**. While South San Francisco does not have much open land near the facility, it could convert old naval piers into a horizontal levee or treatment wetland.

- **Union Sanitary District**. In conjunction with the South Bay Salt Pond Restoration Project, the district explored the feasibility of building a horizontal levee on adjacent land. Although the district does not own the land, it has pledged support for the concept and will assist with moving the project forward. The district plans to significantly reduce nutrient discharges with treatment plant upgrades. Construction started in 2022 and is expected to be completed by 2029.

The next phase of this process is to focus on a smaller set of facilities to develop design and cost estimates, which will be submitted to the Regional Water Board by June 30, 2024.

In addition, several other Dischargers have explored nature-based solutions not evaluated in the regional study:

- **Oro Loma and Castro Valley Sanitary Districts.** The districts, along with partners at East Bay Dischargers Authority and East Bay Regional Park District, are continuing to advance design of the First Mile Horizontal Levee Project just south of the Oro Loma Sanitary District/Castro Valley Sanitary District Water Pollution Control Plant at Oro Loma Marsh. The project would treat up to 1 MGD of treatment plant effluent through a subsurface treatment layer in the horizontal levee, effectively removing nitrogen and emerging contaminants, while also providing flood protection, upland refugia for endangered species, and recreational opportunities for an underserved community. Funding has been secured to develop the project through final design and permitting.

- **City of San Leandro.** To demonstrate the feasibility of implementing nature-based solutions for building shoreline resiliency, creating habitat, and improving water quality, the City of San Leandro plans to convert an existing 6.9-acre wastewater storage basin into a shallow, freshwater, open-water wetland to provide polishing treatment for flows from a newly installed nitrification system. This constructed wetland is expected to polish about 10 percent of wastewater flows from the treatment plant. The City of San Leandro plans to start construction in 2024. The Regional Water Board permitted this discharge under Order R2-2022-0006 (NPDES Permit CA0038881).

- **City of Hayward.** Under a grant from U.S. EPA's Water Quality Improvement Fund, the City of Hayward completed a feasibility study that evaluated opportunities to construct a treatment wetland and horizontal levee at its former oxidation ponds. Under a second Water Quality Improvement Fund grant, the City of Hayward is evaluating this project in more detail. The project would use a portion of the oxidation ponds to create an optimized wetland that would provide nitrogen treatment during the dry season, while maintaining the wet weather storage function in the winter. The project would also include a horizontal levee at the edge of the wetlands to provide additional wastewater treatment and polishing, as well as flood protection and upland refugia for shoreline species as sea level rises.

- **Silicon Valley Clean Water**. Silicon Valley Clean Water is considering the feasibility of using nearby wetlands or upgrading its surrounding levee system to provide nature-based treatment for nitrogen removal.

The Dischargers also submitted a Regional Evaluation of Potential Nutrient Discharge Reduction by Water Recycling report on June 28, 2023, summarizing feasible nutrient reductions through water recycling at different facilities. The table below projects water recycling through 2030 based on planned projects. The 2025 projections are more certain than those for 2030 because many of the later projects are conceptual and still require agreements between multiple agencies. Provision 6.3.4 requires Dischargers to submit a regional planning document that proposes how additional nutrient load reductions can be achieved, including through implementation of nature-based solutions and water recycling. Nutrient

reductions from recycled water will depend on nutrient concentrations in recycled water, end uses, and, for projects that use reverse osmosis, how the reverse osmosis concentrate is managed.

Table F-3. Current and Projected Water Recycling

Discharger	Average Daily Discharge Oct 2019-Sept 2020	2020 Water Recycled (MGD)	2020 Fraction Recycled	2025 Projected Water Recycled (MGD)	2030 Projected Water Recycled (MGD)
American Canyon, City of	1.22	0.313	0.26	0.619	0.619
Benicia, City of	1.8	-	-	-	-
Burlingame, City of	2.44	-	-	-	-
Central Contra Costa Sanitary District	33.3	1.6	0.05	1.95	2.24
Central Marin Sanitation Agency	9.01	0.024	0.00	0.024	0.024
Crockett Community Services District	0.0296	-	-	-	-
Delta Diablo	8.17	4.75	0.58	4.78	4.78
East Bay Dischargers Authority (EBDA)	62.1	6.0	0.10	6.5	6.8
Dublin San Ramon Services District	10	3.5	0.34	3.7	3.7
City of Hayward	11	0.8	0.07	1.1	1.2
City of Livermore	4.1	1.4	0.35	1.5	1.5
Oro Loma Sanitary District and Castro Valley Sanitary District	11	0.03	0.00	0.0	0.0
City of San Leandro	5.0	0.3	0.05	0.3	0.3
Union Sanitary District	23	0.0	-	0.0	0.0
East Bay Municipal Utility District	48.1	0.18	0.00	0.202	0.504
Fairfield-Suisun Sewer District	12.9	1.03	0.08	1.03	1.03
Las Gallinas Valley Sanitary District	1.93	0.975	0.51	0.975	0.975
Marin County (Paradise Cove), Sanitary District No. 5 of	0.0149	-	-	-	-
Marin County (Tiburon), Sanitary District No. 5 of	0.573	-	-	-	-
Millbrae, City of	1.48	-	-	-	-
Mt. View Sanitary District	1.19	1.15	0.97	1.18	1.21
Napa Sanitation District	3.54	3.3	0.93	3.4	3.4
Novato Sanitary District	2.75	1.47	0.53	1.45	5.03
Palo Alto, City of	19.5	0.705	0.04	0.752	13.7
Petaluma, City of	2.89	0.981	0.34	1.2	3.4

Discharger	Average Daily Discharge Oct 2019-Sept 2020	2020 Water Recycled (MGD)	2020 Fraction Recycled	2025 Projected Water Recycled (MGD)	2030 Projected Water Recycled (MGD)
Pinole, City of	2.27	-	-	-	-
Rodeo Sanitary District	0.551	-	-	-	-
San Francisco (San Francisco International Airport), City and County of	0.943	-	-	-	-
San Francisco (Southeast Plant), City and County of	46.8	-	-	-	-
San Jose and Santa Clara, Cities of	84.4	12.6	0.15	15	17
San Mateo, City of	9.92	-	-	-	-
Sausalito-Marin City Sanitary District	1.03	-	-	-	-
Sewerage Agency of Southern Marin	2.14	0.038	0.02	0.038	0.038
Silicon Valley Clean Water	13.7	0.856	0.06	1.23	1.31
Sonoma Valley County Sanitation District	2.21	2.21	1.00	2.24	2.24
South San Francisco and San Bruno, Cities of	7.34	-	-	-	-
Sunnyvale, City of	10.1	0.443	0.04	-	-
Treasure Island Development Authority	0.285	-	-	-	-
Vallejo Flood and Wastewater District	8.51	-	-	-	-
West County Agency West County Wastewater District City of Richmond and Richmond Municipal Sewer District	7.37	3.92	0.53	1.1	1.4
Total	408	43.2	0.11	52.8	76.4

2.4. Existing Nutrient Discharge Data

The previous order required Dischargers to collect the nutrient discharge data shown below. The table includes 2022 dry season daily average loads, which was used to calculate baywide load reductions, and the maximum dry season average from 2014 through 2017, which established a 2019 baseline for performance in the previous order.

Table F-4. Average Annual Dry Season Total Inorganic Nitrogen

Discharger	2019-2023 Average Loads (kg/day)	2022 Loads (kg/day)	2019 Established Baseline (kg/day)	Design Flow (MGD)
American Canyon, City of	18	11	80	2.5
Benicia, City of	220	200	240	4.5
Burlingame, City of	340	250	290	5.5
Central Contra Costa Sanitary District	3,700	3,700	3,700	53.8
Central Marin Sanitation Agency	1,100	1,100	1,200	10
Crockett Community Services District	-	-	-	0.033
Delta Diablo	1,200	950	1,500	19.5
East Bay Dischargers Authority (EBDA)	7,300	6,900	8,400	107.8
East Bay Municipal Utility District	8,900	10,000	9,800	120
Fairfield-Suisun Sewer District	960	1,000	1,100	23.7
Las Gallinas Valley Sanitary District	-	-	-	2.92
Marin County (Paradise Cove), Sanitary District No. 5 of	1.5	0.88	-	0.04
Marin County (Tiburon), Sanitary District No. 5 of	41	47	-	0.98
Millbrae, City of	270	240	290	3.0
Mt. View Sanitary District	89	42	120	3.2
Napa Sanitation District	-	-	-	15.4
Novato Sanitary District	85	-	-	7.0
Palo Alto, City of	2,100	2,200	2,600	39
Petaluma, City of	-	-	-	6.7
Pinole, City of	280	370	340	4.06
Rodeo Sanitary District	41	39	31	1.14
San Francisco (San Francisco International Airport), City and County of	110	91	340	2.2
San Francisco (Southeast Plant), City and County of	7,300	7,400	11,000	85.4
San Jose and Santa Clara, Cities of	3,700	2,500	5,300	167
San Mateo, City of	1,400	1,300	1,500	15.7
Sausalito-Marin City Sanitary District	130	110	150	1.8
Sewerage Agency of Southern Marin	230	250	190	3.6

Discharger	2019-2023 Average Loads (kg/day)	2022 Loads (kg/day)	2019 Established Baseline (kg/day)	Design Flow (MGD)
Silicon Valley Clean Water	2,500	2,500	2,500	29
Sonoma Valley County Sanitation District	-	-	-	3.0
South San Francisco and San Bruno, Cities of	1,200	1,200	920	13
Sunnyvale, City of	530	500	630	29.5
Treasure Island Development Authority	20	20	21	2.0
Vallejo Flood and Wastewater District	810	770	900	15.5
West County Agency West County Wastewater District City of Richmond and Richmond Municipal Sewer District	750	700	1,000	28.5
Aggregate Load (kg/day)	45,200	44,400	54,100	-

3. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the requirements and authorities described in this section.

3.1. Legal Authorities. This Order serves as WDRs pursuant to California Water Code article 4, chapter 4, division 7 (commencing with § 13260). This Order is also issued pursuant to federal Clean Water Act (CWA) section 402 and implementing regulations adopted by the U.S. EPA, and Water Code chapter 5.5, division 7 (commencing with § 13370). It serves as an NPDES permit for point source municipal discharges of nutrients to surface waters from the named facilities listed in Attachment B of this Order.

3.2. California Environmental Quality Act (CEQA). Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (CEQA), Public Resources Code division 13, chapter 3 (commencing with § 21100).

3.3. State and Federal Laws, Regulations, Policies, and Plans

3.3.1. **Water Quality Control Plan.** The Regional Water Board adopted the *Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan), which designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements in this Order implement the Basin Plan. In addition, this Order implements State Water Board Resolution 88-63,

which established State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. The beneficial uses applicable to San Francisco Bay include Agricultural Supply (AGR), Cold Freshwater Habitat (COLD), Ocean, Commercial, and Sport Fishing (COMM), Estuarine Habitat (EST), Industrial Service Supply (IND), Marine Habitat (MAR), Fish Migration (MIGR), Municipal and Domestic Supply (MUN), Navigation (NAV), Industrial Process Supply (PROC), Preservation of Rare and Endangered Species (RARE), Water Contact Recreation (REC1), Non-Contact Water Recreation (REC2), Shellfish Harvesting (SHELL), Fish Spawning (SPWN), Warm Freshwater Habitat (WARM), and Wildlife Habitat (WILD).

3.3.2. **Antidegradation Policy.** Federal regulations at 40 C.F.R. section 131.12 require that state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy through State Water Board Resolution 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California*, which incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. Permitted discharges must be consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16.

3.3.3. **Anti-Backsliding Requirements.** CWA sections 402(o) and 303(d)(4) and 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

3.3.4. **Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code §§ 2050 to 2097) or Federal Endangered Species Act (16 U.S.C.A. §§ 1531 to 1544). This Order requires compliance with effluent limitations, receiving water limitations, and other requirements to protect the beneficial uses of waters of the State, including protecting rare, threatened, or endangered species. The Discharger is responsible for meeting all applicable Endangered Species Act requirements.

3.4. Impaired Water Bodies on CWA section 303(d) List. On May 11, 2022, U.S. EPA approved a revised list of impaired waters pursuant to CWA section 303(d), which requires identification of specific water bodies where it is expected that water quality standards will not be met after implementation of technology-based effluent limitations on point sources. Where it has not done so already, the

Regional Water Board plans to adopt Total Maximum Daily Loads (TMDLs) for pollutants on the 303(d) list. TMDLs establish wasteload allocations for point sources and load allocations for nonpoint sources and are established to achieve water quality standards. No San Francisco Bay segment is listed as impaired by nutrients.

4. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants discharged into waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations: 40 C.F.R. section 122.44(a) requires that permits include applicable technology-based limitations and standards, and 40 C.F.R. section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of receiving waters. The individual NPDES permits listed in Attachment B of this Order contain the applicable technology-based limitations for the discharges covered by this Order.

4.1. Water Quality-Based Effluent Limitations

4.1.1. Scope and Authority

CWA section 301(b) and 40 C.F.R. section 122.44(d) require permits to include limitations more stringent than federal technology-based requirements where necessary to achieve water quality standards. According to 40 C.F.R. section 122.44(d)(1)(i), permits must include effluent limitations for all pollutants that are or may be discharged at levels that have a reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective, water quality-based effluent limitations (WQBELs) must be established using (1) U.S. EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting a narrative criterion, supplemented with relevant information. The process for determining reasonable potential and calculating WQBELs when necessary is intended to achieve applicable water quality objectives and criteria, and thereby protect designated beneficial uses of receiving waters.

4.1.2. Beneficial Uses and Water Quality Objectives

The Dischargers discharge to San Francisco Bay and its tributaries. Fact Sheet section 3.3.1 identifies the beneficial uses of San Francisco Bay and its

tributaries. Water quality objectives to protect these beneficial uses include the narrative biostimulatory substances objective in Basin Plan section 3.3.3:

> Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses. Changes in chlorophyll a and associated phytoplankton communities follow complex dynamics that are sometimes associated with a discharge of biostimulatory substances. Irregular and extreme levels of chlorophyll a or phytoplankton blooms may indicate exceedance of this objective and require investigation.

4.1.3. Reasonable Potential Analysis

Municipal wastewater treatment plants are a significant source of nutrients to San Francisco Bay and nutrients pose a threat to San Francisco Bay beneficial uses. In San Francisco Bay, nitrogen is the growth-limiting nutrient.[2] Total inorganic nitrogen is the bioavailable form of nitrogen. As shown in the table below, municipal wastewater treatment plants account for about 86 percent of the annual average dry season total inorganic nitrogen load to San Francisco Bay and close to 100 percent of the total inorganic nitrogen load to Lower South Bay, South Bay, and Central Bay.[3] The estimates in the table do not account for dry season inorganic nitrogen loads from other sources such as creeks, urban stormwater systems, or aerial deposition, because load estimates were not available and assumed to be relatively small.

Table F-5. Dry Season Average Total Inorganic Nitrogen

Subembayment	Municipal [1] (kg N/day)	Petroleum Refinery [2] (kg N/day)	Delta [3] (kg N/day)	Total (kg N/day)	Municipal (%)
Lower South Bay	6,300	-	-	6,300	100
South Bay	20,400	-	-	20,400	100
Central Bay	11,200	-	-	11,200	100
San Pablo Bay & Carquinez Strait	1,500	840	-	2,300	64
Suisun Bay	5,900	130	6,200	12,200	48
Baywide	**45,200**	**970**	**6,200**	**52,400**	**86**

Footnotes:

[1] Average of data from 2018 through 2022.

[2] Data from 2011. To gather more information on current total inorganic nitrogen loadings from refineries and assess potential treatment options, the Regional Water Board issued a 13383 order on January 26, 2024.

[3] Data from *Nutrients in the Northern San Francisco Estuary* from SFEI in 2021.

[2] San Francisco Estuary Institute, Scientific Foundation for the San Francisco Bay Nutrient Management Strategy, Draft FINAL, October 2014, page 65.

[3] San Francisco Estuary Institute, External Nutrient Loads to San Francisco Bay, January 2014, Table 6, page 27.

San Francisco Bay has long been recognized as nutrient-enriched. Despite this, the abundance of phytoplankton in the estuary is typically lower than what would be expected due to strong tidal mixing, which limits periods of stratification; high turbidity, which limits light penetration; and an abundant clam population, which feeds on the phytoplankton. Data from 2000 through 2020 indicated an increase in phytoplankton biomass in many areas of the estuary, suggesting that San Francisco Bay's historic resilience to the effects of nutrient enrichment was potentially weakening.[4] The contributing factors for this decline may include (1) natural oceanic oscillations that have increased benthic predators, thus reducing South San Francisco Bay's clam population and clam grazing and (2) decreases in suspended sediment that have resulted in a less turbid environment and increased light penetration. Beginning in the late 1990s, phytoplankton growth in South San Francisco Bay increased sharply through 2010, then leveled off until 2022. The cause of this increase appears to have been a significant increase in fish, shrimp, and crab predators attributed to a change in natural oceanic oscillations bringing colder waters to San Francisco Bay.

Spring phytoplankton blooms are relatively frequent in San Francisco Bay, and fall blooms are becoming more frequent. The reasons are unknown, but the increases could be the result of a less turbid environment and less clam grazing. While San Francisco Bay experiences strong tidal mixing, there are two periods each year, between March and April and between September and October, during which there is less tidal mixing. Typically, these blooms are short-lived, lasting only 10 to 14 days and ending when tides increase and re-mix the water column.

While phytoplankton growth and biomass accumulation are limited much of the time by a lack of light and clam grazing, these limiting conditions were overcome in July and August 2022, when a large harmful algal bloom caused significant fish mortality. In late July 2022, an algae bloom formed in the deep channel between Alameda and Oakland. In early August, it spread from the Lower Bay to the South Bay, and by mid-to-late August, it had expanded throughout the Lower and South Bays. Researchers reported chlorophyll a values above 100 ug/L, which is about 20 times higher than typical values. There were observations of fish mortality, including sturgeon, leopard sharks, striped bass, and smaller fish throughout the Lower Bay, South Bay, Central Bay, and San Pablo Bay. Researchers recorded unusually low dissolved oxygen concentrations (below 3 mg/L) in large parts of the South Bay and Lower South Bay for several days after observing the fish mortality.

[4] Cloern, J.E., Schraga, T.S., Nejad, E. et al. Nutrient Status of San Francisco Bay and Its Management Implications. Estuaries and Coasts 43, 1299–1317 (2020). https://doi.org/10.1007/s12237-020-00737-w.

The species associated with this bloom, *Heterosigma akashiwo,* is one of several species that can cause water to take on a reddish-brown color, commonly called a “red tide.” *Heterosigma akashiwo* was able to proliferate over such a large area of San Francisco Bay because the physical factors that typically limit algal growth were not present (e.g., turbidity levels were low). Because existing nutrient concentrations in San Francisco Bay are sufficient to support large and sustained algal blooms, it was possible for large areas of San Francisco Bay to experience excessive eutrophication, low dissolved oxygen levels, and fish mortality. These conditions were not limited to Lower Bay and South Bay because *Heterosigma akashiwo* was also observed in a significant portion of San Pablo Bay in July and August 2023.

As shown in Table F-5, municipal wastewater treatment plants contribute most of the total inorganic nitrogen discharged to San Francisco Bay. During the July and August 2022 bloom, total inorganic nitrogen levels were sufficient to support excessive algal growth, which adversely affected beneficial uses. As explained above, irregular and extremely high chlorophyll-a values and thousands of dead fish were observed. Therefore, this Order finds reasonable potential for the Dischargers, except those with a dry season discharge prohibition in their individual permits (i.e., Las Gallinas Valley Sanitation District, Napa Sanitation District, City of Petaluma, and Sonoma Valley County Sanitation District), to discharge total inorganic nitrogen at levels that could cause or contribute to an exceedance of the narrative biostimulatory substances objective during the dry season (May through September). This finding is consistent with U.S. EPA’s NPDES Permit Writers’ Manual (Publication Number: EPA-833-K-10-001, September 2010, section 6.3.1), which indicates that a permit writer may use effluent and receiving water data and modeling techniques, or a non-quantitative approach to evaluate whether there is reasonable potential to exceed a narrative water quality objective. There is no reasonable potential during the wet season because algal blooms during the wet season have been short-lived and have not adversely affected beneficial uses.

4.1.4. Water Quality-Based Effluent Limitations

4.1.4.1. **WQBEL Expression.** NPDES regulations at 40 CFR 122.45(d) require that all permit effluent limitations, standards, and prohibitions for continuous discharges from publicly-owned treatment works be expressed as average weekly and average monthly limitations, unless impracticable. Here, it is impracticable to express the total inorganic nitrogen effluent limitations as daily maximums, weekly averages, or monthly averages because developing limitations for the nutrients affecting San Francisco Bay and its tributaries is different from setting limitations for toxic pollutants. The exposure period of concern for nutrients is longer than one month, and the average exposure rather than the maximum exposure is of concern. The statistical procedures for developing effluent limits from the State Water Board’s *Policy for*

Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bay, and Estuaries of California (State Implementation Policy) would result in impracticable effluent limits for total inorganic nitrogen. If based on the procedures used for aquatic life protection that have water quality objectives based on exposure durations of one hour (acute) or four days (chronic), the maximum and average monthly effluent limits would be less stringent than the seasonal limits necessary to protect beneficial uses. Even if municipal wastewater treatment plants discharged total inorganic nitrogen in compliance with these monthly effluent limits, it would be possible for these dischargers to exceed the seasonal mass limit that must be met to protect beneficial uses. Such a result would be unacceptable.

The nutrient dynamics of San Francisco Bay and its tributaries are complex and also make expressing the total inorganic nitrogen effluent limitations as daily maximums, weekly averages, or monthly averages impracticable. Unlike many conventional pollutants that have direct and somewhat immediate effects on the aquatic system, nutrients have no known direct effect. Several conditions must be met for nutrients to affect the Bay ecosystem. These conditions delay and buffer the effects nutrients have on receiving waters. San Francisco Bay and its tributaries' biological and physical processes can be viewed as integrating the various nutrient loads from all sources over time. The integration ameliorates daily and monthly load fluctuations, with the Bay responding to overall loads on a seasonal basis, showing little response to the daily and monthly variations among individual sources. SFEI models the effect of nutrient loading to San Francisco Bay. Based on the model results, the Bay and its tributaries have been shown to integrate various point source loads over time. Thus, seasonal loading requirements (specifically requirements for the dry season from May 1 through September 30) will protect the Bay under the critical conditions that led to the July and August 2022 bloom. This is consistent with U.S. EPA's *Memorandum: Annual Permit Limits for Nitrogen and Phosphorus for Permits Designed to Protect Chesapeake Bay and its tidal tributaries from Excess Nutrient Loading under the National Pollutant Discharge Elimination System*, dated March 3, 2004, which found that a similar finding of impracticability pursuant to 40 C.F.R. section 122.45(d) may be appropriate when implementing nutrient criteria in other watersheds if supported with data and modeling that shows it is necessary to control long-term average loadings rather than short-term maximum loadings.

4.1.4.2. **Final Effluent Limitations.** Based on the reasonable potential analysis in Provision 4.1.3, above, this Order establishes effluent limitations for total inorganic nitrogen. Pursuant to 40 C.F.R. section 122.44(d)(1)(vi), where a state has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contribute to an excursion above a

narrative water quality objective, the permitting agency must establish effluent limits using one or more of the following options:

(A) Establish effluent limits using a calculated numeric water quality criterion for the pollutant which the permitting authority demonstrates will attain and maintain applicable narrative water quality criteria and will fully protect the designated use. Such a criterion may be derived using a proposed State criterion, or an explicit State policy or regulation interpreting its narrative water quality criterion, supplemented with other relevant information which may include: EPA's Water Quality Standards Handbook, October 1983, risk assessment data, exposure data, information about the pollutant from the Food and Drug Administration, and current EPA criteria documents;

(B) Establish effluent limits on a case-by-case basis, using U.S. EPA's water quality criteria under CWA section 304(a), supplemented where necessary by other relevant information; or

(C) Establish effluent limits based on an indicator parameter for the pollutant of concern.

This Order establishes effluent limits for total inorganic nitrogen by using a calculated numeric water quality criterion for dissolved oxygen that will attain and maintain the narrative biostimulatory substances water quality objective and fully protect beneficial uses, as allowed by 40 C.F.R. section 122.44(d)(1)(vi)(A). As explained in the *Memo on Numerical Translation of Narrative Objective*,[5] a dissolved oxygen concentration for San Francisco Bay that is protective of beneficial uses under the acute condition of an algae bloom was calculated using the dissolved oxygen criterion for Suisun Marsh and other supplemental information (e.g., South Bay slough study).

The Nutrient Science Program has developed and continues to improve a coupled physical biogeochemical model, with input and feedback from scientific advisors, that accounts for the fate and transport of nutrient loads to the Bay and how nutrients affect or may affect primary productivity, dissolved oxygen, and harmful algal blooms in the Bay. A recent review[6] by an independent panel of experts in physical and biogeochemical modeling, observations, and use of models to support decisions to manage eutrophication and other anthropogenic effects found that the model

[5] San Franisco Bay Regional Water Board, *Memo on Numerical Translation of Narrative Objective*, February 2024.

[6] *Findings and Recommendations of an Expert Panel Evaluating a Physical-Biogeochemical Model Supporting the San Francisco Bay Nutrient Management Strategy*: February 2023 Workshop

represents important transport processes and can reproduce the seasonal and spatial patterns of nutrient concentrations in the Bay.

The panel also found that the physical portion of the model used to predict the spatial patterns of nutrient concentrations is ready for near-term application. This Order's Aggregate Mass Load was calculated based on use of the physical portion of the model. This Order used the biogeochemical portion of the model to simulate nitrogen transformation, but did not use the biogeochemical portion of the model to predict chlorophyll-a and dissolved oxygen levels due to its limitations that will be resolved with ongoing and planned model improvements.

The Nutrient Science Program scientists at SFEI evaluated different total inorganic nitrogen load reduction scenarios using the physical portion of the model to determine the loads that San Francisco Bay can assimilate without having an excessive algal bloom that would result in unprotective dissolved oxygen levels.

Studies undertaken for Suisun Marsh and South Bay sloughs were used to establish a dissolved oxygen criterion that would protect beneficial uses under the acute conditions of a large algal bloom. The Suisun Marsh study evaluated the four species most sensitive to low dissolved oxygen concentrations to calculate an acute threshold. These species, from most tolerant to least tolerant, were striped bass, Mississippi silversides, American shad, and sturgeon. The resulting dissolved oxygen criterion was a minimum concentration of 3.8 mg/L. The South Bay slough study also evaluated the four species most sensitive to low dissolved oxygen concentrations to calculate an acute threshold. These species, from most tolerant to least tolerant, were sturgeon, killifish/topminnow, molly, and herring. The resulting dissolved oxygen criterion was a minimum concentration of 3.7 mg/L.

The species used for these calculations are generally representative of the most oxygen-sensitive species living in San Francisco Bay. Therefore, a protective dissolved oxygen concentration for San Francisco Bay would likely be close to 3.8 or 3.7 mg/L. To provide a margin of safety when applying the dissolved oxygen criteria for Suisun Marsh and the South Bay sloughs to all of San Francisco Bay, a dissolved oxygen concentration of 4.0 mg/L was selected to evaluate the model results for each subembayment.

U.S. EPA recognizes that beneficial uses can be supported even if water quality objectives are not achieved 100 percent of the time. U.S. EPA guidance provides an allowable exceedance threshold of 10 percent for

conventional pollutants, like dissolved oxygen.[7] Like many states, California uses this guidance.[8] For example, the California Listing Policy[9], consistent with U.S. EPA guidance, allows for an exceedance frequency of up to 10 percent for conventional pollutants like dissolved oxygen to determine whether water quality standards are met. Accordingly, for purposes of this Order, the narrative biostimulatory substances water quality objective would be met if modeling results show that no more than 10 percent of the surface area in each subembayment has dissolved oxygen levels below 4.0 mg/L. When reissuing this permit, the Regional Water Board will consider additional endpoints, such as algal toxins, to interpret the narrative biostimulatory substances water quality objective if supported by new scientific evidence.

SFEI modeled different load reduction scenarios under the critical conditions of the July and August 2022 bloom and made worst-case assumptions for phytoplankton growth and decay. SFEI assumed that all available nitrogen would be converted to phytoplankton, and that all the phytoplankton produced would be digested by bacteria, a process that consumes oxygen. The “worst case” assumptions are appropriate because they represent what occurred during the July and August 2022 bloom. To determine nitrogen levels that are protective of beneficial uses, this Order only considers acute impacts because the effect of a large algae bloom on dissolved oxygen levels in San Francisco Bay, such as the July and August 2022 bloom, will occur over a period of a few days.

The results indicate that a baywide seasonal reduction in the total inorganic nitrogen loads from municipal wastewater treatment plants would need to be 40 percent below the loads that occurred during the 2022 bloom, or about 50 percent below the 2019 baseline conditions established in the previous order. According to the modeling, these lower total inorganic nitrogen loads would be sufficient to ensure that dissolved oxygen concentrations would fall below 4.0 mg/L in no more than 10 percent of any individual subembayment under the critical conditions of the 2022 bloom, a level protective of beneficial

[7] Consolidated assessment and listing methodology toward a compendium of best practices. First edition. Washington, D.C.: Office of Wetlands, Oceans, and Watersheds, U.S. Environmental Protection Agency. 2002.

[8] Functional Equivalent Document: Water Quality Control Policy for Developing California’s Clean Water Act Section 303(d) List. September 2004.

[9] The State Water Board adopted the Water Quality Control Policy for Developing California’s Clean Water Act Section 303(d) List (Listing Policy). The Listing Policy describes the process by which the State Water Board and the nine Regional Water Quality Control Boards comply with the listing requirements of Clean Water Action section 303(d) and establishes a standard process to develop the list. To make decisions regarding standards attainment, the Listing Policy provides guidance for interpreting data and information as they are compared to beneficial uses, existing numeric and narrative water quality objectives, and antidegradation considerations.

uses under the acute condition of a large algae bloom. This reduction corresponds to a total aggregate average total inorganic nitrogen mass load of 26,700 kg/day (the total aggregate WQBEL in the Order).

This Order uses an aggregate approach to regulating total inorganic nitrogen because, once nitrogen loads are introduced into San Francisco Bay, mixing forces distribute and circulate nitrogen over a large area. The nitrogen concentrations in various portions of San Francisco Bay include loads from other dischargers and the combined contributions from the various dischargers determine the nitrogen levels that could potentially fuel algae blooms. This is reasonable because all portions of the estuary, including the North Bay, are vulnerable to algal blooms given the high concentrations of total inorganic nitrogen prevalent throughout the Bay.

This aggregate approach does not exclude major nutrient dischargers in the North Bay, like the Central Contra Costa Sanitary District, which is one of the top five dischargers of nutrients to the Bay and contributes over 50 percent of the nutrient discharge to North Bay from municipal wastewater treatment plants. The 40 percent baywide reduction in nitrogen needed to meet the objective and protect beneficial uses includes North Bay nitrogen discharges because they are not confined to the North Bay. Because the area is tidally influenced, these nutrients flow upstream to nutrient-sensitive areas in the Sacramento-San Joaquin Delta, an area known for its own nutrients-related problems. The Central Valley Regional Water Quality Control Board required the Sacramento Regional County Sanitation District (upstream of the Central Contra Costa Sanitary District outfall) to reduce its effluent nitrogen concentrations significantly (Order R5-2010-0114). North Bay discharges also flow through San Pablo Bay and Central Bay into the Pacific Ocean, another nutrient-sensitive area, and home to the Monterey Bay National Marine Sanctuary, Greater Farallones National Marine Sanctuary, and Cordell Bank National Marine Sanctuary. A small percentage of North Bay discharges even reach the South Bay.

Suisun Bay itself has measured total inorganic nitrogen levels that are comparable to the levels in the portions of the estuary where the 2022 algal bloom occurred, as explained in the *Memo on Numerical Translation of Narrative Objective*. Scientific evidence suggests that Suisun and San Pablo Bays are increasingly vulnerable to harmful algal blooms. Researchers have observed declining turbidity in the North Bay, which suggests that this portion

of the estuary is losing its resilience against high nutrient loads.[10] Losing this resilience makes it more likely that algae can make efficient use of available nitrogen, which is already sufficiently concentrated to support a significant algal bloom. In fact, algal toxins from harmful freshwater and marine algae species have been routinely detected in San Pablo Bay and Suisun Bay at relatively high concentrations. Therefore, the 40 percent baywide reduction in nitrogen is needed in North Bay to meet the biostimulatory objective and protect beneficial uses.

The Regional Water Board calculated the final WQBELs for individual Dischargers based on meeting the total aggregate average load of 26,700 kg/day as follows. For the three minor Dischargers listed in Table 1 (i.e., design flow less than 1.0 MGD), the final individual WQBELs are based on 2022 loads (for Marin County [Tiburon] Sanitary District No. 5) and the maximum loading, accounting for variability, from the previous 10 years for the two smallest facilities (Crockett Community Services District and Marin County [Paradise Cove] Sanitary District No. 5). This is appropriate because previous orders did not require minor facilities to evaluate treatment upgrade options and they only contribute about 0.1 percent of the total aggregate average load to San Francisco Bay. For the remaining Dischargers, the individual WQBELs are based on the concentration that, when the various flows are considered, results in loads summing to the total aggregate average load of 26,700 kg/day, assuming 2022 dry season flows. This concentration is 20.5 mg/L total inorganic nitrogen. The resulting individual WQBELs are listed in Table 4 of the Order.

Compliance with these dry season (May 1 through September 30) WQBELs will be assessed based on dry season data because algal blooms large enough to significantly consume total inorganic nitrogen and depress oxygen concentrations have not been shown to occur in San Francisco Bay during the wet season.

Because the individual WQBELs are based on the total aggregate WQBEL, compliance with the WQBELs will be based first on the total aggregate WQBEL. Compliance with the aggregate WQBEL will be attained if the sum of all the individual Dischargers' total inorganic mass loads does not exceed the aggregate WQBEL. If the sum of the individual total inorganic nitrogen mass loads is greater than the aggregate WQBEL, only the Dischargers

[10] Cloern J.E., Jassby, A.D. (2012). Drivers of change in estuarine-coastal ecosystems: Discoveries from four decades of study in San Francisco Bay. Reviews of Geophysics, October 2012.

whose total inorganic nitrogen mass loads exceed their individual WQBELs will be in violation of the WQBELs.

Provision 6.3.2 of this Order requires the Dischargers to continue supporting receiving water monitoring and modeling to better understand how San Francisco Bay assimilates nutrients. Advances in modeling and data collected over the next five years will inform the Regional Water Board on the need to reassess and refine the final WQBELs and whether subembayments should be treated differently. For the permit reissuance scheduled for 2029, the Regional Water Board will consider advances in the science related to nutrients loading and beneficial use protection and available new information (e.g., observational data and improved load response modeling) to reassess and refine the final WQBELs developed for this Order to ensure that they are appropriate to protect San Francisco Bay beneficial uses.

4.2. Compliance Schedules and Interim Effluent Limitations

4.2.1. Compliance Schedules

State Water Resources Control Board (State Water Board) Resolution 2008-0025, *Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits* (Compliance Schedule Policy), authorizes the Water Board to include a compliance schedule in a permit for an existing discharger "to implement a new, revised, or newly interpreted water quality objective or criterion in a water quality standard that results in a permit limitation more stringent than the limitation previously imposed where the Water Board determines that the discharger has complied with the application requirements . . . . [of the] Policy and has demonstrated that the discharger needs additional time to implement actions to comply with the limitation."[11] These actions may include designing and constructing facilities or implementing new or significantly expanded programs and securing financing, if necessary. This Order applies to existing dischargers and newly interprets the Basin Plan's narrative biostimulatory substances water quality objective to establish numeric total inorganic nitrogen WQBELs that are more stringent than the previous permit, which contained no numeric effluent limitations for total inorganic nitrogen. The Dischargers have demonstrated, and the Water Board agrees that this will require the Dischargers to design, finance, and construct facilities, as well as

[11] The Compliance Schedule Policy defines "newly interpreted water quality objective or criterion in a water quality standard" as "a narrative water quality objective or criterion that, when interpreted during NPDES permit development (using appropriate scientific information and consistent with state and federal law) to determine the permit limitations necessary to implement the objective, results in a numeric permit limitation more stringent than the limit in the prior NPDES permit issued to the discharger." Resolution 2008-0025, section 1.e. "Permit limitation" is further defined as a "water quality-based effluent limitation (WQBEL). *Id*., section 1.f.

implement new or significantly expanded programs (e.g., water recycling) to comply with these effluent limitations. The new interpretation of the biostimulatory substances water quality objective is explained in the *Memo on Numerical Translation of Narrative Objective*. The more stringent effluent limitations will require a 40 percent reduction in the total inorganic nitrogen loads discharged to San Francisco Bay and its tributaries compared to 2022 levels. Therefore, it is infeasible for Dischargers to meet these limitations immediately. Except for minor facilities (explained below), significant treatment upgrades will be needed to reduce nutrient discharges. Thus, this Order establishes compliance schedules as authorized by the Compliance Schedule Policy.

Compliance schedules under the Compliance Schedule Policy must require compliance as soon as possible and may not exceed ten years. The Water Board is thus prohibited from granting a compliance schedule in a permit that is longer than ten years. In this case, ten-year schedules are needed to develop the most effective strategy (e.g., water recycling, nature-based solutions, treatment upgrades) to comply with the total inorganic nitrogen WQBELs. As explained below through representative examples, a compliance schedule of 10 years is necessary for all dischargers.

All Dischargers except the three minor Dischargers discussed below (i.e., those with total inorganic nitrogen WQBELs based on an effluent concentration of 20.5 mg/L) must implement significant treatment plant upgrades and the projects needed to comply will involve planning, design, and construction. The planning and design phases typically include many steps such as evaluating options to improve treatment; developing preliminary designs, 10 percent designs, 50 percent designs, 90 percent designs, and final designs; and completing contract documents so the projects can be publicly bid and awarded to contractors. The Dischargers must also obtain permits from multiple agencies, which can take several months or longer. The construction phase generally takes several years. Additional time will also be needed for treatment unit startup, optimization, and troubleshooting.

Some Dischargers have begun the planning phase, and their proposed projects will take an anticipated 10 years. For example, Delta Diablo is planning to reduce its effluent nitrogen concentration to around 15 to 20 mg/L. This project will undergo two phases, where the first phase addresses current infrastructure upgrades needed at the facility, and the second phase increases aeration capacity to remove nitrogen. According to its preliminary schedule for phase one, it needs six months for planning, 18 months for design and bidding, four years for construction, and one year for startup. During the construction for phase one, phase two planning will take six months, 18 months for design, four years for construction, one year for startup, and one year for optimization. The total timeline for these projects is just over ten years.

The three minor Dischargers also need 10 years to comply. This is because these facilities will need to develop, plan, and implement actions to improve the performance of their facilities to accommodate population growth in their service areas and meet their final effluent limitations. In addition, they may need to consider trading options with larger facilities implementing more significant treatment plant upgrades. Trading with larger facilities may result in a more cost-effective regionwide strategy to ensure beneficial uses are protected. A trading program does not yet exist and will take time to develop, especially considering that no trading program has been developed in this Region or approved by the Water Board. As described in Provision 6.3.4, the trading program must be consistent with U.S. EPA guidance. The Regional Water Board intends to consider a formal trading program with the next permit reissuance. Since the final aggregate load WQBEL becomes effective in 10 years, a compliance schedule that aligns with this aggregate load WQBEL is necessary for minor dischargers to reap the potential benefits of trading.

Based on the above information, this Order grants until October 1, 2034, for Dischargers to begin complying with the final effluent limits. This represents a time schedule of 10 years, which is the maximum allowed by the Compliance Schedule Policy.

The Dischargers submitted the following documentation to qualify for compliance schedules:

- **Descriptions of diligent efforts the Dischargers have made to quantify pollutant levels in the discharge, sources of the pollutant in the waste stream, and the results of those efforts.** The Dischargers provided total inorganic nitrogen monitoring data for the previous order term. The primary source of total inorganic nitrogen in the discharges is human waste.

- **Descriptions of source control and/or pollutant minimization efforts currently underway or completed.** The Dischargers implement pollution prevention programs in accordance with their individual permits, and those with influent flows above five million gallons per day implement pretreatment programs that regulate industrial discharges. The primary source of total inorganic nitrogen in municipal wastewater is human waste; therefore, Dischargers do not have a practical way of controlling influent levels.

- **Proposed schedules for additional or future source control measures, pollutant minimization, or waste treatment.** Because the primary source of total inorganic nitrogen in municipal wastewater is human waste, additional source control and pollution minimization is infeasible. Provisions 6.3.3 and 6.3.4 of the Order require the Dischargers to submit strategies to comply with the final effluent limitations in Table 4 of the Order, including

specific projects to reduce total inorganic nitrogen loads discharged to San Francisco Bay.

- **Data demonstrating current treatment facility performance to compare against limitations.** The Dischargers provided total inorganic nitrogen monitoring data. These data were used to determine that Dischargers would be unable to meet the final effluent limitations immediately. They were also used to establish the performance-based interim effluent limitations in Table 3 of the Order as described in Fact Sheet section 4.2.2 below.

- **Highest discharge quality that can reasonably be achieved until final compliance is attained.** Compliance with the interim effluent limitations will ensure that each Discharger maintains its discharge at the highest levels that can reasonably be achieved until compliance with the final effluent limitations are attained. The Regional Water Board will reconsider the interim effluent limitations during the permit reissuance scheduled for 2029.

- **Demonstration that proposed schedules are as short as practicable.** The Dischargers provided planned construction schedules for treatment plant upgrades that are being undertaken to reduce total inorganic nitrogen discharges. As explained above, a ten-year compliance schedule is as short as practicable because of the time needed to plan, design, fund, permit, construct, and optimize treatment plant upgrades regionwide.

Provision 6.3.3 of the Order includes interim requirements and dates for their achievement. The interim dates are no more than one year apart. The Order requires the Dischargers to notify the Regional Water Board, in writing, no later than 14 days following each interim date, of their compliance or noncompliance with the interim requirements due on that date. Because the compliance schedules exceed one year, the Order establishes interim numeric limitations as described below.

The benefit of the compliance schedule provided in this Order is that Dischargers do not have to immediately comply with the final WQBELs while they undertake the considerable and costly actions necessary to ultimately achieve compliance by the end of the compliance schedule in ten years. For the term of this permit, this Order requires compliance with existing performance-based interim effluent limitations and other actions to put Dischargers on a path toward compliance.

4.2.2. Interim Effluent Limitations

Because the compliance schedules extend beyond one year, the Compliance Schedule Policy requires that this Order include interim effluent limitations based on current treatment performance or existing permit limitations, whichever are more stringent. The interim effluent limitations in this Order are

designed to cap total inorganic nitrogen loads at existing treatment levels. A period from 2013 through 2022 was chosen to represent current treatment capabilities, to account for variability, and to provide sufficient data for statistical analysis. Total inorganic nitrogen loads were calculated using data from days when both total ammonia and nitrate-nitrite were sampled. The sum is the total inorganic nitrogen discharged for a given day. To calculate the interim effluent limitation for each Discharger, the 95th percentile of each Discharger's total inorganic nitrogen loads from May 1 through September 30 of 2013 through 2022 were used, assuming a lognormal distribution. The resulting interim effluent limitations are listed in Table 3 of the Order. Compliance with the interim limits is based on a five-month average of daily total inorganic nitrogen loads from May through September of each year.

4.3. Discharge Requirement Considerations

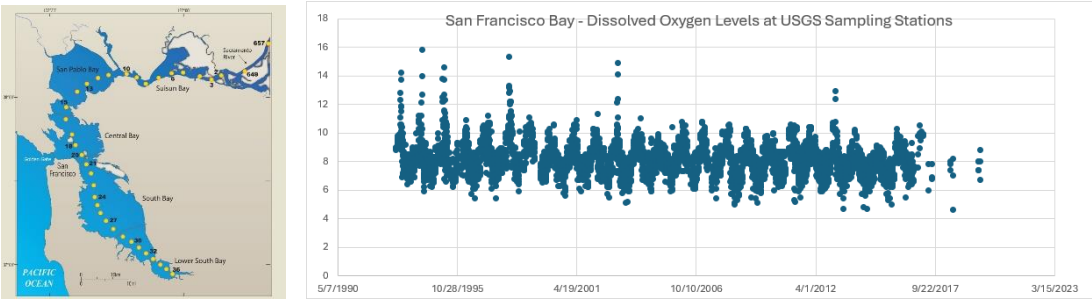
4.3.1. **Anti-Backsliding.** This Order complies with the anti-backsliding provisions of CWA sections 402(o) and 303(d)(4), and 40 C.F.R. section 122.44(l), which generally require effluent limitations in a reissued permit to be as stringent as those in the previous order. The effluent limitations in this Order are new and are more stringent than those in the previous order.

4.3.2. **Antidegradation.** This Order complies with the antidegradation provisions of 40 C.F.R. section 131.12 (federal policy) and State Water Board Resolution 68-16 (state policy). Permitted discharges must be consistent with these policies. This Order does not decrease the quality nor increase the quantity of the Dischargers' nutrient discharges to San Francisco Bay and its tributaries. The Dischargers' discharges into San Francisco Bay are authorized by the individual NPDES permits listed in Attachment B. This Order does not authorize any additional discharges, but rather requires the amount of nitrogen authorized by these existing permits to be reduced. The performance-based interim limits ensure that the Dischargers will maintain existing performance and do not authorize increased nitrogen discharges, temporary or otherwise.

This Order complies with the antidegradation requirements of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16, as well as the State Water Resources Control Board's Administrative Procedures Update, Antidegradation Policy Implementation for NPDES Permitting, 90 004 (APU 90-004). As explained below, this Order will not degrade San Francisco Bay water quality with respect to biostimulatory substances, including in the Lower South Bay. Instead, this Order will restore water quality to the typically high levels observed for many years and protect existing beneficial uses. For purposes of the antidegradation policies, the baseline water quality is the best water quality that has existed since 1968 (state policy) or 1975 (federal policy) unless some degradation has been authorized. No degradation for biostimulatory substances has been authorized since 1968 or 1975; therefore, the baseline for comparison

with the biostimulatory water quality objective is the best water quality since then.

Prior to passage of the Clean Water Act in 1972, San Francisco Bay water quality was often poor. Pollutant discharges from many sources, including sewage systems, contributed to eutrophication, foul smells, and low dissolved oxygen. San Francisco Bay south of the Dumbarton Bridge had alarmingly low dissolved oxygen concentrations due to excessive algal growths caused by biostimulatory substances in wastewater and the discharge of high oxygen-demanding substances (Interim Water Quality Control Plan, San Francisco Bay, Basin 2, June 1971). Water quality related to biostimulatory substances greatly improved during the 1970s and 1980s as secondary treatment was installed to remove biochemical oxygen demand from municipal wastewater.[12] These improvements have been consistently maintained since then.[13] For example, dissolved oxygen concentrations have remained relatively constant and protective of beneficial uses, as demonstrated by U.S. Geological Survey data collected along the “spine” of the bay shown in the figure below on the right. The figure on the left below shows the numbered station locations where the data are collected during every cruise. Since 1993, the U.S. Geological Survey has conducted monthly cruises along the entire Bay-Delta system as part of the Regional Monitoring Program for Water Quality in San Francisco Bay



Dissolved oxygen is a good proxy for the effects of biostimulatory substances on beneficial uses. When biostimulatory substances (i.e., nutrients) feed an algal bloom, the subsequent consumption of dissolved oxygen leads to low dissolved oxygen levels that can harm beneficial uses. Although dissolved oxygen levels throughout the bay have remained consistently high, occasional algal blooms have periodically occurred, including some toxic algal blooms. However, these algal blooms rarely lasted long enough or spread far enough to cause nuisance or adversely affect beneficial uses throughout San Francisco Bay. While sufficient nutrients have been present in San Francisco Bay to

[12] SFEI, 2007. The Pulse of the Estuary: Monitoring and Managing Water Quality in the San Francisco Estuary. SFEI Contribution No. 532.

[13] The exception is dissolved oxygen in Guadalupe and Alviso sloughs due to dischargers from former salt ponds in the Lower South Bay.

support large algal blooms, the risk of significant algal blooms and their adverse effects to beneficial uses has been minimized by the many other factors that together diminish the potential for algal blooms. These factors include turbidity, light penetration, clam foraging, temperature, and wave and tidal action that disrupt algal growth near the water surface.

Recently, however, as demonstrated by the large algal bloom in 2022 that led to massive fish kills (and the significant but less harmful bloom in 2023), the probability that a significant algal bloom is triggered appears to have increased during the dry season. Nutrients loading has not significantly changed recently, but it appears the other factors that affect the bay's resiliency against significant algal blooms have. The increase in probability, coupled with sufficient nutrient loading to support potentially large blooms, means that the risk posed by algal blooms has also increased. This Order requires nutrient reductions to reduce this risk to a level comparable to the past (as described above). Because the factors that affect the probability of algal blooms are uncontrollable, this Order seeks to reduce the risk, not by reducing the probability of algal blooms, but by reducing their consequences. For example, since nutrients contribute to the magnitude of an algal bloom by fueling algal growth, reducing nutrients will limit the effects of a bloom event. Reduced nutrient loads are expected to offset the increased probability of large algal blooms.

The baseline water quality (the highest water quality since 1968 and 1975) met the narrative biostimulatory water quality objective. In 2022 and 2023, however, nutrients in the Bay fed algal blooms to the extent that they adversely affected beneficial uses and caused nuisance conditions. Where the baseline water quality is equal to or less than the applicable water quality objective, antidegradation policies require water quality to be maintained or improved. As explained above and elsewhere in this Order, this Order will improve water quality by requiring a significant reduction in the discharge of nitrogen to meet the narrative biostimulatory water quality objective and maintain and protect beneficial uses. Since this Order will not lower existing or baseline water quality, under APU 90-004 no further antidegradation analysis and no findings authorizing degradation are required.

4.3.3 **Stringency of Requirements**. This Order contains effluent limitations for total inorganic nitrogen that are no more stringent than required to implement CWA requirements. The total inorganic nitrogen effluent limitations are necessary to meet the Basin Plan's biostimulatory substances water quality objective. That objective has been approved pursuant to federal law and is an applicable federal water quality standard because U.S. EPA approved the objective prior to May 30, 2000. Beneficial uses and water quality objectives submitted to U.S. EPA prior to May 30, 2000, but not approved by U.S. EPA before that date, are "applicable water quality standards for purposes of the CWA" pursuant to 40 C.F.R. section 131.21(c)(1).

5. RATIONALE FOR RECEIVING WATER LIMITATIONS

The receiving water limitations for the biostimulatory substances water quality objective that are applicable to the Dischargers are established in the individual NPDES permits listed in Attachment B. This Order overlays nitrogen mass load reduction effluent limitations on the Dischargers that represent nitrogen reductions necessary to protect beneficial uses under limited duration, critical condition algal blooms. This Order recognizes that immediate compliance with the final effluent limitations to meet the biostimulatory substances water quality objective is impossible. Rather, it will take time, significant actions, and expenditures to comply. This Order provides a path and compliance schedules for Dischargers to comply with the biostimulatory substances water quality objective. As such, compliance with the conditions of this Order constitutes compliance with the receiving water limitations for biostimulatory substances for discharges of nitrogen.

This Order does not create new receiving water limitations. Specifically, the use of a dissolved oxygen threshold of 4.0 mg/L was an analytic step for purposes of translating the narrative biostimulatory water quality objective into numeric effluent limitations. The use of this dissolved oxygen value does not establish new receiving water limitations or promulgate any new, or amend existing, water quality objectives.

6. RATIONALE FOR PROVISIONS

6.1. Standard Provisions

Attachment D of each individual NPDES permit contains standard provisions that apply to all NPDES permits in accordance with 40 C.F.R. section 122.41 and additional conditions applicable to specific categories of permits in accordance with 40 C.F.R. section 122.42. The Discharger must comply with these provisions. The conditions set forth in 40 C.F.R. sections 122.41(a)(1) and (b) through (n) apply to all state-issued NPDES permits and must be incorporated into permits either expressly or by reference.

In accordance with 40 C.F.R. section 123.25(a)(12), states may omit or modify conditions to impose more stringent requirements. Attachment G of each individual NPDES permit contains sampling and reporting requirements and additional standard provisions that supplement the federal standard provisions in Attachment D.

Attachment D of each individual NPDES permit omits the federal conditions that address enforcement authority specified in 40 C.F.R. sections 122.41(j)(5) and (k)(2) because the State's enforcement authority under the Water Code is more stringent. In lieu of these conditions, the individual NPDES permits incorporate Water Code section 13387(e) by reference.

6.2. Monitoring and Reporting Provisions

CWA section 308 and 40 C.F.R. sections 122.41(h), 122.41(j)-(l), 122.44(i), and 122.48 require that NPDES permits specify monitoring and reporting requirements. Water Code section 13383 also authorizes the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The MRP establishes monitoring, reporting, and recordkeeping requirements that implement federal and State requirements. For more information, see Fact Sheet section 7. Consistent with the previous order, this Order requires influent monitoring for Dischargers with a design flow greater than or equal to 10 MGD for total ammonia, total Kjeldahl nitrogen, nitrate-nitrite, and total phosphorus; and effluent monitoring for all Dischargers for total ammonia, nitrate-nitrite, and total phosphorus. This Order requires influent monitoring for total Kjeldahl nitrogen (organic nitrogen plus ammonia) because untreated wastewater often contains high levels of organic nitrogen. It does not require effluent monitoring for total Kjeldhal nitrogen because treated wastewater contains very little organic nitrogen (about five percent of total nitrogen), and the remaining organic nitrogen in treated wastewater isn't as bioavailable.

6.3. Special Provisions

6.3.1. Reopener Provisions

These provisions are based on 40 C.F.R. sections 122.44(d)(1)(vi)(C), 122.62, and 122.63, and allow modification of this Order and its effluent limitations as necessary in response to updated water quality objectives, regulations, or other new and relevant information that may become available in the future, and other circumstances as allowed by law.

6.3.2. Monitoring, Modeling, and Subembayment Studies

This Order requires the Dischargers to conduct, by themselves or in collaboration with others, studies to address the potential impacts of nutrients on San Francisco Bay beneficial uses. These studies must be supported by receiving water monitoring and modeling efforts of San Francisco Bay as a whole to understand how the entire Bay assimilates nutrients and more specific studies to better understand how subembayments respond. There are efficiencies from collaborating on large-scale studies and studies led by individual dischargers when done in collaboration with the Nutrient Management Strategy Steering Committee. BACWA has identified $2.2 million per year for five years for collective efforts, and the Regional Water Board finds this amount to be an appropriate level of funding to support further receiving water monitoring and science plan development and implementation as described in this provision. BACWA has identified that at least $200,000 from its yearly support should be directed toward project management. To communicate findings from the science program, one of the project management deliverables will be to develop an annual report that summarizes the findings from the

monitoring, modelling, and studies and a breakdown of how the funds were spent that year. If the Dischargers and BACWA are successful in securing additional resources, such as from grants or other agencies, for nutrient monitoring or studies identified in the science plan, the additional funding will not count toward the Dischargers' level of effort under this provision.

These studies and analyses are necessary to continue to understand San Francisco Bay's interaction with nutrients and how these interactions can lead to harmful algal blooms. Support for receiving water monitoring will provide necessary data to further model San Francisco Bay nutrient loads, determine San Francisco Bay's response to nutrient loads, and inform the development and implementation of strategies to manage these nutrient loads. While total inorganic nitrogen has been identified as the limiting nutrient in San Francisco Bay, studies also need to track phosphorus levels and evaluate if phosphorus could seasonally limit algal growth in certain portions of San Francisco Bay.

These studies will be developed by the Nutrient Management Strategy Steering Committee and stakeholders, including the Dischargers, U.S. EPA, and San Francisco Baykeeper. This collaborative process will ensure that the Nutrient Science Plan is updated to ensure science-based decision making.

CWA section 1318(a) and Water Code section 13383 authorize this provision. CWA section 1318(a) authorizes the collection of information necessary to carry out the CWA's objectives, including but not limited to developing or assisting in the development of any effluent limitation, other limitation, prohibition, effluent standard, pretreatment standard, or standard of performance. Water Code section 13383 authorizes the Regional Water Board to establish monitoring, reporting, and recordkeeping requirements for NPDES dischargers. It also authorizes the Regional Water Board to require NPDES dischargers to provide other information as may be reasonably required.

6.3.3. Compliance Schedule and Reporting

The requirement to submit reports on measures each Discharger will implement to ensure compliance with the final WQBELs for total inorganic nitrogen is based on the Compliance Schedule Policy.

6.3.4. Regional Planning to Reduce Total Inorganic Nitrogen Loads

This Order requires major Dischargers to, by themselves or in collaboration with others, provide information on plans to meet the final effluent limitations in Table 4 of the Order, and evaluate the potential for nature-based systems (e.g., wetlands) and water recycling to further reduce nutrient loads to San Francisco Bay. This is necessary to encourage regional coordination so compliance with the final effluent limitations will occur as soon as possible as required by the Compliance Schedule Policy. This provision is also necessary to plan for multi-benefit options to achieve 50 and 60 percent load reductions from 2022 (60 and

68 percent from the 2019 baseline) if the next permit reissuance scheduled for 2029 finds them necessary.

As part of their regional coordination strategy, Dischargers may propose a formal nutrient trading or offset program to achieve final effluent limits for total inorganic nitrogen. If a discharger seeks to achieve compliance with final effluent limits by purchasing credits from another discharger, the Regional Planning report may propose a framework for nutrient trading to facilitate compliance with the final individual and aggregate effluent limits established in Table 4. While this Order establishes a baywide aggregate mass limit, the Dischargers may propose a baywide and subembayment trading program. As described in Fact Sheet section 6.3.2, there will be advances in our scientific understanding of how San Francisco Bay assimilates nutrient loads over this permit term.

CWA section 1318(a) and Water Code section 13383 authorize this provision. CWA section 1318(a) authorizes the collection of information necessary to carry out the CWA's objectives, including but not limited to developing or assisting in the development of any effluent limitation, other limitation, prohibition, effluent standard, pretreatment standard, or standard of performance. Water Code section 13383 authorizes the Regional Water Board to establish monitoring, reporting, and recordkeeping requirements for NPDES dischargers. It also authorizes the Regional Water Board to require NPDES dischargers to provide other information as may be reasonably required.

6.3.5. **Multi-Benefit Solutions for Load Reductions**

Multi-benefit projects will take longer to complete than conventional projects due to additional challenges associated with interagency agreements, multi-agency permitting, and land acquisition. This provision requires Dischargers that identify long-term multi-benefit solutions (i.e., water recycling or nature-based solutions) that cannot be completed by the compliance date (October 1, 2034) for the final effluent limitations to identify such projects and their intent to pursue them. The Regional Water Board encourages Dischargers to pursue these long-term strategies when feasible because they are likely to result in a greater benefit to the community and the environment relative to treatment plant improvements alone. The Regional Water Board will consider available regulatory mechanisms to provide Dischargers that identify multi-benefit projects likely to result in total inorganic nitrogen loads at or below the final WQBELs more time to comply. Available regulatory mechanisms may include, for example, amending the Basin Plan to include a water quality attainment strategy for biostimulatory substances; finding that a new compliance schedule under the Compliance Schedule Policy is justified based on new, revised, or newly interpreted water quality objectives; or imposing a time schedule under a time schedule order or cease and desist order.

Examples of multi-benefit solutions include three projects the Central Contra Costa Sanitary District has identified: (1) the Refinery Recycled Water Exchange Project would replace raw Delta water used at two Martinez refineries (PBF and Marathon), (2) the Potable Reuse Project would supplement water supplies for the East Bay Municipal Utility District, and (3) the Raw Wastewater Diversion with Dublin San Ramon Services District would produce recycled water to meet irrigation demand. These projects would provide multiple benefits and could significantly reduce Central Contra Costa Sanitary District's total inorganic nitrogen loads to San Francisco Bay. However, all three projects would require agreements among multiple agencies and will likely take longer than 10 years to implement. To move them forward, Central Contra Costa Sanitary District has identified milestones that it can report on annually over the next five years to determine each project's feasibility and, if feasible, an implementation schedule.

Another example of a multi-benefit solution is the Pure Water Peninsula project. This collaborative is made up of Silicon Valley Clean Water, the San Francisco Public Utilities Commission, the City of San Mateo, the Bay Area Water Supply and Conservation Agency, California Water Service, and the City of Redwood City, who together are developing a regional potable reuse project. The Pure Water Peninsula project would provide purified water to resolve multiple water supply and wastewater issues, while realizing the benefits of shared infrastructure, asset recovery, economies of scale, and a relatively competitive funding strategy. Source water for this potable reuse project would be recycled water from Silicon Valley Clean Water and the City of San Mateo, diverting 8.0 MGD from each facility. The current schedule projects a starting date for water delivery of 2039. The long timeline is associated with the number of agreements that need to be developed among the project partners, the need to complete CEQA and permitting efforts, and the time necessary to implement multiple construction packages. Silicon Valley Clean Water will report on the project milestones as the Pure Water Peninsula project progresses.

Water Code section 13383 authorizes the Regional Water Board to establish monitoring, reporting, and recordkeeping requirements for NPDES dischargers. It also authorizes the Regional Water Board to require NPDES dischargers to provide other information as may be reasonably required.

6.3.6. **Recognition of Early Actors**

The previous order encouraged Dischargers to make early investments in nutrient reductions in the absence of nutrient load limitations. Fact Sheet section II.E of the previous order identified several Dischargers that planned to take early actions to reduce total inorganic nitrogen loads to San Francisco Bay. Once complete, these projects were expected to result in effluent total inorganic nitrogen concentrations below 20 mg/L. Because of these investments, nutrient

loads from these Dischargers to San Francisco Bay will be realized well before those of other Dischargers that have yet to undertake such investments.

This provision requires Dischargers that have already completed or begun construction or implementation of their projects by the effective date of this Order and that seek to be recognized as early actors to provide updates with each Annual Nutrients Report required by MRP section 5.2.2. Because early actions to reduce total inorganic nitrogen loads to San Francisco Bay will make excessive algae blooms less likely sooner, the Regional Water Board will consider available regulatory mechanisms to provide any such Dischargers that are unable to comply with final WQBELs upon completion of their projects more time to comply.

6.3.7. **Report of Waste Discharge**

40 C.F.R section 122.21 requires publicly owned treatment works with a currently effective permit to submit a new application (report of waste discharge) at least 180 days before the expiration of the existing permit. Under 40 C.F.R. section 122.6 and title 23, California Code of Regulations, section 2335.4, if a discharger submits a timely and complete report of waste discharge for permit reissuance and the Regional Water Board does not reissue the permit before the expiration date, the expired permit continues in force and effect until the effective date of the reissued permit.

7. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

The following provides the rationale for the monitoring and reporting requirements in the MRP.

7.1. Monitoring Requirements Rationale

7.1.1. **Influent Monitoring.** Influent monitoring is necessary to understand nutrient speciation entering treatment plants, optimize nutrient removal efficiencies, inform treatment plant upgrade designs, and evaluate trends.

7.1.2. **Effluent Monitoring.** Effluent monitoring is necessary to understand Facility operations, evaluate compliance with this Order's effluent limitations, and determine trends as treatment plant improvements are made over this permit term.

8. PUBLIC PARTICIPATION

The Regional Water Board considered the issuance of WDRs that will serve as an NPDES permit for point source discharges of nutrients from the Dischargers' facilities. As a step in the WDR adoption process, Regional Water Board staff developed tentative WDRs and encouraged public participation in the WDR adoption process.

8.1. Notification of Interested Parties. The Regional Water Board notified the Dischargers and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided an opportunity to submit written comments and recommendations. The public had access to the agenda and any changes in dates and locations through the Regional Water Board's website (waterboards.ca.gov/sanfranciscobay).

Consistent with Water Code section 189.7, the Regional Water Board notified potentially affected disadvantaged communities and tribal communities of this Order and provided them with an opportunity to engage prior to the public comment period. As part of the outreach effort, the Regional Water Board held a workshop to engage with interested disadvantaged communities and tribal communities on March 5, 2024. The Regional Water Board also notified disadvantaged communities and tribal communities of the opportunity to submit written comments during the public comment period.

8.2. Environmental Justice. Water Code section 13149.2 requires the Regional Water Board to make a concise programmatic finding on potential environmental justice, tribal impact, and racial equity considerations for reissued regional WDRs. The Regional Water Board has considered readily available information concerning anticipated water quality impacts in disadvantaged communities and tribal communities that may result from the changes to the permit requirements in this Order. The Regional Water Board has also considered the environmental justice concerns within its authority raised regarding those impacts.

The Discharges authorized by this Order will occur across the San Francisco Bay region. There are disadvantaged communities[14] and tribal communities[15] in the region. This Order imposes numeric effluent limitations for total inorganic nitrogen to reduce 2022 dry-season nitrogen loads to San Francisco Bay by 40 percent and provides a 10-year compliance schedule for Dischargers to meet final effluent limits. The reduction in nitrogen loads will reduce the risk of large algal blooms and protect the beneficial uses of waters across the San Francisco Bay region. These changes to permit requirements will improve water quality in disadvantaged communities and tribal communities and the region overall.

[14] Water Code section 13149.2, subdivision (f)(1), defines "disadvantaged community" as "a community in which the median household income is less than 80 percent of the statewide annual median household income level." The statewide annual median household income in the U.S. Census Bureau 2020 Census was $78,672.6. Based on this data, a community with a household income less than $62,938 is a "disadvantaged community" as used in section 13149.2.

[15] Water Code section 13149.2, subdivision (f)(3), defines "tribal community" as "a community within a federally recognized California Native American tribe or nonfederally recognized Native American tribe on the contact list maintained by the Native American Heritage Commission for the purposes of Chapter 905 of the Statutes of 2004."

Dischargers raised concerns about the impact compliance costs will have on disadvantaged communities. Although the cost concerns are beyond the scope of Water Code section 13149.2, the Regional Water Board has considered these concerns. The Regional Water Board recognizes the costs to implement the Order may have a greater impact on disadvantaged communities; however, not implementing the Order could result in detrimental impacts to water quality in disadvantaged communities and the region overall. Harmful algal blooms negatively affect many beneficial uses, such as water contact and non-contact recreation; fishing; shellfish harvesting; cold and warm freshwater, marine, and estuarine habitats; and preservation of rare and endangered species. Poor water quality can also lead to increased health care costs. Harmful algal bloom toxins can cause human illness through direct contact, airborne transmission, and fish and shellfish poisoning. (See also finding 2.2 of the Order.)

8.3. Written Comments. Interested persons were invited to submit written comments concerning the tentative WDRs as explained through the notification process. Comments were to be submitted either in person, by e-mail, or by mail to the Executive Office at the Regional Water Board at 1515 Clay Street, Suite 1400, Oakland, California 94612, to the attention of Robert Schlipf.

Written comments were due at the Regional Water Board office by 5:00 p.m. on May 6, 2024.

8.4. Public Hearing. The Regional Water Board held a public hearing on the tentative Order during its meeting at the following date and time:

Date: July 10, 2024
Time: 9:00 a.m.

Contact: Robert Schlipf, (510) 622-2478, robert.schlipf@waterboards.ca.gov.

Interested persons were provided notice of the hearing and information on how to participate. At the public hearing, the Regional Water Board heard testimony pertinent to the discharge and Order.

Dates and venues can change. The Regional Water Board's website is (waterboards.ca.gov/sanfranciscobay), where one can access the current agenda for changes.

8.5. Reconsideration of Waste Discharge Requirements. Any person aggrieved by this Regional Water Board action may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050. The State Water Board must receive the petition at the following address within 30 calendar days of the date of Regional Water Board action:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

A petition may also be filed by email at waterqualitypetitions@waterboards.ca.gov.

For instructions on how to file a water quality petition for review, see the Water Board's petition instructions (waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml).

8.6. Information and Copying. Supporting documents and comments received are on file. To review these documents, please contact Melinda Wong, the Regional Water Board's custodian of records, by calling (510) 622-2300 or emailing Melinda.Wong@waterboards.ca.gov. Document copying may be arranged.

8.7. Register of Interested Persons. Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference the Facility, and provide a name, address, and phone number.

8.8. Additional Information. Requests for additional information or questions regarding this Order should be directed to Robert Schlipf, (510) 622-2478, robert.schlipf@waterboards.ca.gov.

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

Date: August 15, 2024

To: Board of Directors – Regular Board Meeting

From: District Manager – Tony Rubio

Subject: Review and Consideration to accept proposal from Carollo Engineers regarding the Main WWTP Nutrient Removal Study

STAFF REPORT:

The district last made improvements to the Odor Control System in 1995. Since that time the district has gone through a series of improvements at the main plant and there has also been some growth in the services area since that time. The improvements at the plant that could affect Air Handling and Odor Control since the last upgrade include:

- Screw press installation (2005) (Replaced Belt Filter Press)
- Main Plant Rehabilitation Project (2013)
    1. DAFT conversion to RDT (Rotary Drum Thickener)
    2. Additional Chemical Storage Tanks
    3. Aeration Basin Upgrade (turbo blowers -fine bubble aeration-covered aeration basin)
    4. Wet Weather Storage in Aeration Basin and Surge Tank
    5. New supply and exhaust fan installation
- Boiler Replacement (2022)
- Dry Weather tank cover replacement (2024) (Less air entrapment.)

Most recently district staff had USP technologies evaluate the collection system for Odors in order to supply the correct chemical and dosing of that chemical to ensure odor control in the collection system prior to the sewage entering the plant, which to date has been fairly successful. In addition to that, several manholes in the Districts service area have carbon filters installed which also assist with odors out in the field.

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

District staff has voiced concerns over the current system and need for improvements based on the day to day operation and maintenance of the current system. The main concern is the chemical handling for the system and the efficiency of the system.

Based on the facts and concerns mentioned above and the complexity of the Main Plant Operations (air handling, sizing, mercaptans, etc), I have reached out to Carollo Engineers to provide a proposal for the evaluation and providing of a technical memorandum regarding options for the district to improve/enhance the Districts Odor Control System as a future project.

Carollo engineers experience with the district through the design of the 1980's secondary expansion of the Main WWTP and design of the Districts 2012 Main Plant Rehabilitation Project will play a crucial role in performing this study in an expeditious and cost effective manner as we will not have to spend much staff time in getting a different consultant up to speed on the operation of the facility.

As the Chief Plant Operator, I worked daily with Carollo Engineers in respect to the implementation/construction of the 2012 MPR Project to which we had a successful project that was violation free and achieved the objective of the original design which began around 2010. They have always been very receptive and responsive to my requests for assistance.

FISCAL IMPACT:

Amount not to exceed $40,924 in consulting fees for 2024 Main WWTP Odor Control Alternatives Evaluation (*study was budgeted for in FY2024-2025 budget*)

CEQA (California Environmental Quality Act)

Exempt

Recommendation:

To accept the proposal and authorize the District Manager to enter into a professional services agreement with Carollo Engineers for the Main WWTP Odor Control Alternatives Evaluation

ATTACHMENTS:

Carollo Proposal

2795 Mitchell Drive
Walnut Creek, California 94598
P 925-932-1710
carollo.com

April 2, 2024

Tony Rubio - District Manager
Sanitary District No. of Marin County
2001 Paradise Drive
Tiburon, CA 94920

Subject: Sanitary District No. 5 of Marin County - Main WWTP Odor Control Alternatives Evaluation

Dear Tony:

Carollo Engineers is pleased to provide the Sanitary District No. 5 of Marin County with this proposal to provide an evaluation to identify an odor control solution for the existing WWTP.

We have assembled a team with technical expertise in odor control to lead the alternative review. Sam Boswell, who is a dedicated odor control expert and has extensive experience in WWTP odor control will lead the effort. Sam will direct the data collection, and alternative analyses that will support our evaluation of foul air treatment upgrade alternatives. Sam will be supported by discipline and staff engineers that will provide a complete evaluation of alternatives. The scope includes a data review/collection phase which includes gathering data on hydrogen sulfide emission, existing system airflow and pressure at key points along the foul air collection system. We expect with minimal testing of the existing foul air system, we can further our understanding of how odors and their dilution vary at differing levels of foul air sources. This data will serve as the basis for new equipment consideration along with footprint, accessibility, cost and impacts to O&M.

Sam will be assisted by Doug Wing, who has a long history of working with the district. Doug will provide institutional knowledge and overall project management for the project.

Carollo is excited at this opportunity and appreciates your consideration of our qualifications and hopes to collaborate with you on this project. Please feel free to contact Doug Wing or Sam Boswell with any questions.

Sincerely,
CAROLLO ENGINEERS, INC.

Douglas Wing, PE
Principal Engineer and Associate Vice President

Samuel E. Boswell, PE
Project Manager

Attachments: Exhibit A Scope of Services, Exhibit B Fee Estimate, 2024 CA Rate Schedule

Exhibit A
SCOPE OF SERVICES

Project Understanding

Carollo understands that the existing Main Plant chemical scrubbing odor control system is not as effective as it could be and has reported issues with respect to chemical handling. Our approach is to find the right technology such that we improve performance while also minimizing maintenance.

Odor control alternatives like modern bio-trickling filter towers, or above-grade biofilters may be successful in remote or difficult to reach locations such as this since they can operate to a high degree of reliable odor removal performance with little operator input and no routine media changeout requirements needed. The below table is meant to be a general overview of treatment technologies.

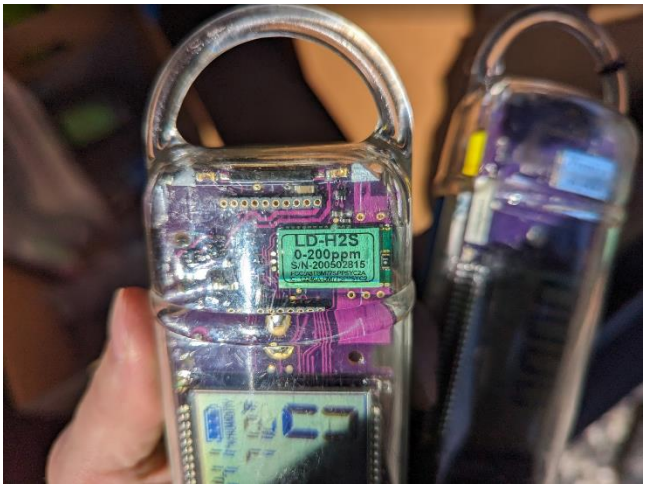
Technology	Treatment Mode	Advantages	Disadvantages
Bioscrubber / Biotrickling Filter	Foul air distributed with water over synthetic media, biodegrading H_2S and limited reduced sulfur compounds (RSCs) and VOCs.	▪ Moderate footprint, tall overall height ▪ Proven technology ▪ Redundant vessels are unnecessary ▪ Very low maintenance	▪ Biological starvation may occur at H_2S levels substantially below 1ppm ▪ 1 to 2 weeks of initial startup acclimation; 1 to 2 days for restart ▪ Moderate water usage
Biofilter	Foul air distributed with plant water over synthetic media, biodegrading odors of all types.	▪ Proven technology, low overall height ▪ Redundant vessels are unnecessary. ▪ Very low maintenance	▪ Large footprint ▪ Moderate water usage ▪ 1 to 2 weeks of initial startup acclimation; shorter times for restarts
Activated Carbon Filter	Foul air compounds are physically or chemically trapped on the surface of carbon media.	▪ Moderate footprint ▪ Proven technology ▪ H_2S is degraded immediately, no acclimation time necessary	▪ Reduced capacity in high-moisture conditions making changeout frequency difficult to predict ▪ High H2S loading creates burden to replace carbon frequently ▪ Change-out requires good access to the site with cranes/forklifts.

Chemical Scrubbers	Foul air is distributed with scrubbing solution over media. H_2S and other RSCs are oxidized by solution of Caustic/Bleach.	▪ Moderate footprint ▪ Proven technology ▪ H_2S is degraded immediately, no acclimation required	▪ Moderate chemical usage ▪ Frequent maintenance required ▪ Complex controls and instrumentation calibration ▪ Safety concerns dealing with chemicals

General Approach and Methodology

Our approach will first focus on gathering information over 1-2 weeks of field data acquisition. We will speak with operations staff to understand their concerns, review the existing foul air collection system, and odor control system. Any new odor control system will require a few base inputs to determine efficacy, parameters like: H2S concentrations, airflow rate, maintainability, available water/power utilities, footprint, or height constraints.

Data acquisition will focus on gathering information, preferably during the warmer summer months, for foul air flowrate, fan static pressure, and hydrogen sulfide concentration within the duct.



Data collected from the existing system will be used as a basis for assessing upgrade options. Carollo intends to utilize Acrulog instrumentation for both H2S monitoring and differential pressure monitoring. Acrulog Hydrogen Sulfide gas monitor and their Differential Pressure (DP) logger have been specifically designed to work in harsh environments to log levels of H2S gas or differential pressure (in inches of water column) within duct systems and treatment plants for odor and corrosion control purposes.

Airflow monitoring shall be performed by TSI-9535 hot-wire anemometer unit, this will give us confirmation of airflow readings at the existing odor control system and allow us to vary the rate of airflow accurately by adjusting any upstream balancing dampers and rechecking the airflow.

Scope of Work

Task 1 Meetings and Project Management

The following meetings are included in the scope:

- Kickoff Meeting – Two (2) Carollo staff will attend an in-person kickoff meeting to review the scope and schedule. It is assumed the District will be available to provide a tour of the WWTP and identify any unique features or issues team should be aware of for the analysis.
- Virtual Progress Meeting 1 – A virtual meeting will be performed to present results from Tasks 2 and 3 and confirm alternatives that will be evaluated for Task 4.
- Virtual Progress Meeting 2 – A virtual meeting will be performed to present results from Task 4.

Task 2 Review Existing Information

Review any operations & maintenance data recorded on existing system, chemical usage, scrubber H2S/odor removal performance, O&M requirements, fan performance data, neighbor complaint data (if available), available utility information, structural pad drawings.

Task 3 Field Odor Sampling/Testing

Develop a plan and gather testing resources to perform a 2 weeklong odor study of the existing scrubbing equipment using Acrulog continuous sampling loggers. We'll focus our efforts on the scrubber and fan performance, review the condition of the existing collection system. Much of this information gained will be critical to evaluating an alternative technology.

Task 4 Alternatives Evaluation

Using the data developed in Task 3, develop sizing and performance criteria for two or three (2 or 3) alternatives. In addition, simplified process flow diagrams, site layouts, and Class 5 capital costs will be developed for each of the alternatives. Alternatives to be developed will be identified with the district during the progress/review meetings.

Task 5 Technical Memorandum

Prepare a draft technical memorandum (TM) summarizing the findings in Tasks 2 through 4 as well as minutes from kickoff and progress meetings. A final TM will be prepared to address any comments provided by the district. Electronic copies of the draft and final TM will be provided.

Exhibit B
FEE ESTIMATE

Carollo is pleased to provide the summary of our total consulting services fees for the Tiburon Main WWTP Odor Control Study.

A summary of our proposed costs is outline below:

Description	Hours	Hourly Rate	Total Price
Doug Wing Project Manager	16	$340	$5,440
Sam Boswell, Odor Control Specialist	32	$340	$10,880
Chad Green, Building Mechanical	8	$340	$2,720
Anthony Morroni, EI&C Specialist	8	$360	$2,880
Khalil Kairouz QA/QC Senior Odor Control Specialist	8	$360	$2,880
John Almazan Staff Professional	36	$223	$7,200
Graphics	8	$200	$1,600
Document Processing	4	$149	$596
Subtotal	120		$35,024
Other Direct Costs			
PECE Charge Based on Labor hours	120	$15.00	$1,800
Travel, field supplies (10% of fees)			$4,100
TOTAL ESTIMATED FEE			**$40,924**

Note: Fee per the attached 2024 Fee Schedule.

CAROLLO ENGINEERS, INC.
FEE SCHEDULE

As of January 1, 2024
California

	Hourly Rate
Engineers/Scientists	
Assistant Professional	$223.00
Professional	274.00
Project Professional	324.00
Lead Project Professional	340.00
Senior Professional	360.00
Technicians	
Technicians	168.00
Senior Technicians	233.00
Support Staff	
Document Processing / Clerical	149.00
Project Equipment Communication Expense (PECE) Per DL Hour	**15.00**
Other Direct Expenses	
Travel and Subsistence	at cost
Mileage at IRS Reimbursement Rate Effective January 1, 2024	$0.67 per mile
Subconsultant	cost + 10%
Other Direct Cost	cost + 10%
Expert Witness	Rate x 2.0

This fee schedule is subject to annual revisions due to labor adjustments.