



NORTH MARIN WATER DISTRICT
AGENDA – REGULAR MEETING
 April 18, 2023 – 4:00 p.m.
 Location: 100 Wood Hollow
 Novato, California

Information about and copies of supporting materials on agenda items are available for public review at the District Office, at the Reception Desk, by calling the District Secretary at (415) 897-4133 or on our website at nmwd.com. A fee may be charged for copies. District facilities and meetings comply with the Americans with Disabilities Act. If special accommodations are needed, please contact the District Secretary as soon as possible, but at least two days prior to the meeting.

Est. Time	Item	Subject
4:00 p.m.	CALL TO ORDER	
	1. APPROVE MINUTES FROM REGULAR MEETING , April 4, 2023	
	2. GENERAL MANAGER'S REPORT	
	3. OPEN TIME: (Please observe a three-minute time limit)	
	This section of the agenda is provided so that the public may express comments on any issues not listed on the agenda that are of interest to the public and within the jurisdiction of the North Marin Water District. When comments are made about matters not on the agenda, Board members can ask questions for clarification, respond to statements or questions from members of the public, refer a matter to staff, or direct staff to place a matter of business on a future agenda. The public may also express comments on agenda items at the time of Board consideration.	
	4. STAFF/DIRECTORS REPORTS	
	CONSENT CALENDAR	
	The General Manager has reviewed the following items. To his knowledge, there is no opposition to the action. The items can be acted on in one consolidated motion as recommended or may be removed from the Consent Calendar and separately considered at the request of any person.	
	5. Consent – Approve: Water Loss Component Analysis – Consulting Services Agreement with E Source	
	ACTION CALENDAR	
	6. Approve: Rate Increase (Prop. 218) Notice to Novato Water & Recycled Water Customers	
	7. Approve: Rate Increase (Prop. 218) Notice to West Marin Water and Oceana Marin Sewer Customers	
	INFORMATION ITEMS	
	8. Status of Potential Cross-Connection Situation at Gateway Commons Neighborhood	
	9. North Marin Water District 75-Year Anniversary	
	10. NBWA Meeting – April 7, 2023	
	11. MISCELLANEOUS	
	Disbursements – Dated April 6, 2023	
	Disbursements – Dated April 13, 2023	
	Monthly Progress Report	

All times are approximate and for reference only.

The Board of Directors may consider an item at a different time than set forth herein.

Est. Time	Item	Subject
		Russian River Water Forum Presentation
		North Marin Aqueduct – Redwood Blvd Landslide Status 4-7-23
		North Marin Aqueduct – Redwood Blvd Landslide Status 4-13-23
		<u>News Articles:</u>
		Marin IJ – Heavy winter rain could end toxic algae problem – BAY AREA
		Marin IJ – Eco-Friendly Garden Tour Advertisement
		<u>Social Media Posts:</u>
		NMWD Web and Social Media Report – March 2023
5:30 p.m.	12.	<i>ADJOURNMENT</i>

1

1 **STAFF/DIRECTORS REPORTS**

2 President Fraites asked if staff or Directors wished to bring up an item not on the agenda.
3 Director Petterle noted that he attended an NMWD Admin & Lab Building construction tour with Eric
4 Miller. He said that it was good to see the progress first hand and commended Eric on the tour.

5 Eric Miller gave a brief update on the Admin & Lab Building project, and said he would give
6 quarterly updates to the Board with the next one in May. He also said there is a standing invitation
7 for a tour. Director Joly asked if Mr. Miller knew when we would be able to move into the new building
8 and Eric said that there is a possibility of occupancy date of April 1, 2024. The Lab will likely be later
9 than that because it will need to be State certified before occupancy is possible.

10 **CONSENT CALENDAR**

11 On the motion of Director Joly and seconded by Director Petterle, the Board approved the
12 following items on the consent calendar by the following vote:

13 AYES: Director(s) Baker, Eichstaedt, Fraites, Joly and Petterle

14 NOES: None

15 ABSENT: None

16 ABSTAIN: None

17 **AMEND GENERAL SERVICES AGREEMENTS WITH MILLER PACIFIC ENGINEERING GROUP,**
18 **KENNEDY-JENKS, AND FREYER & LAURETA**

19 NMWD has standing general services agreements with Miller Pacific Engineering Group,
20 Kennedy-Jenks, and Freyer & Laureta. Amending the three agreements will ensure the firms are
21 available to NMWD as we proceed in dealing with the NMA situation.

22 **AMEND GENERAL SERVICES AGREEMENT WITH GENTERRA, INC.**

23 NMWD approved a General Services Agreement with Genterra Consultants in 2016.
24 NMWD is seeking a third amendment to their contract for support for executing the seepage and
25 stability analysis for the Stafford Dam Adjustable Sliding Gate project.

26 **ACTION CALENDAR**

27 **DECLARATION OF LOCAL EMERGENCY RELATED TO SEVERE STORMS**

28 Mr. Williams explained the damage to Redwood Blvd in the proximity of the North Marin
29 Aqueduct pipeline due to a landslide discovered on March 21, 2023. Winter storms caused a
30 landslide above Redwood Blvd north of the Buck Center and south of Olompali State Park, buckling
31 the road way, exposing one of PG&E's gas mains and potentially threatening the aqueduct. Crews
32 from many agencies mobilized (PG&E, Novato Fire, NMWD, County of Marin, Caltrans) to try and
33 assess the situation and attempt to alleviate further damage and issues. PG&E de-energized their
34 electric line in the area, and worked over several days to install a bypass for their exposed gas main.
35 NMWD isolated the aqueduct just below Olompali and north of Buck Institute until any possible

1 damage to the aqueduct could be ascertained. Because the aqueduct was isolated, Stafford Lake
2 has become the only water source for Novato. Due to this condition, Mr. Williams asked the Board
3 to adopt a resolution declaring a local emergency. This was in following the County of Marin, as well
4 as the Governor who declared a State emergency on March 28, which includes Marin County. Mr.
5 Williams said that NMWD employees who have been working on the situation, have been tracking
6 time and expenses using FEMA protocol for cost reimbursement. Mr. Williams showed the Board a
7 series of photos of the landslide area, including one that had been taken by a drone camera.
8 Currently, NMWD has a 30-day plan in place to provide water to the Novato customers. Stafford
9 Treatment Plant was in operation before the slide occurred and the crew there has been putting in
10 extra time to keep things running. Senior Engineer Tim Fuelle has helped develop bypass pipeline
11 plans as a contingency and staff plans to hire a firm to deploy a camera to go inside the aqueduct to
12 see if there has been any damage to the pipe due to the landslide. Flow tests and pressure tests
13 have been conducted, and all indications show no problems, but a visual inspection of the inside of
14 the pipe will show more. As part of a local emergency, we may need to ask customers to conserve
15 water until the aqueduct can be fully re-energized since the only water source currently is Stafford
16 Lake. Mr. Williams said that Ryan Grisso is working with our media consultant, Kiosk, to put
17 information on our website and on social media.

18 Director Baker asked about the possibility of NMWD getting water from Marin Water. Mr.
19 Williams responded that NMWD does have an interconnection agreement with Marin Water but we
20 have never deployed a bypass, however staff is reviewing the requirements. Director Petterle noted
21 that Marin Water fluoridates their water and NMWD does not.

22 Director Joly asked about fully opening the aqueduct. Mr. Williams said that we may be able
23 to open it for 8 hours a day in order to fill storage tanks and also to see how it performs but we won't
24 be opening it all the way yet. Robert Clark said he looked at 2019 water use to determine when
25 demand will likely increase. If we have an average April we can keep up with the demands. If we
26 are not able to open the aqueduct or receive any water from MMWD, we may not be able to keep up
27 with May demands. Mr. Williams said that there is plenty of water in Stafford Lake but production
28 capacity is a problem and discharge of wastewater to Novato Sanitary District is limited. Worst case
29 scenario is having to declare mandatory measures such as no outdoor watering at all. Mr. Williams
30 noted that the Public Works Director for the City of Benicia is coming to visit this week. They also
31 experienced a landslide on a frontage road but their pipe actually broke. Director Joly also asked if
32 the toe of the slide had stopped moving. Mr. Fuelle said that it had stopped moving as of April 3
33 based on available data.

34 On the motion of Director Petterle, and seconded by Director Joly, the Board approved by
35 the following vote:

36 AYES: Director(s) Baker, Eichstaedt, Fraites, Joly, and Petterle

- 1 NOES: None
- 2 ABSENT: None
- 3 ABSTAIN: None

4 **ADOPTION OF ORDINANCE NO. 44 DECLARING END OF WATER SHORTAGE EMERGENCY**

5 **CONDITION**

6 Mr. Williams explained that due to then dry year conditions on Lagunitas Creek in 2020, the
7 Board approved Emergency Conservation Ordinance No. 39 declaring a water shortage emergency
8 in the West Marin Service Area and amended it five times since then. This year rainfall exceeded
9 the required 28 inches for normal year conditions, totaling 47.9 inches as of mid-March recorded at
10 Kent Lake. Therefore, mandatory conservation will not be needed in the West Marin Service Area in
11 2023 and Ordinance 44 declaring the end of the water shortage emergency in West Marin was
12 drafted to rescind Ordinance 39 effective April 4, 2023.

13 On the motion of Director Petterle, and seconded by Director Joly, the Board approved by
14 the following vote:

- 15 AYES: Director Baker, Eichstaedt, Fraites, Joly and Petterle
- 16 NOES: None
- 17 ABSENT: None
- 18 ABSTAIN: None

19 **ADOPTION OF ORDINANCE NO. 45 DECLARING END OF WATER SHORTAGE EMERGENCY**

20 **CONDITION**

21 Mr. Williams explained that in 2021 Ordinance 41 was approved declaring a water shortage
22 emergency in Novato and to prohibit waste and non-essential use of water due to dry year
23 conditions. Beginning in December 2022 and through January 2023, enough rainfall has occurred
24 filling Stafford Lake and other regional reservoirs, Lake Sonoma and Lake Mendocino. Based on
25 these conditions as well as a recent Governor order rescinding certain demand reduction measures,
26 the water waste and non-essential water use requirements in Ordinance 41, as well as the Drought
27 Surcharge, are no longer needed and Ordinance 45 was created declaring the end of a water
28 shortage emergency effective April 4, 2023.

29 On the motion of Director Joly, and seconded by Director Baker, the Board approved by the
30 following vote:

- 31 AYES: Director Baker, Eichstaedt, Fraites, Joly and Petterle
- 32 NOES: None
- 33 ABSENT: None
- 34 ABSTAIN: None

35

1 **NOVATO POTABLE WATER AND RECYCLED WATER FINANCIAL PLAN UPDATE FY 23 / 24**

2 Julie Blue provided an overview of the proposed Novato Potable and Recycled Water FY
3 2023/24 5-year financial plan. She noted that rate increases are needed due to the increase in
4 Sonoma Water rates of over 12% and a decline in water sales. It is recommended to increase
5 NMWD's rates by 9.5% this year with an 8.5% increase in FY 24/25 and 7% rate increases in
6 subsequent years. The recycled water plan shows a rate increase of 5.3%.

7 Director Joly said he approves the increase for this year but thinks that 7% for the outlying
8 years is too low. He commended Julie on the report. It was discussed that a rate study is planned
9 in FY 23/24, to determine the rates for FY 24/25 through FY 27/28, and that the Board is only
10 approving the 9.5% for the upcoming fiscal year.

11 On the motion of Director Joly, and seconded by Director Petterle, the Board approved by
12 the following vote:

13 AYES: Director Baker, Eichstaedt, Fraites, Joly and Petterle

14 NOES: None

15 ABSENT: None

16 ABSTAIN: None

17 **WEST MARIN WATER SYSTEM FINANCIAL PLAN UPDATE FY 23 / 24**

18 Julie Blue provided an overview of the proposed West Marin Water System FY 2023/24
19 Financial Plan Update. She noted that NMWD did a rate study last year, this is a modest increase
20 of 6% which covers inflation and lower water sales. The water sales volume is forecasted to be 53
21 MG, projections for the next years are budgeted at 56.5 MG, much lower than the 5-year average of
22 62.8 MG.

23 Director Eichstaedt commented that 6% seems very low and that, looking forward, we
24 should look at increasing Capitol Improvement Projects in Oceana Marin.

25 On the motion of Director Eichstaedt, and seconded by Director Petterle, the Board
26 approved by the following vote:

27 AYES: Director Baker, Eichstaedt, Fraites, Joly and Petterle

28 NOES: None

29 ABSENT: None

30 ABSTAIN: None

31 Ryan Grisso and Tim Fuelle left the meeting.

32 **OCEANA MARIN SEWER SYSTEM FINANCIAL PLAN UPDATE FY 23 / 24**

33 Julie Blue provided an overview of the proposed Oceana Marin Sewer System FY 2023/24
34 Financial Plan Update. She said that there will be a 6% rate increase with 6% increases in
35 subsequent years. Large capital improvement projects are offset by grant funding and aligns with
36 previous forecasts.

1 On the motion of Director Joly, and seconded by Director Baker, the Board approved by the
2 following vote:

3 AYES: Director Baker, Eichstaedt, Fraitcs, Joly and Petterle

4 NOES: None

5 ABSENT: None

6 ABSTAIN: None

7 **INFORMATION ITEMS**

8 **WAC MEETING – FEBRUARY 6, 2023**

9 Mr. Williams gave a brief report on the February 6, 2023 WAC meeting. He said that the
10 Sonoma Water reservoirs were full as of that date and the volume has increase quite a bit since
11 then. He also noted that Sonoma Water is adopting the Nexgen asset management program that
12 NMWD has been utilizing for the past several years in the Operations and Maintenance
13 Departments.

14 **TAC MEETING – MARCH 6, 2023**

15 Mr. Williams noted that at the March 6, 2023 TAC meeting and that the Sonoma Water
16 budget was approved. There was an update given on the Biological Opinion status as well as the
17 Potter Valley Project.

18 **NBWRA – MARCH 27, 2023**

19 Mr. Williams informed the Board that he and Director Baker attended the North Bay Water
20 Reuse Association (NBWRA) meeting on March 6, 2023. He noted that NMWD is now an associate
21 member but we are still supporting and tracking the development of a drought contingency plan
22 which opens up future Bureau of Reclamation funding.

23 **MISCELLANEOUS**

24 The Board received the following miscellaneous items: Disbursements-Dated March 23, and
25 March 30, 2023, Auditor-Controller's Monthly Report of Investments for February 2023, Letter to
26 Bureau of Reclamation re Marin Water 2023 Water SMART Brackish Water Desalination Grant
27 Application.

28 The Board also received the following news articles: Marin IJ – Water bills could increase
29 20% - MARIN MUNICIPAL, MMWD board president outlines actions, rate increase, Drinking water
30 protection limits 'forever chemicals' – EPA PROPOSAL, Novato slide triggered by storm threatens
31 water and gas lines – REDWOOD BOULEVARD, Slide stabilizes, but significant work remains –
32 NOVATO, MMWD seeks desalination grant - \$200,000 REQUEST, Show how rate hike will help
33 water supply – EDITORIAL, Marin drenched again, but no serious damage - WEATHER
34 OUTLOOK, Novato looks at financial overhaul – BUDGET WOES, Novato Advance: Mudslide

1 buckles road in Novato, Mendocino Voice – Potter Valley Project: Russian River Water Forum forms
2 to advise on decommissioning, Scott Dam spillway to remain open

3 **ADJOURNMENT**

4 President Fraites adjourned the meeting at 5:48 p.m.

5 Submitted by

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Eileen Mulliner
District Secretary

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MEMORANDUM

To: Board of Directors Date: April 18, 2023
 From: Tony Williams, General Manager *ABW*
 Robert Clark, Operations / Maintenance Superintendent *RAC*
 Subject: Approve E Source Consultant Services Agreement for Water Loss Component Analysis
R:\Folders by Job No\4000 Jobs\Water Loss Component Analysis\BOD memo\4-18-23 BOD Memo ESource Consultant Services Agreement.docx

RECOMMENDED ACTION: That the Board authorize the General Manager to execute an agreement with E Source Companies LLC for consulting services to perform Water Loss Component Analysis

FINANCIAL IMPACT: \$20,454 included in the current FY 2022/23 budget (\$10,227 in grant funding)

Background

At the October 4, 2022 Board meeting, staff presented a draft agreement between the District and Sonoma County Water Agency for distribution of grant funding under Proposition 1 (Prop 1), the Water Quality, Supply, and Infrastructure Improvement Act of 2014, administered by the State of California Department of Water Resources (State). In 2020, a Prop 1 Grant was awarded to eleven partner agencies in the Bay Area Regional Water Conservation Program (administered by EBMUD), including Sonoma Water. As a member agency of Sonoma Water, North Marin Water District (NMWD) was earmarked for \$141,202 in grant funding.

In addition to several water conservation programs approved under this grant, a Water Loss Component Analysis (WLCA) was also included, which is a comprehensive study to understand and improve water loss (\$10,227 + 50% local match) in the distribution system. It is important to note that the WLCA is very specialized work and the use of an outside consultant is required. Essentially, a WLCA consists of evaluating available data, including leak records, and determining water leakage from three main components of the distribution system: background; unreported; and reported.

Discussion

In compliance with the grant terms and District practices, staff prepared a Request for Proposal (RFP) and advertised the RFP on the District website as well as an electronic bidding site. Only one firm responded to the RFP, E Source Companies LLC (E Source) out of Boulder, Colorado. After review of their proposal, including calling the relevant agency references listed for previous similar work, staff recommends contracting with E Source to provide the required consulting services to conduct the WLCA for the Novato Water System. Staff has thoroughly reviewed the attached proposal (Attachment 1), including E Source's scope of services, schedule

Approved by GM *ABW*

Date 4/13/23

and fee, and is recommending Board authorization to proceed with an agreement. E Source is an experienced specialized firm with this type of water system leakage analysis.

RECOMMENDATION

That the Board authorize the General Manager to execute an agreement with E Source of Boulder, CO for a not-to-exceed fee of \$20,454 to be billed on an hourly basis as approved by staff.

ATTACHMENT: 1. Water Loss Component Analysis Study proposal by E Source, dated March 29, 2023



North Marin Water District

March 29, 2023

NMWD's Water Loss Component Analysis Study



Submitted by:

Reinhard Sturm

E Source Companies LLC

3020 Carbon Pl, Ste 300, Boulder, CO 80301

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March 29, 2023

David Ladd, Program Assistant
Operations and Maintenance Department
North Marin Water District
P.O. Box 146
Novato, CA 94948

RE: NMWD's Water Loss Component Analysis Study

Dear Mr. Ladd and Members of the Evaluation Committee:

E Source Companies ("E Source"), the leading solver of problems facing electric, gas, and water utilities, is pleased to provide this proposal to the North Marin Water District ("District" or "NMWD") in response to the District's RFP for NMWD's Water Loss Component Analysis Study.

E Source offers a broad portfolio of customer-first and technology-driven solutions to help utilities effectively manage the customer and infrastructure sides of their businesses reliably, efficiently, safely, and sustainably. Our guidance helps our clients make data-driven decisions to strengthen their customer relationships, plan for tomorrow's infrastructure needs, and further their sustainability goals while becoming more innovative and responsive in the rapidly evolving utility market.

E Source's Water Loss Consulting team includes the expertise of the former Water Systems Optimization (WSO) firm, enabling us to provide exceptional industry-leading nonrevenue water management proficiency that is unmatched by any other firm. We wholeheartedly believe we are uniquely well positioned to provide the industry's best water loss control expertise to NMWD. In fact, **water loss management is the sole focus of the Water Loss team's services.**

We have worked with more than 100 utilities in the United States to compile and validate water audits, design water loss control strategies, conduct leak detection surveys and evaluate production meter accuracy. Our expertise reaches to every element of implementing water loss control programs. In most of our work, we move beyond water loss analysis to establish water loss control programs that save water and money.

We appreciate the opportunity to submit our qualifications and thank you for your consideration of our capabilities. Should you have any questions or seek further clarification, please do not hesitate to contact me at 786.877.5752 or via email at reinhard_sturm@esource.com. We look forward to hearing from you soon.

Sincerely,



Reinhard Sturm, Senior Vice President
Water Loss Consulting
786-877-5752
Reinhard_sturm@esource.com

A. Firm Qualifications and Experience

From primary research, consulting, and operational data systems selection and implementation expertise to breakthrough predictive data science services and AI applications, E Source enables energy and water utilities to collect, enhance, and use data to transform their operations and solve their sustainability, safety, reliability, equity, and cost challenges. With hundreds of clients, a 35-year focus exclusively on utilities, and a growing arsenal of data-driven solutions, E Source brings to each engagement an unrivaled understanding of what works and how to implement it, increasing speed to value.

E Source is a powerhouse in delivering solutions-based research, consulting, and data science services to the utilities industry. Since 1986, E Source consultants have been providing services on a variety of projects for more than 500 water, electric, and gas utilities across North America.

E Source WLC’s water loss expertise has been recognized by many industry stakeholders, ranging from the California Department of Water Resources to the Water Research Foundation and numerous water utility managers nationwide. As shown in Figure 1, we are the North American industry leader in Water Loss Management and Audit Validation.

The drinking water community trusts E Source to define best practices, implement proven interventions against water loss, and pioneer new methodologies.

Research institutes and professional drinking water associations overwhelmingly select us to review industry standards, evaluate the integration of new technologies with water loss management, and propose cutting-edge analysis and field studies that support distribution system efficiency.



Figure 1. E Source Water Consulting's Metrics Demonstrate Our Expertise

Defining Best Practices

Our guidance to and collaboration with research institutes and professional drinking water associations is an endorsement of E Source's expertise. E Source was chosen to be the lead firm on most Water Research Foundation water loss control studies, including:

- Leakage Management Technologies (project 2928)
- Evaluating Water Loss and Planning Loss Reduction Strategies (project 2811)
- Real Loss Component Analysis: A Tool for Economic Water Loss Control (project 4372A)
- Water Audits in the United States: A Review of Water Losses and Data Validity (project 4372B)
- Establishing Water Utility Guidance and Methodology for Water Audit Validation (project 4639)

E Source's Water Research Foundation publications have been recognized as definitive guides to water loss management. Notably, the American Water Works Association recommends that utilities employ E Source's Real Loss Component Analysis model when developing water loss control programs, and the California Department of Water Resources requires annual water audit validations to follow the methodology presented in project 4639.

E Source staff developed the industry-standard Excel-based model to complete a real loss component analysis through Water Research Foundation Project #4372A, *"Real Loss Component Analysis: A Tool for Economic Water Loss Control."* A real loss component analysis disaggregates the volume of real losses quantified in a water audit to identify cost effective strategies selected to reduce each type of loss.

Since setting that standard, E Source staff have developed simulation models to evaluate optimal leakage control strategies under varying assumptions. **These modeling efforts involved analyzing pilot leak detection results in addition to hundreds of thousands of leak repair records** to establish failure frequencies for different infrastructure types, assess the spatial distribution of leakage, and rigorously evaluate the accuracy of leak detection techniques.

Since the publication of E Source's *"Real Loss Component Analysis: A Tool for Economic Water Loss Control"* (project 4372A), E Source has conducted Real Loss Component Analysis for over 40 water utilities ranging in size from LADWP to the City of Santa Cruz.

E Source has completed dozens of real and apparent loss component analyses, many in California. While each analysis is slightly different and customized based on each agencies available data and their goals for the analysis, E Source's unparalleled local experience will provide an important reference point to contextualize the findings for North Marin Water District. While real and apparent loss modeling tools are built on theoretical underpinnings developed by the water loss control community, E Source's experience implementing real and apparent loss management strategies in the field will ensure that recommendations are grounded in practical application.

All staff assigned to this project have worked on numerous real loss component analyses, and Reinhard Sturm will serve as a project advisor. Reinhard was the Principal Investigator for the Real Loss Component Analysis: A Tool for Economic Water Loss Control (project 4372A) and will bring unmatched experience in real loss component analysis to NMWD's project.

Implementing Proven Interventions Against Water Loss

E Source has worked with more than 60 utilities nationwide to compile and validate detailed water audits. With most of these partners, E Source has moved beyond water loss analysis to establish water loss control programs that save water and money. E Source is particularly proud to have spearheaded the following projects:

- **Los Angeles Department of Water and Power** – Full water loss control program offerings and facilitation of the award-winning Water Loss Task Force committee.
- **San Antonio Water System** – Full water loss control program offerings and continued technical assistance with implementation of water loss recovery and data improvements.
- **City of Phoenix** – Detailed AWWA water audit, Component Analysis of Real and Apparent Losses, recommendation of data management improvements, and water loss control recommendations.
- **City of Sacramento** – Audit, Real Loss Component Analysis, District metered area installation and management.
- **City of Santa Cruz** – Full water loss control program offerings, source meter testing procedure development, and ongoing technical assistance.
- **Nashville Metro Water Services (MWS) Leak Detection Survey Services** – E Source has been selected by Nashville MWS for 3 consecutive 5-year contracts to perform leak detection on their 3,000-mile water distribution system and perform temporary District Metered Areas (DMAs) to assist with leakage estimates and work prioritization. Services also include annual detailed water audit and real loss component analysis.
- **Guam Waterworks Authority (GWA)** – Full water loss control strategy development including establishing three pilot district metered areas where non-revenue water was reduced by about 40% on average.

In each project, E Source established a nuanced understanding of each system's unique water loss profile through implementation of a Real Loss Component Analysis, an appreciation for the strengths and uncertainties of each utility's data sources, and customized action plans that concretely improve system management and financial viability. In addition to developing comprehensive water loss control strategies, E Source has experience with implementing these strategies to reduce water loss.

Leading the Conversation

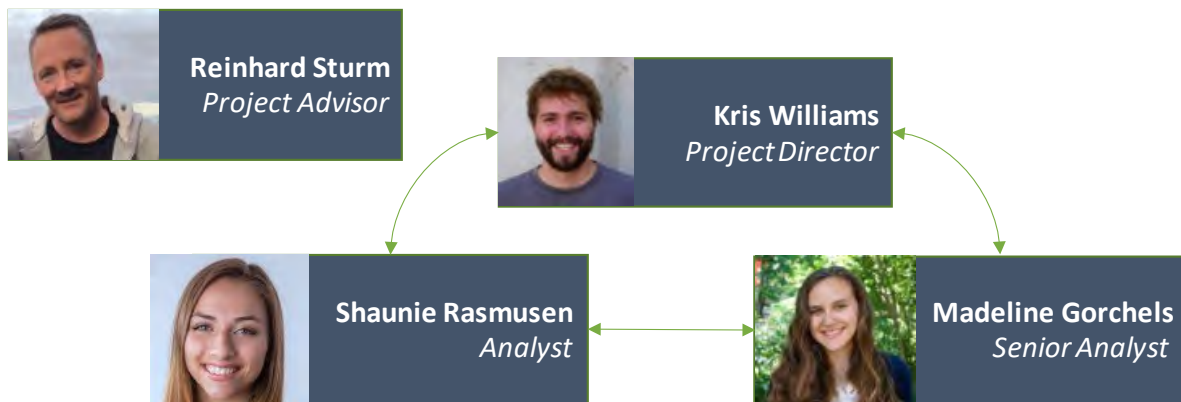
E Source guides the drinking water industry toward informed water loss management by working with a host of involved agencies and professionals, from distribution system operators to the chair of California's State Water Resources Control Board. Through outreach, professional service, and water loss control projects in California and across the United States, E Source has:

- Taught best-practice water loss analysis and water loss control methodology to more than **2,000 drinking water professionals**.
- Performed level 1 validation of more than **400 water audits**.
- Advised state regulatory and water management agencies in 9 states, plus Puerto Rico, Guam, and the national and regional offices of the Environmental Protection Agency.
- Developed in-depth, multi-year water loss control programs for **65 agencies (45 in California alone)**.
- Led 3 American Water Works Association committees at the national and state level.

Project Team

The E Source team is a diverse mix of professionals fully dedicated to nonrevenue water management following established AWWA best practices. The proposed team represents more than 4 decades of water loss experience in a wide range of topics including water auditing and validation, leakage component analysis, supply metering and accuracy testing, data collection/field work, large data set management, and cost-benefit analysis. Resumes of all members are included on the following pages.

Figure 2: Project Team Org Chart



Reinhard Sturm—Senior Vice President

Education

University of Natural
Resources and Applied Life
Science, Vienna, Austria |
M.Sc. in Environmental
Engineering 1998

21 Years of Experience

Professional Affiliations

International Water
Association (IWA)
Water Loss Control
Committee of the American
Water Works Association
(AWWA)
Chair of the AWWA Real
Losses Subcommittee

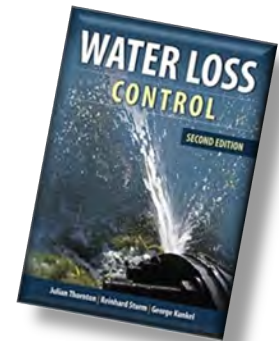
Prior to joining E Source in 2021, Reinhard served as Water Systems Optimization's CEO and president. He has worked on water loss control projects throughout the world, and for the past 16 years, he has been involved in some of the most impactful water loss assessment and reduction projects in the United States.

Reinhard was the Co-principal investigator for the WRF research project #2928 "*Leakage Management Technologies*" where he was the lead researcher and lead author in addition to being responsible for the successful management of the project. This prestigious research project provides North American water utilities with detailed guidance on the most up to date and most applicable leakage management technologies such as DMAs and advanced pressure management. Since then, Reinhard served as principal investigator for WRF funded water loss control research projects (#4372a- Real Loss Component Analysis a Tool for Economic Water Loss Control, #4372b - Water Audits in the United States: A review of Water Losses and Data Validity, #4639 – Establishing Water Utility Guidance and Methodology for Water Audit Validation, #4639 - Level 1 Water Audit Validation: Guidance Manual).

This clearly highlights Reinhard's reputation as a leading expert in water loss control with unmatched expertise and experience. Reinhard is furthermore the co-author of the professional manual published by McGraw Hill – "*Water Loss Control – 2nd Edition*," and he has published more than 20 specialized papers on various topics related to water loss management.

Reinhard is actively involved in the International Water Association – Water Loss Task Force (WLTF), where he served two terms as technical secretary. He is also actively involved in the American Water Works Association – Water Loss Control Committee (WLCC), where he participated in the update of the AWWA M36 manual and the AWWA water audit model. As chair of the AWWA Real Losses Subcommittee, Reinhard was in charge of updating the real losses chapter of the AWWA M36 update.

Since 2008, Reinhard held more than 100 water audit and water loss control workshops and webinars for the Water Research Foundation, Tennessee Association of Utility Districts, AWWA, Alliance for Water Efficiency, numerous State Agencies, and the Environmental Protection Agency.



Kris Williams—Project Director

Education

Middlebury College,
Environmental Economics,
2011

7 Years of Water Loss Consulting Experience

Professional Affiliations

CANV Water Loss Control
Committee Vice Chair

Kris Williams has managed all aspects of water loss control program development. The list below highlights some of Kris's core skills including examples of specific water loss related projects relevant to each.

Data Analytics: Kris's statistical research has been cited by the California State Water Resources Control Board in current regulatory proceedings on customer meter testing sample design. He has also developed an innovative approach to modeling leakage recovery strategies using multi-agent simulation that expands the capability of industry standard modeling approaches.

Programming: To meet the management and planning objectives of his clients, Kris has pioneered the use of programming languages, like Python and R, to analyze sometimes large and unwieldy water loss related data sets. These tools have helped E Source to analyze dozens of client data sets efficiently and consistently across many similar projects.

Communication & Facilitation: Kris has authored dozens of technical reports ranging from customer meter management strategies to comprehensive water loss control master plans for both small and large water utilities. He also led a state-wide water audit training and technical assistance program for the state of Hawaii with more than 200 participants over 4 years.

Strategic Planning: Kris has implemented multi-year water loss control programs in partnership with utility clients from initial proposal to project hand-off. For example, Kris is leading the water loss control master plan development for East Bay Municipal Utility District (EBMUD), one of the largest water utilities in California.

Field Work: Kris has coordinated and executed extensive field data collection projects including leak detection, comprehensive pressure surveys, source meter testing, and customer meter flow profiling. His extensive experience working directly with the infrastructure grounds all his work.

Madeline Gorchels—Senior Analyst

Education

University of California, at Santa Barbara

Master of Environmental Science and Management (2020)

Wellesley College

B.A. in Biological Sciences, Minor in Geosciences (2016)

3 Years of Water Loss Consulting Experience

Madeline E. Gorchels is an analyst at E Source, assisting in analysis and management of water loss projects in collaboration with water utilities & agencies. As a water loss analyst, she has compiled AWWA water audits, examined customer meter test results, analyzed custom input submissions for the California SWRCB water loss control economic model, and investigated billing data to determine water consumption for California & Texas agencies.

Prior to joining E Source, Madeline worked for the County of Santa Barbara on their Regional Water Efficiency Program and studied Water Resources Management and Environmental Data Science at the Bren School of Environmental Science & Management. During her studies, Madeline and a group of colleagues consulted with the Pacific Institute to quantify the multiple benefits of distributed rainwater capture in the City of Austin, TX. The group modeled impacts on water consumption, energy use, and urban heat island for different infrastructure implementation scenarios. Madeline led modeling on potential energy reductions from reduced potable water demand and quantified potential urban heat island mitigation through remote sensing. Her research was included in two publications put out by the Pacific Institute in 2020.

Before entering the water loss control field, Madeline researched aquatic zooplankton and viruses at Wellesley College, Oregon State University, and Portland State University.

Shaunie Rasmussen—Data Analyst

Education

Colorado State University

Master of Ecosystem
Sustainability (2020)

University of Wisconsin,
Whitewater

B.S. in Geography (2016)

3 Years of Water Loss Consulting Experience

Shaunie recently joined E Source with a background in utility water distribution systems and urban ecological research. As a geographer and ecologist by training, Shaunie has an extensive background in applying geospatial technologies to a variety of natural resource disciplines. Since joining the water industry in 2021, she has concentrated on leveraging GIS, remote sensing, and statistical analysis to support both demand- and supply-side water management for domestic and international water utilities.

Prior to joining the water industry, Shaunie worked on several research projects as part of her joint role at Colorado State University and the US Forest Service. She has authored two journal publications on the nexus between urban forestry, water consumption, and heat-island relationships, and is a co-author on the 2020 USFS RPA Assessment on projections of watershed health under several climate change scenarios.

References

E Source's water loss consulting division has developed water loss control master plans for numerous water agencies, many of which are also in California. We have included representative project references on the following pages for:

- East Bay Municipal Utility District, CA
- Los Angeles Department of Water and Power, CA
- San Antonio Water System, TX
- Nashville Metro Water Services, TN
- Municipal Water District of Orange County, CA
- California Water Service Company, CA

Client Reference #1: East Bay Municipal Water District (EBMUD)

Client	East Bay Municipal Utility District (EBMUD)
Project Date	2020 - Ongoing
Type of Project:	Water Loss Control Program Development
EBMUD Contact Person:	Casey LeBlanc 510-287-0567 casey.leblanc@ebmud.com
Relevant Personnel:	Kris Williams, Reinhard Sturm, Kate Gasner

WSO is currently working with East Bay Municipal Utility District (EBMUD) to develop their water loss control master plan. The master plan will shape the direction for EBMUD's real and apparent loss recovery efforts. WSO has delivered a draft of the master plan and will soon engage EBMUD through a series of workshops to identify revisions and build consensus around a shared vision for water loss management at the District.

Project Highlights:

- Completed thorough analyses of customer meter billing data to better quantify the volume of authorized use for water loss assessments.
- Developed process maps of customer meter reading and billing processes to evaluate potential gaps in data collection.
- Developed a multi-agent simulation of leakage recovery and calibrated it using EBMUDs system data and data collected through pilot programs with acoustic noise loggers and satellite leak detection. The model has the following capabilities:
 - Estimate future system-wide loss rates under varying assumptions for leakage characteristics and loss recovery efforts that can be compared with state regulatory targets or other performance goals.
 - Project the workload required to implement and maintain various leakage management strategies including manual acoustic leak detection, automated acoustic noise loggers, and satellite leak detection.
 - Provide an intuitive visualization of the water distribution system that shows how leakage control strategies are implemented and their resulting impact on individual leaks and system-level leakage rates.
- Provided a comprehensive review of the State Water Resources Control Board (SWRCB) real loss performance target setting model including development of a custom web application for EBMUD to better understand how the model works and what parameters have the most significant impact on the calculated target.
- Evaluated current large customer meter testing data to recommend a cost-justified large customer meter testing and repair program that balances the cost of potential meter under-registration with the cost of testing and repair.
- Analyzed small customer meter test results to evaluate cost-justified replacement decisions and guide future small meter sample designs.
- Reviewed pressure monitoring plans to provide a conceptual framework for evaluating pressure optimization opportunities system wide.
- Analyzed high-frequency flow data recorded by source meters to assess potential data archival errors and the proportion of flow readings recorded within meter specifications. Reviewed and provided feedback on source meter testing plans to evaluate meter accuracy.
- Compiled a comprehensive roadmap for water loss related activities going forward including detailed cost estimates to support budget requests.

Client Reference #2: Los Angeles Department of Water and Power (LADWP)

Client	Los Angeles Department of Water and Power
Project Date	2012 - 2015
Type of Project:	Water Loss Control Program Development
LADWP Contact Person:	Ms. Sofia Marcus (213) 367-0925 sofia.marcus@ladwp.com
Relevant Personnel:	Reinhard Sturm, Kate Gasner

The Los Angeles Department of Water and Power (LADWP) hired E Source through a competitive bidding process to undertake a water audit and component analysis project that examined the efficiency of LADWP's distribution system and non-revenue water management practices. Specifically, E Source studied LADWP's ability to accurately identify real and apparent losses; determined economically optimized water loss standards; and identified, prioritized, and recommended the most cost-effective intervention strategies to minimize water loss.

Project Highlights:

- Thoroughly assessed system input volume through site inspections and raw data validation. Found significant potential for more accurate supply quantification through improved metering at a treatment plant site.
- Compiled an independent AWWA water balance and determined which component volumes contributed the highest potential uncertainty.
- Validated consumption volumes in the water balance, beginning with an initial data integrity review and continuing with an analysis that segregated consumption into flow and volume ranges that allowed the project team to identify potentially wrong-sized customer meters.
- Initiated a small meter testing program to calculate apparent loss by meter size category. Determined that the small meter population is operating with accuracy.
- Evaluated the meter shop's practices to maximize data collection and apparent loss insight. Thoroughly reviewed large meter maintenance schedules to improve revenue loss management and align the maintenance schedule with staff capacity and the meter shop budget.
- Reviewed the work order management system to improve leak data collection and conducted a component analysis of real losses to establish LADWP's specific leakage profile.
- Analyzed field pressure data collected during the study to provide recommendations for advanced pressure management.
- Designed a cost-justified leakage control program. E Source's real loss management program contributes to LADWP's overall conservation portfolio.

The water loss control program that E Source developed and that LADWP's task force is implementing with E Source's continued technical assistance won the 2016 American Academy of Environmental Engineers and Scientists planning award.¹

¹ <http://www.aees.org/e3scompetition-winners-2016gp-planning.php>

Client Reference #3: San Antonio Water System (SAWS)

Client:	San Antonio Water System
Project Date	2013 - 2019
Project Type	Water Loss Control Program Development
SAWS Contact Person #1:	Mr. Patrick Shriver 210-233-3687 patrick.shriver@saws.org
SAWS Contact Person #2:	Mr. Darren Thompson 210-233-3669 darren.thompson@saws.org
Relevant Personnel:	Reinhard Sturm, Kate Gasner, Kris Williams, Colin Stief

At the end of 2013, E Source was selected through a competitive bid process to work with San Antonio Water Systems on the development of an economically optimized non-revenue water management plan. E Source found initial opportunities for real loss savings, apparent loss management and unbilled unmetered authorized consumption reduction.

Since the initial in-depth NRW assessment, E Source and SAWS have worked together on task orders of varying focus (from 2015 through 2019).

Project Highlights:

- Validated all water audit data sources and developed an initial water loss control plan.
 - Validated all production data, identified opportunities to improve system input volume accuracy, and conducted well meter tests (21 tests completed over the course of two years).
 - Estimated unbilled, unmetered volumes used at well sites for pump lubrication and estimated significant potential savings from improved quantification and well field operation.
 - Evaluated billing data for consistency and accuracy, including sequential zero reads on active accounts.
- Developed initial apparent loss investigations and pilots.
 - Designed a random and representative small meter test sample to enhance apparent loss insight.
 - Analyzed results of over 640 randomly sampled small meter tests.
 - Designed and implemented two rounds of large meter consumption profiling studies.
 - Analyzed 2017 data of all large meter test results.
- Completed sequential component analysis of real losses.
 - Reviewed completeness and integrity of work order data records.
 - Analyzed results of 4 years of proactive leak detection survey findings.
 - Determined an estimate of the systems rate of rise of recurring leakage.
- Collected pressure data to verify accuracy and representativeness of hydraulic model calculations.
- Facilitated the development of the Water Loss Control Team, supporting three meetings in 2019.

Ongoing work in finalizing the 2020 – 2024 SAWS Water Loss Control Plan (also referred to here as the “NRW Management Plan”).

Client Reference #4: Nashville Metro Water Services

Client and Project Title	MWS – Water Audit
Project Date	2012 – 2017, 2018 – 2022
Project Type	Water Loss Control Program Development & Extensive Field Implementation
MWS Contact Person:	Ms. Leanne Scott 615-862-4877 Leanne.scott@nashville.gov
Contract Amount:	\$375,0000 (2012 – 2017) & \$391,825 (2018 – 2022)
Relevant Personnel:	Reinhard Sturm, Isabel Szendrey, Kevin Burgers

E Source and Metro Water Services (MWS) have worked together under multiple contracts over the past 15 years on water loss management to supplement MWS’s proactive capital improvements. In 2003, MWS selected E Source to conduct the first water audit following international best practices at Nashville. Through this study, E Source implemented best-practice water audit methodology, component analysis of water loss, and field assessments of water loss, as recommended by the IWA and AWWA.

E Source and MWS partnered again in 2008, 2013, and 2018 for other 5-year water audit contracts.

Project Highlights:

- Assessed all system input meters using various methodologies, as best applicable to each location, including state-of-the-art flow measurement equipment and reservoir drop tests to quantify the accuracy of finished water flow meters at both MWS treatment plants and at export meters.
- Compiled an independent AWWA water balance using 95% confidence limits and determined which component volumes contributed the highest potential uncertainty.
- Validated consumption volumes in the water balance, beginning with an initial data integrity review and continuing with an analysis that segregated consumption into flow and volume ranges that allowed the project team to identify potentially wrong-sized customer meters.
- Categorized and quantified system water loss volumes using best-practice IWA and AWWA methodology.
- Tracked changes in water loss performance since FY02, showing a trend of reducing real losses.
- Performed a leakage component analysis segregating and quantifying different types of leakage volumes. Identification of recoverable volume of leakage and Economic Level of Leakage with current cost and benefit estimates.
- Set cost-effective leakage targets and recommended leakage management and conservation strategies to achieve those targets.
- Recommended apparent loss reduction activities that have since been implemented to improve revenue generation.
- Design, implementation, and evaluation of remote leak detection devices to determine cost effectiveness.

Client Reference #5: Municipal Water District of Orange County (MWDOC)

Client and Project Title	MWDOC – Regional Water Loss Control Program
Project Date	2016 – ongoing
Project Type	Regional Water Loss Control Program Development
MWDOC Contact Person:	Mr. Joe Berg 714—593-5008 jberg@mwdoc.com
Relevant Personnel	Reinhard Sturm, Kate Gasner, Kris Williams, Colin Stief

E Source and MWDOC have partnered to offer a five-year water loss control program to MWDOC's 31 member agencies. E Source and MWDOC member agencies are evaluating water losses, confirming analytic results with field investigation, designing customized water loss control strategies, and implementing cost-justified interventions. Through the program, Orange County agencies are building an ambitious regional culture of efficiency.

Furthermore, E Source and the MWDOC group have produced a ground-breaking customer meter test dataset and established case studies for water loss monitoring and regulation in California. Over the last year, E Source supported MWDOC in the development of a regional water loss control department that offers water audit validation, customer meter testing, leak detection, and field pressure logging to its member agencies.

Project Highlights:

- Facilitated and lead work ground meetings, convening staff from MWDOC's 31 member agencies to discuss water loss.
- Compiled annual AWWA water audits, including integrity checks of raw billing data to identify errors such as suspiciously large reads, consecutive zeros, duplicates, and negative reads.
- Validated four consecutive years of AWWA water audits for 29 of 31 member agencies, resulting in one of California's longest datasets of validated water audits. Researched variability of results between years and agencies.
- Conducted source meter tests using a variety of methodologies (draw-down, fill-up, insertion meter) and created test procedure documentation to allow member agency staff to conduct tests in the future.
- Developed small meter and large meter testing program with various member agencies. Resulted in a large database of customer meter tests, allowing detailed analysis of customer meter test strategies and customer meter performance.
- Offered and provided technical assistance to MWDOC member agencies, including real loss component analysis, pressure logging, large customer meter flow profiling, and leak detection.
- Developed leak detection research program, funded by Metropolitan Water District, where cost saving from leak detection will be evaluated. Provided partial funding of leak detection to four member-agency systems.
- Assisted in developing a regional water loss department, resulting in a grant to purchase leak detection equipment and pressure loggers. Two new staff members have been hired to provide shared services to MWDOC member agencies.

Client Reference #6: California Water Service Company

Client and Project Title	California Water Service Company – Water Loss Auditing and Control Program
Project Date	2018 – ongoing
Project Type	Water Loss Control Program Development
Cal Water Contact Person:	Ms. Natalie Pavlovski 310-257-1462 npavlovsl@calwater.com
Relevant Personnel:	Reinhard Sturm, Kate Gasner, Kris Williams, Colin Stief

E Source and California Water Service (Cal Water) have partnered to streamline the company’s water loss understanding and water loss reduction strategy. E Source’s water loss recommendations will contribute to California Water Service’s goal of preparing its 25 districts for SB555 and the implementation of Executive Order B-37-16.

Project Highlights:

- Created a water audit handbook documenting Cal Water’s current water audit procedures and protocols to streamline future audit preparation and highlighted changes that would improve the accuracy or consistency of the audits given currently available resources.
- Developed a road map for water loss enhancements related to data collection and asset management.
- Compiled a real loss component analysis for Cal Water’s 21 urban retail water supplier systems (URWS) and recommended improvements to repair reporting and tracking to refine future component analyses.
- Created water audit process maps, connecting practices and policies related to maintenance and data collection from the physical asset to water audit input.
- Developed a Water Loss Control Plan that utilized results from water audits and real loss component analyses to prioritize improvements and intervention across 21 URWS systems.
- Developed a company-wide Water Loss Control Policy for Cal Water, articulating Cal Water’s commitment to improve its understanding and management of water losses and comply with state-wide water loss control regulations.
- Validated water supplied, authorized consumption, and apparent loss volumes for each of Cal Water’s 21 URWS systems. Developed recommendations to improve accuracy of each input and facilitated implementation of recommendations.
- Initiated a small meter testing program to calculate apparent losses.

B. Schedule

E Source expects the full scope of work will take approximately 5 months, with initiation of work on May 1, 2023, as listed in the RFP. **Should NMWD wish to accelerate project completion, E Source would be able to accommodate a more compressed timeline as long as data is available for analysis from NMWD.**

Table 1: Project Schedule

ID	Task Name	Start	Finish	Duration	Apr 2023		May 2023			Jun 2023			Jul 2023			Aug 2023			Sep 2023			Oct 2023		
					16/4	23/4	30/4	7/5	14/5	21/5	28/5	4/6	11/6	18/6	25/6	2/7	9/7	16/7	23/7	30/7	6/8	13/8	20/8	27/8
1	Introductory Discussions and Data Gathering	5/1/2023	7/31/2023	92d																				
2	Data Analysis and Modeling	7/1/2023	9/30/2023	92d																				
3	Final Report	9/1/2023	9/30/2023	30d																				

C. Standard Rate Schedule and Project Hours

E Source intends to invoice on a percent complete basis with a total contract value that is not to exceed \$20,454. No expenses are expected since the projected will be implemented remotely. E Source does not plan to use subconsultants. Table 2 shows our standard rate schedule, including hourly rates for each person assigned to this project. Table 3 lists labor hours by job classification for each project task.

Table 2: Standard Rate Schedule

Title	Rate
Project Advisor (Reinhard Sturm)	\$280.00
Project Director (Kris Williams)	\$220.00
Senior Analyst (Madeline Gorchels)	\$160.00
Analyst (Shaunie Rasmusen)	\$120.00

Table 3: Project Hours and Fee

Task	Advisor	Director	Sr. Analyst	Analyst	Total Hours	Total Fee
	Rate	\$280	\$220	\$160	\$120	
T1 Introductory Discussions & Data Gathering	3	6	16	30	55	\$8,320
T2 Data Analysis and Modeling	3	6	12	30	51	\$7,680
T3 Final Report	2	4	8	14	28	\$4,400
TOTAL	8	16	36	74	134	\$20,400

D. Insurance, Contract, and Grant Compliance

E Source herewith confirms that our company is able to comply with the District’s standard insurance requirements as outlined in the RFP, including Exhibit C in Enclosure 1. E Source understands the requirements of the District’s grant funding and is able to sign the District’s Standard Agreement for Consulting Services.

Firm Information

<i>Name:</i>	E Source Companies, LLC
<i>Headquarters Address:</i>	3020 Carbon Place, Boulder, CO 80303
<i>Phone Number:</i>	786 – 877 -5752 (Reinhard Sturm)
<i>Individual Authorized to Represent E Source in Contractual Dealings</i>	Reinhard Sturm, Sr. Vice President, E Source Water Loss Consulting Division

6



MEMORANDUM

To: Board of Directors

April 18, 2023

From: Julie Blue, Auditor-Controller *JB*

Subj: Rate Increase (Prop. 218) Notice to Novato Water & Recycled Water Customers

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RECOMMENDED ACTION: Approve Rate Increase Notification (Prop 218 Notices)**FINANCIAL IMPACT:** \$12,600 Expense

Section 6 of Article XIID of the California Constitution, a provision added with the passage of Proposition 218 in 1996 (Prop 218), requires that customers be notified of proposed increases in rates or charges not less than 45 days prior to the public hearing where the Board considers adoption of the proposed rate increases. The public hearing is scheduled for Tuesday, June 20, 2023 at 4:00 PM. The June 20 hearing date requires that the notification be mailed by May 5, 2023. Design, postage, and printing costs for approximately 21,500 active customers are estimated at \$12,600.

The proposed commodity and bimonthly service charge rate increase for Novato Water customers is 9.5% as shown in the Proposition 218 notification included as Attachment 1. The proposed increase aligns with the Board reviewed five-year financial forecast, presented at the April 4, 2023 Board meeting. The median single-family residential customer will see a \$6.00 per month increase (\$12.00 bimonthly) on their typical bill. As shown in the notice, the cost of water is at the midpoint of the 17 agencies surveyed.

The proposed commodity and bimonthly service charge rate increase for Recycled Water customers is 5.3%. This rate increase aligns with the Board approved 2020 Novato and Recycled Water Rate Study and the Board reviewed five-year financial forecasts, and aligns with current inflation rates.

The attached Proposition 218 notification is a draft of the proposed mailer for Board review and comment, which legal counsel has reviewed to assure compliance with Prop 218 requirements.

RECOMMENDATION

Approve rate increase notice (Prop 218) notifying customers of proposed increases and upcoming public hearing.

ATTACHMENTS:

1. Novato Water & Recycled Water - Proposition 218 Customer Notification FY 23/24



**NORTH MARIN
WATER DISTRICT**

Notice of public hearing regarding proposed rate increases for the Novato Service Area

Hearing Date: Tuesday, June 20, 2023

Time: 4:00pm

Location: 100 Wood Hollow Dr, Suite 300, Novato CA 94945

This Notice provides information about proposed increases to North Marin Water District's water rates and charges for the Novato Service Area. The Board of Directors will hold a public hearing at which public comments will be considered and written protests will be counted before the Board votes on the proposed increases.

The District proposes increasing rates for fiscal year 2023-2024. If approved at the public hearing on June 20, 2023, the new rates will go into effect on July 1, 2023.

Reasons for the proposed rate increase:

Increased investment in water facilities

The District must continue to invest in facility upgrades and replacements with an approximate cost of \$4 million per year. These investments benefit the system's fire protection, water supply and aging infrastructure and help to address the need to properly maintain the District's \$132 million system of pipelines, pumps, reservoirs, treatment plants, valves, hydrants, laboratory, monitoring systems, buildings and more.

Rising costs to purchase imported water

The District typically imports 75% of its water from Sonoma County Water Agency. The cost of purchasing imported water accounts for approximately 30% of the budget and the wholesale water supplier has increased its rates of purchased water by 12.51% in FY 23/24. Going forward, rates will continue to increase as much as 11.5% annually.

Impact of inflation on all costs

The proposed revenue increase is designed to meet all the costs of providing water service. This includes purchasing, treating, and delivering safe, high quality, reliable water to your home or business without fail.

At the public hearing

The Board of Directors will accept and consider all written protests and will hear and consider all verbal comments to the proposed rate increases at the public hearing. Verbal comments must be accompanied by a written protest to qualify as a valid protest. At the conclusion of the hearing, the Board of Directors will consider adoption of the proposed rate increases as outlined in this notice. If written protests of the proposed changes are presented by a majority of the property owners or tenants subject to the proposed changes, the proposed rate increases will not be adopted.

How to protest the proposed rate increases

Any owner of a parcel upon which the water service charges are proposed to be changed, or any tenant that directly pays the water bill for such parcel, may submit a written protest of the proposed rate changes. Only one protest will be counted per parcel. Written protests must: (1) state that the property owner or tenant is opposing the proposed increases; (2) provide the location of the parcel (by street address, assessor's parcel number, or customer account number); and (3) include the name and signature of the property owner or tenant submitting the protest. Written protests may be submitted by mail to the District Secretary at North Marin Water District, PO Box 146, Novato, CA 94948, or in person at the public hearing. All written protests must be received prior to the close of the public input portion of the public hearing. Protests submitted via email or other electronic means will not be accepted. Please mark the protest: Attn: Novato Water Rate Hearing.

Where to learn more, get answers, and make comments

Call: 415-897-4133

Email: info@nmwd.com

Visit: nmwd.com

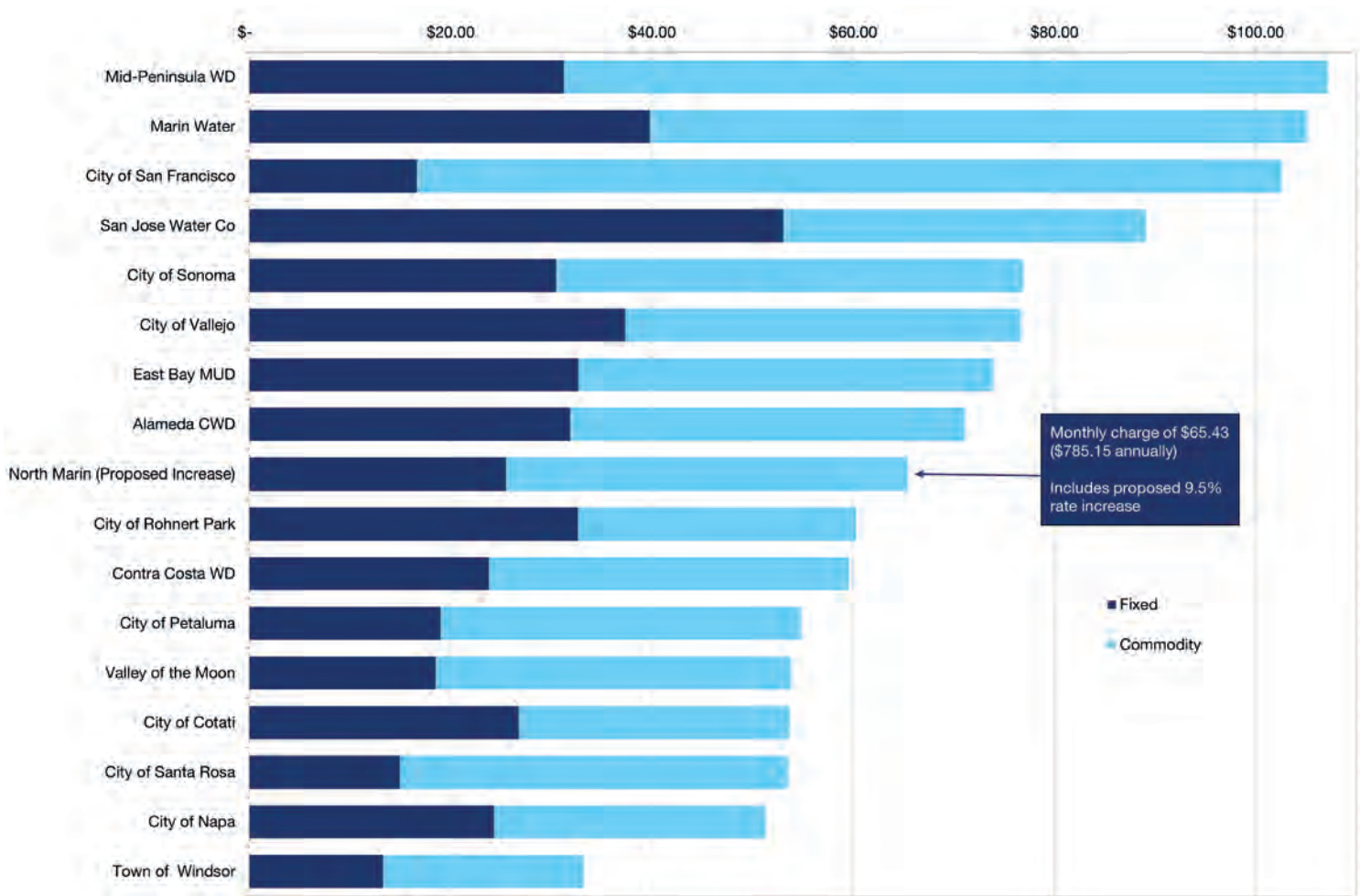
Attend the board hearing

The Board will review and consider adopting the rate increases at a public meeting on June 20, 2023, at 4:00pm at 100 Wood Hollow Drive, Suite 300 in Novato.

Rate comparison

Our rates are the lowest in Marin County and at the median for water agencies around the Bay Area region.

Monthly water bill survey for single family homes with median usage (5,900 gallons per month)



Details of proposed rate increases

Proposed 9.5% rate increase for Novato Water and 5.3% for Recycled Water

The proposed changes in rates are based on detailed engineering, financial, and legal evaluations carried out with the help of recognized experts in water rates. The rates conform to California law requiring that each class of customers (residential and commercial) pay their proportionate share of the cost to serve them.

Novato Water

North Marin Water District is proposing a 9.5% rate increase to cover the increasing costs of providing quality potable water service to our Novato Water service area customers.

Recycled Water

A 5.3% rate increase is proposed for the Recycled Water System.

The typical residential customer (approximately 56% of all customers) will pay about \$6.00 more per month if the changes are approved (\$12.00 on the bi-monthly bill).

Proposed bi-monthly fixed service charges

The bi-monthly fixed service charge includes an account charge and a meter charge. The meter charge is based on an industry standard that apportions costs based on meter size and flow capacity. Most single-family residential customers have a 5/8" meter. Residential accounts that have a 1" meter due to fire requirements, but would otherwise have a 5/8" meter, are charged at the 5/8" meter rate.

Proposed bi-monthly fixed service charge for potable water		
Meter Size (in inches)	Current Fixed Charge	Proposed Fixed Charge
5/8"	\$46.58	\$51.01
1"	\$83.21	\$91.11
1.5"	\$144.25	\$157.95
2"	\$217.50	\$238.16
3"	\$412.82	\$452.04
4"	\$632.56	\$692.65
6"	\$1,242.96	\$1,361.04
8"	\$1,609.20	\$1,762.07

Proposed bi-monthly fixed service charge for recycled water		
Meter Size (in inches)	Current Fixed Charge	Proposed Fixed Charge
5/8"	\$54.81	\$57.71
1"	\$96.38	\$101.49
1.5"	\$165.69	\$174.47
2"	\$248.84	\$262.03
3"	\$470.60	\$495.54
4"	\$720.07	\$758.23
6"	\$1,413.05	\$1,487.94

The maximum rates that may be imposed are shown in this document. Prior to implementing the rates, the Board of Directors may choose to implement the full amount or less, but not more.

Proposed tiered quantity (usage) charges

The tiered quantity (usage) charges have three tiers that reflect the costs of the different sources of water.

Tier 1 (1-262 gallons per day -GPD) is based on the cost of imported water. Tier 2 (263-720 GPD) is based on the cost of locally treated water from Stafford Lake. Tier 3 (>720

GPD) is based on the cost of locally treated water plus the cost of the District's conservation program, which is paid by those customers that use the most water. Usage charges include an **elevation zone charge** to recover the costs of pumping water to higher elevations.

Proposed bi-monthly tiered usage rates for residential potable water						
Quantity Charge Per 1,000 Gallons	Current Rates			Proposed Rates		
	Tier 1	Tier 2	Tier 3	Tier 1	Tier 2	Tier 3
Residential Elevation Zone A	\$6.18	\$7.00	\$8.62	\$6.77	\$7.67	\$9.44
Residential Elevation Zone B	\$7.03	\$7.85	\$9.47	\$7.70	\$8.60	\$10.37
Residential Elevation Zone C	\$8.54	\$9.36	\$10.98	\$9.35	\$10.25	\$12.02

Proposed bi-monthly tiered usage rates for commercial potable water				
Quantity Charge Per 1,000 Gallons	Current Rates		Proposed Rates	
	Winter	Summer	Winter	Summer
Commercial Elevation Zone A	\$6.18	\$8.62	\$6.77	\$9.44
Commercial Elevation Zone B	\$7.03	\$9.47	\$7.70	\$10.37
Commercial Elevation Zone C	\$8.54	\$10.98	\$9.35	\$12.02



NORTH MARIN WATER DISTRICT

Proposed fire service charges

Fire service charges apply to commercial connections with fire sprinklers. The charges are based on the actual cost of maintaining fire service lines.

Proposed bi-monthly fire connection charge		
Service Size	Current	Proposed
1"	\$16.00	\$17.52
2"	\$21.10	\$23.10
4"	\$58.87	\$64.46
6"	\$82.70	\$90.56
8"	\$109.92	\$120.36
10"	\$143.95	\$157.62

Proposed bi-monthly usage rates for other water services

These charges are for additional services that are offered to customers.

Proposed bi-monthly usage rates		
Quantity charge per 1,000 gallons		
Water Type	Current	Proposed
Raw	\$3.29	\$3.60
Recycled	\$7.01	\$7.38
Temporary / Fire Svc	\$7.85	\$8.60

nmwd.com

Phone: 415-897-4133 (Weekdays 8am – 5pm)

Email: info@nmwd.com

Mailing Address: PO Box 146, Novato, CA 94948-0146

Board of Directors

Rick Fraites, President
 Jack Baker, Vice President
 Ken Eichstaedt, Director
 James Grossi, Director
 Michael Joly, Director

General Manager

Tony Williams

7



MEMORANDUM

To: Board of Directors

April 18, 2023

From: Julie Blue, Auditor-Controller *JB*
 Subj: Rate Increase (Prop. 218) Notice to West Marin Water & Oceana Marin Sewer Customers
L:\ac\budget\fy-2023-24\rate increase & prop 218\wm prop 218 notice fy 23-24 board memo.docx
RECOMMENDED ACTION: Approve Rate Increase Notification (Prop 218 Notices)**FINANCIAL IMPACT:** \$1,500 Expense

Section 6 of Article XIID of the California Constitution, a provision added with the passage of Proposition 218 in 1996 (Prop 218), requires that customers be notified of proposed increases in rates or charges not less than 45 days prior to the public hearing where the Board considers adoption of the proposed rate increases. The public hearing is scheduled for Tuesday, June 20, 2023 at 4:00 PM. The June 20 hearing date requires that the notification be mailed by May 5, 2023. Design, postage, and printing costs for approximately 795 West Marin Water customers is estimated at \$1,500. The Oceana Marin Sewer System letters will be printed in-house and the postage and printing will cost approximately \$200.

West Marin Water

The proposed commodity and bimonthly service charge rate increase for West Marin Water customers is 6.0% as shown in the Proposition 218 notification included as Attachment 1. The proposed increase aligns with the 2021 West Marin Rate Study and with the Board reviewed five-year financial forecast presented at the April 4, 2023 Board meeting. The median single-family residential customer will see a \$3.80 per month increase (\$7.60 bimonthly) on their typical bill. As shown in the notice, the cost of water is the second lowest of the eight agencies surveyed.

Oceana Marin Sewer

The proposed sewer service charge rate increase for Oceana Marin Sewer customers is 6.0% as shown in the Proposition 218 notification included as Attachment 2. The proposed increase aligns with the Board reviewed five-year financial forecast presented at the April 4, 2023 Board meeting. Each Oceana Marin Sewer customer will see an increase of \$78 per year to \$1,374/year, billed on their property tax bills. Attachment 3, the Coastal Area Sewer Cost Comparison, shows the Oceana Marin sewer rates are the second highest when compared to six similar agencies.

The attached Proposition 218 notifications are drafts of the proposed mailers for Board review and comment, which legal counsel has reviewed to assure compliance with Proposition 218.

RECOMMENDATION

Approve mailing notifying customers of proposed rate increase and upcoming public hearing.

ATTACHMENTS:

1. West Marin Water - Proposition 218 Customer Notification FY 23/24
2. Oceana Marin Sewer - Proposition 218 Customer Notification FY 23/24
3. Coastal Area Sewer Service Charge Cost Comparison FY 23/24

Notice of public hearing regarding proposed rate increases for the West Marin Water System Service Area

Hearing Date: Tuesday, June 20, 2023

Time: 4:00pm

Location: 100 Wood Hollow Dr, Suite 300, Novato CA 94945



**NORTH MARIN
WATER DISTRICT**

This Notice provides information about proposed increases to North Marin Water District's West Marin Water System Service Area water rates and charges. The Board of Directors will hold a public hearing at which public comments will be considered and written protests will be counted before the Board votes on the proposed increases.

The District proposes increasing rates for fiscal year 2023-2024. If approved at the public hearing on June 20, 2023, the new rates will go into effect on July 1, 2023.

The key reasons that a 6% rate increase is needed are described below.

Increased investment in water facilities

The District must continue to make investments in facility upgrades and replacements that will benefit the West Marin Water System's fire protection, water supply, and aging infrastructure. This will help to properly maintain the service area's treatment plant, 26 miles of pipeline, 7 pump stations, 13 tanks, 4 wells, 172 hydrants, monitoring systems, and more.

Impact of inflation on all costs

The proposed revenue increase is designed to meet all the costs of providing water service, all of which rise every year with inflation. These costs include treating and delivering safe, high quality, reliable water to your home or business without fail.

At the public hearing

The Board of Directors will accept and consider all written protests and will hear and consider all verbal comments to the proposed rate increases at the public hearing. Verbal comments must be accompanied by a written protest to qualify as a valid protest. At the conclusion of the hearing, the Board of Directors will consider adoption of the proposed rate increases as outlined in this notice. If written protests of the proposed changes are presented by a majority of the property owners or tenants subject to the proposed changes, the proposed rate increases will not be adopted.

How to protest the proposed rate increases

Any owner of a parcel upon which the water service charges are proposed to be changed, or any tenant that directly pays the water bill for such parcel, may submit a written protest of the proposed rate changes. Only one protest will be counted per parcel. Written protests must: (1) state that the property owner or tenant is opposing the proposed increases; (2) provide the location of the parcel (by street address, assessor's parcel number, or customer account number); and (3) include the name and signature of the property owner or tenant submitting the protest. Written protests may be submitted by mail to the District Secretary at North Marin Water District, PO Box 146, Novato, CA 94948, or in person at the public hearing. All written protests must be received prior to the close of the public input portion of the public hearing. Protests submitted via email or other electronic means will not be accepted. Please mark the protest: Attn: West Marin Water Rate Hearing.

Where to learn more, get answers, and make comments

Call: 415-897-4133

Email: info@nmwd.com

Visit: nmwd.com

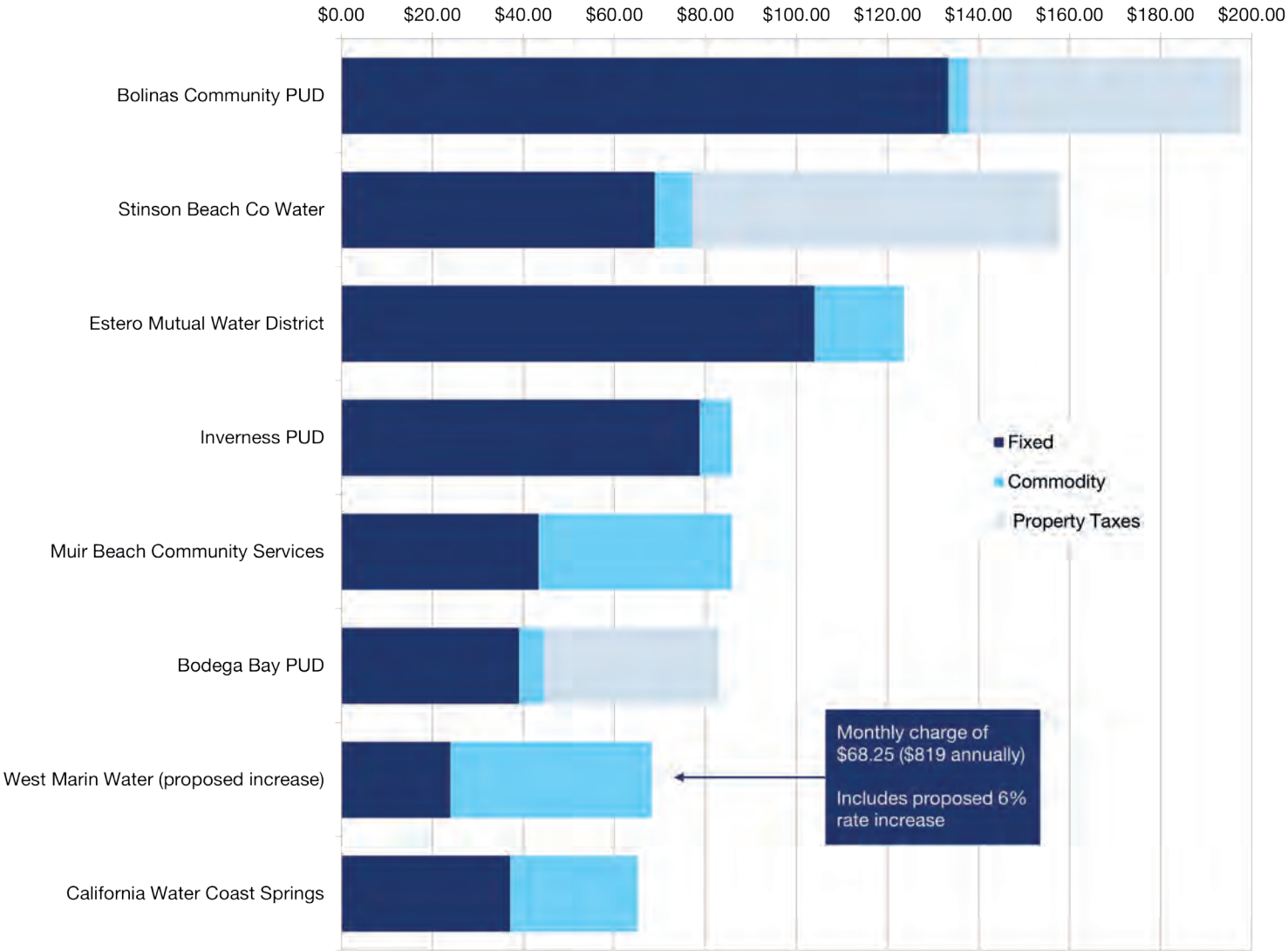
Attend the board hearing

The Board will review and consider adopting the rate increases at a public board meeting on June 20, 2023, at 4:00 p.m. at 100 Wood Hollow Dr., Suite 300 Novato, CA 94945.

Rate comparison

West Marin water rates are the second lowest when compared to other West Marin Coastal Area Retail Water Agencies.

Monthly water bill survey for single family homes with median usage (3,175 gallons per month)



Details of proposed rate increases

Proposed 6% rate increase
 North Marin Water District is proposing a 6% rate increase in its West Marin Water System in order to cover the increasing costs of providing potable water that is reliable, high quality, environmentally responsible and reasonably priced.

The typical residential customer (approximately 78% of all customers) will pay about \$3.80 more per month if the changes are approved (\$7.60 on the bi-monthly bill).



Proposed bi-monthly fixed service charges

The bi-monthly fixed service charge is made up of an account charge and a meter charge. The meter charge is based on an industry standard that apportions costs based on meter size and flow capacity. Most single-family residential customers have a 5/8" meter. Residential accounts that have a 1" meter due to fire requirements, but would otherwise have a 5/8" meter, are charged at the 5/8" meter rate.

The proposed changes in rates are based on detailed engineering, financial, and legal evaluations carried out with the help of recognized experts in water rates. The rates conform to California law requiring that each class of customers (residential and commercial) pay their proportionate share of the cost to serve them.

The maximum rates that may be imposed are shown in this document. Prior to implementing the rates, the Board of Directors may choose to implement the full amount or less, but not more.

Proposed tiered quantity (usage) charges

The proposed quantity (usage) charges have three tiers that reflect the costs of the different sources of water.

Tier 1 (1-250 gallons per day (GPD)) is based on the cost of drawing water from existing wells and half of the financing costs associated with construction of the new well. Tier 2 (251-600 GPD) includes all of Tier 1 costs, as well as the remaining financing costs associated with the new well.

Proposed bi-monthly fixed service charge for potable water		
Meter Size (in inches)	Current Fixed Charge	Proposed Fixed Charge
5/8"	\$45.15	\$47.86
1"	\$111.09	\$117.76
1.5"	\$220.98	\$234.24
2"	\$352.85	\$374.02
3"	\$704.52	\$746.79
4"	\$1,100.14	\$1,166.15

*Residential accounts that have a 1" meter due to fire requirements, but would otherwise have 5/8" meter, are charged at the 5/8" meter rate.

Tier 3 (>600 GPD) includes all of the Tier 2 costs, as well as the costs of the District's conservation program. Usage charges include an **elevation (hydraulic) zone charge** to recover the costs of pumping water to higher elevations.

Proposed bi-monthly tiered usage rates for residential potable water						
Quantity Charge Per 1,000 Gallons	Current Rates			Proposed Rates		
	Tier 1	Tier 2	Tier 3	Tier 1	Tier 2	Tier 3
Residential Elevation Zone 1	\$9.41	\$13.68	\$19.43	\$9.97	\$14.50	\$20.60
Residential Elevation Zone 3*	\$10.58	\$14.85	\$20.60	\$11.21	\$15.74	\$21.84
Residential Elevation Zone 2*	\$11.73	\$16.00	\$21.75	\$12.43	\$16.96	\$23.06
Residential Elevation Zone 4**	\$15.94	\$20.21	\$25.96	\$16.90	\$21.42	\$27.52

Proposed bi-monthly tiered usage rates for commercial potable water				
Quantity Charge Per 1,000 Gallons	Current Rates		Proposed Rates	
	Winter	Summer	Winter	Summer
Commercial Elevation Zone 1	\$9.41	\$19.43	\$9.97	\$20.60
Commercial Elevation Zone 3*	\$10.58	\$20.60	\$11.21	\$21.84
Commercial Elevation Zone 2*	\$11.73	\$21.75	\$12.43	\$23.06
Commercial Elevation Zone 4**	\$15.94	\$25.96	\$16.90	\$27.52

* Zone 3 (Olema) is at a lower elevation than Zone 2 (Inverness Park, Bear Valley, and Lower Paradise Ranch Estates).

** Zone 4 (Upper Paradise Ranch Estates).



NORTH MARIN WATER DISTRICT

Proposed fire service charges

Fire service charges apply to commercial connections with fire sprinklers. The charges are based on the actual cost of maintaining fire service lines.

Proposed bi-monthly fire connection charge		
Service Size	Current	Proposed
1"	\$16.00	\$16.96
1.5" & 2"	\$21.10	\$22.37
4"	\$58.87	\$62.40
6"	\$82.70	\$87.66
8"	\$109.92	\$116.52
10"	\$143.95	\$152.59

Proposed bi-monthly usage rates for other water services

These charges are for additional services that are offered to customers.

Proposed bi-monthly usage rates		
Quantity charge per 1,000 gallons		
Water Type	Current	Proposed
Temporary/Fire Svc	\$16.01	\$16.97
Outside Improvement District - Surcharge	\$4.32	\$4.58

nmwd.com

Phone: 415-897-4133 (Weekdays 8am – 5pm)

Email: info@nmwd.com

Mailing Address: PO Box 146, Novato, CA 94948-0146

Board of Directors

Rick Fraites, President
 Jack Baker, Vice President
 Ken Eichstaedt, Director
 James Grossi, Director
 Michael Joly, Director

General Manager

Tony Williams



**NORTH MARIN
WATER DISTRICT**

999 Rush Creek Place
P.O. Box 146
Novato, CA 94948-0146

PHONE
415-897-4133

EMAIL
info@nmwd.com

WEB
www.nmwd.com

May 5, 2023

RE: Notice of Proposed Oceana Marin Sewer Service Charge Increase

Dear Customer:

This letter is to advise you of a **proposed increase to the Oceana Marin sewer service charge** that would take effect on July 1, 2023. It also provides information about a **Public Hearing scheduled on June 20, 2023**, at which time written protests and oral comments will be considered and a vote on the proposed increase will be taken by the North Marin Water District Board of Directors.

How much is the proposed rate increase?

Current Oceana Marin sewer service charges are \$1,296/year. A **6% increase**, or \$78 per year, is proposed resulting in an increased rate of \$1,374/year.

How will the proposed increase affect my sewer bill?

Oceana Marin sewer service charges are collected on the Marin County property tax bill, which is charged annually for the fiscal year period July 1 through June 30. The proposed sewer service charge increase would add \$78 annually to the cost of sewer service for all customers in Oceana Marin. This will result in a fiscal year 23/24 sewer charge of \$1,374.

Why are rates being increased?

In January 2016 the District approved a 2015 Master Plan Update that identified over \$3 million in projects necessary to improve the reliability and redundancy of the Oceana Marin Wastewater System. Constructing these improvements will be financially challenging for the 235 customers of the Oceana Marin utility. Even if the projects are constructed over a 20-year period, the cost would still average \$150,000 annually. The proposed increase, if enacted, would generate \$18,330 of additional revenue annually. The entire Master Plan Update is available for review at: <https://nmwd.com/wp-content/uploads/2020/04/011916-1.pdf>.

Additional rate increases will be necessary in future years as the District continues to improve the reliability of the existing facilities and to construct redundant facilities in order to protect against potential system failure and sewage spills. Prior years' rate increases were in-line with financing the CIP plan on a pay-go basis while the current 5-year financial plan includes an annual rate increases of 6% for FY 23/24 and thereafter, and forecasts borrowing funds to complete the plan.

DIRECTORS: JACK BAKER · KEN EICHSTAEDT · RICK FRAITES · MICHAEL JOLY · STEPHEN PETTERLE

OFFICERS: TONY WILLIAMS, General Manager · ERIC MILLER, AGM/Chief Engineer · EILEEN MULLINER, District Secretary · JULIE BLUE, Auditor-Controller

Public Hearing

A public hearing before the NMWD Board of Directors to consider the proposed sewer service charge increase is scheduled for 4:00 pm, Tuesday, June 20, 2023 at:

100 Wood Hollow Drive, Suite 300, Novato, CA 94945

The Board of Directors will accept and consider all written protests and will hear and consider all verbal comments to the proposed sewer service charge increase at the Public Hearing. Verbal comments must be accompanied by a written protest to qualify as a valid protest. At the conclusion of the Hearing, the Board of Directors will consider adoption of the proposed sewer service charge increase as outlined in this notice. If written protests to the proposed sewer service charge increase are presented by a majority of the property owners, the proposed increase will not be adopted.

Your written protest must be received prior to the close of the June 20, 2023 public hearing. Written protests must: 1) state that the property owner is opposing the proposed increase 2) include the name and signature of the property owner; and 3) must include a description of the parcel (parcel number or service address). Only one written protest will be counted for each property. Send written protests to:

District Secretary
North Marin Water District
PO Box 146
Novato, CA 94948

For more information about the North Marin Water District, including a history of the Oceana Marin Sewer System, or to view the most recent Coastal Area Sewer Cost Comparison or the District's audited financial statement, visit NMWD's website at www.nmwd.com or call the office at (415) 897-4133.

Sincerely,



Tony Williams, PE
General Manager

2023 COASTAL AREA SEWER COST COMPARISON

4/12/2023

Comparison of NMWD's Charges with Other Agencies based on Charges in effect on 7/1/23


<u>Agency</u>	<u>No. of Sewer Services</u>	<u>Monthly Service Charge</u>	<u>Annual Tax Revenue</u> ⁽¹⁾	<u>Annual Total</u>
Bolinas Community PUD	163	\$132.00	\$0	\$1,584
> NMWD Oceana Marin	235	\$114.50 ⁽³⁾	\$0	\$1,374 <
Marshall Community Wastewater System	52	\$113.27 ⁽²⁾	\$0	\$1,359
Tomales Village CSD	126	\$81.90	\$91 ⁽⁴⁾	\$1,074
Bodega Bay PUD	1,113	\$76.26	\$0	\$915
Stinson Beach Co Water - Inspection Only	710	\$39.65 ⁽⁵⁾	\$428 ⁽⁶⁾	\$904

Notes:

- (1) Includes taxes for debt service on outstanding sewer bonds and loans plus any applicable allocation of the AB8 1% County levy distributed to compensate for the Prop 13 elimination of the operation and maintenance tax.
- (2) Community wastewater step-system commenced October 2008. Each parcel has own septic tank, pumped to a community collection tank, then pumped into a community leach field. Rate shown is last year's rate. Rates are based on the Bay Area CPI at April 30th which will be available toward the end of May. Rate used is the April 2022 rate.
- (3) Includes proposed increase of \$78/year
- (4) Based on home with net AV of \$453,601 (average 2022/23 AV on 80 single family homes in Tomales) and tax rate of 2.0¢/\$100 AV.
- (5) On-Site Wastewater System - no sewer system. Services provided include septic inspections, ground and surface water monitoring and other inspections required by the State Water Quality Control Board. In addition to the cost paid to Stinson Beach Water Co., each customer must purchase and install their own on-site wastewater system.
- (6) Stinson Beach shares in 1% County levy. This "allocation" was projected by the County of Marin at \$1,012,991 for 2022/23 of which 30% was allocated to sewer amounting to \$428 per service.

8

**MEMORANDUM**

To: Board of Directors April 18, 2023
From: Eric Miller, Assistant GM/Chief Engineer 
Subject: Status of Potential Cross-Connection Situation at Gateway Commons Neighborhood
r:\folders by job no\4000 jobs\4093 gateway commons backflow study\bod memos\4-18-23 bod memo gateway commons status.docx

RECOMMENDED ACTION: Informational only

FINANCIAL IMPACT: Unknown at this time

SUMMARY

The District has been aware of a potential cross-connection situation at the Gateway Commons neighborhood near the South Novato Blvd. Highway 101 on/off ramp in Novato for the past 10 to 15 years. The situation is not considered to be an emergency; however, staff has been actively engaged with the Gateway Commons Homeowners Association (HOA) over the past 12 months to address the health and safety concern resulting from the potential cross-connection situation.

Over the last year, staff has been in regular contact with representatives from the HOA regarding this issue. Three potential solutions have been identified and were presented to members of the HOA at their June 2022 meeting and again at their December 2022 meeting. Each of the potential solutions carries significant capital costs as well as payment for outstanding water use entitlement fees. Unfortunately to date, little progress has been made towards correcting the issue and support from the residents of Gateway Commons is minimal at best.

Given the complex nature of the situation, misinformation has begun to spread through the neighborhood which increases resistance for the HOA and has delayed progress towards a solution. Due to the lack of progress and misinformation among residents, staff felt compelled to provide this informational update to the District Board. Staff will continue to work with the Gateway Commons HOA to implement a solution aimed at protecting the District's water system.

HISTORY

The Gateway Commons (also known as the Crossroads) development project was completed in the early 1970's. A total of fifty-seven four-unit buildings were built, each with five

water meters. All of the four-unit buildings are identical in design, including four water meters for the individual unit owners, and one water meter for the common area laundry facility. The water meter that serves the common laundry facility also provides hot water to each of the four individual units through a shared water heater unit and also serves as the irrigation meter for the building. There are no dedicated irrigation meters on-site associated with the four-unit buildings or the individual unit owners.

Some time after development of the fifty-seven four-unit buildings, two additional water meters were installed, one serving the community room and pool area, and the other serving the common area irrigation. These additional water meters are not referenced in the original water service agreement for the development, dated January 19, 1972. Table 1 below summarizes water meter quantities comparing the original water service agreement and current conditions.

Table 1 – Water Meter Quantities

Type of Meter	Quantity	
	Original Agreement	Current Conditions
5/8-inch residential	228	228
5/8-inch common (HOA)	49	50
1.5-inch common (HOA)	8	9

The original water service agreement indicates purchase of water use entitlement equal to one (1) equivalent dwelling unit (EDU) per water meter, including both residential and common area meters. Consistent with District regulations, staff completed a review of average water usage on-site over the past ten-year period, which revealed water use through the irrigation meters more than 10-times of the water use entitlement purchased by the original development. Table 2 below summarizes water use entitlement comparing the original water service agreement and current conditions.

Table 2 – Water Use Entitlement Summary

Type of Meter	Equivalent Dwelling Units (EDU)		
	Agreement	Current	Difference
5/8-inch residential	228	228	0
5/8-inch common (HOA)	49	50	1
1.5-inch common (HOA)	8	92	84

CROSS-CONNECTION CONCERNS

In November 2018 the District implemented Advanced Metering Infrastructure (AMI) technology on our water meters which allows for enhanced data collection of water usage, including the ability to recognize reverse flow conditions. Although the possibility of reverse flow

at Gateway Commons was generally known by staff, the implementation of AMI resulted in system alarms for each instance of reverse flow. With the new technology in place, staff was able to better understand the extent of potential cross-connections with the District's water distribution system.

A review of AMI records reveals that there are 40 water meters within Gateway Commons that have a history of reverse flow. Of these 40, six (6) are individual residential meters and the other 34 are registered as common area meters. Although the quantitative extent of reverse flow is still unknown, staff believes the total volume to be minimal in the majority of instances. There is one instance where the reverse flow volume is significant, with meter data indicating nearly 95,000 gallons of reverse flow in a one-year span. That being said, even small amounts of reverse flow represent a health and safety concern, which is why staff is taking a systemic approach to addressing the issue.

Residents of Gateway Commons have been reluctant to answer questions or grant entry into their units which has made troubleshooting difficult, although causes of reverse flow are thought to include private modifications such as pumping systems to improve hot water circulation within the four-unit buildings. This type of modification could create higher pressures on the private side of the water meter and cause water to flow backwards from the units into the District's system. Other concerns include some backflow prevention devices not passing recent inspection testing, and observed service connections that were made after the water meter (private side) but before the backflow device which is prohibited by District regulations.

POTENTIAL SOLUTIONS

Staff has identified three potential long-term solutions that would solve the reverse flow conditions, each with significant capital cost and modifications to on-site facilities. The option preferred by staff includes consolidation of the individual meters at each four-unit building into a single master-meter and backflow prevention device. Having one master meter serve each building simplifies the hydraulics and also reduces the number of connections to the water system, however it creates a situation where the HOA would be responsible for distributing fees for individual water use rather than the District billing individual meter accounts.

Another option would be installation of a backflow prevention device at each of the 228 residential meters that do not currently have them. This option carries similar up-front cost as master meters, but a larger recurring cost annually for testing each individual device. The last option identified by staff includes connecting the site to recycled water for irrigation purposes. Considerable system modifications would be required similar to the other options, however use of recycled water would reduce overall demands on the potable system and could be used to

offset outstanding entitlement fees. Table 3 below summarizes the estimated costs comparing the three different potential long-term solutions.

Table 3 – Cost Estimate for Potential Solutions

Type of Cost	Option		
	Backflow Devices on Master Meters	Backflow Devices on Existing Meters	Recycled Water for Irrigation
Capital Cost	\$1,850,000	\$1,500,000	\$2,250,000
Entitlement Fees	\$2,500,000	\$2,500,000	* \$2,500,000
Total Cost	\$4,350,000	\$4,000,000	* \$4,750,000
Recurring Costs (Annual)	\$15,000	\$40,000	\$25,000

** Entitlement fees could be waived or reduced by District in exchange for offset of demand on potable water system resulting from recycled water irrigation use*

The three different options have been presented to the Gateway Commons HOA, including exhibits and itemized cost estimates. The HOA is planning to solicit consulting services to assist their decision-making related to this issue. Progress has been slow but communication between staff and the HOA remains consistent. Concurrently, staff has begun to research legal alternatives in the event that cooperation dissolves and/or community opposition reaches a point where progress is stalled altogether. We will return to the Board with additional information should things move in that direction.

At the recommendation of District Counsel, staff also conferred with Valley of the Moon (VotM) Water District which had a similar situation involving potential cross-connections in a neighborhood of single-family residences that uses raw pond water for irrigation. VotM was unable to make progress with the neighborhood homeowners association until the Department of Drinking Water (DDW) issued a letter of non-compliance to the water district. The solution implemented by VotM was installation of individual backflow devices at each water meter throughout the neighborhood, which met the conditions required by the DDW. To date, the DDW is not engaged with North Marin Water District on the potential concerns at Gateway Commons, although it may be prudent to proactively contact DDW if progress continues to be slow.

RECOMMENDATION

None at this time.

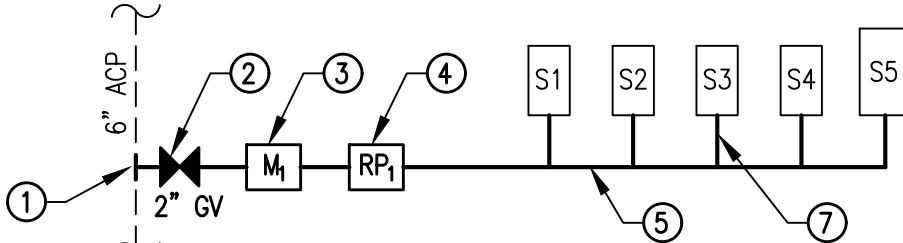
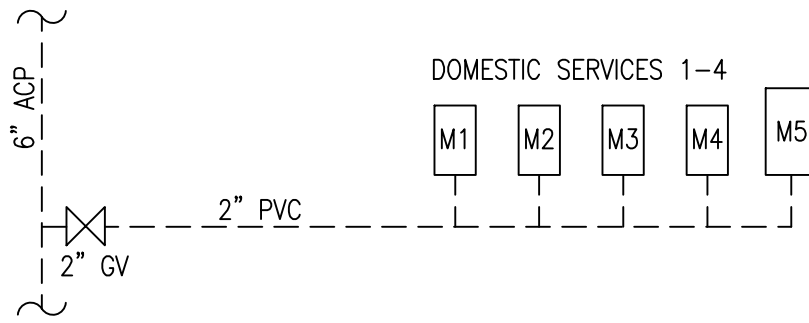
ATTACHMENTS:

1. Exhibit – Gateway Commons Backflow Improvement Options

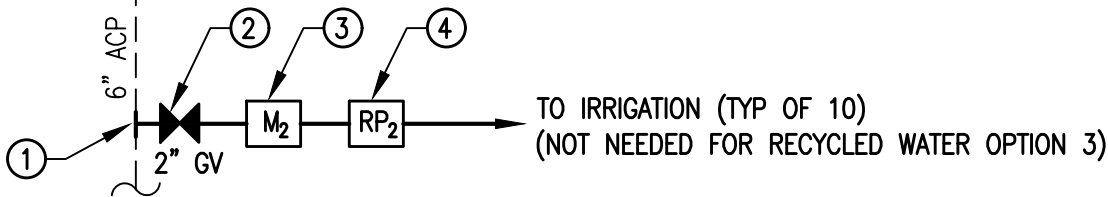
DOMESTIC SERVICES 1-4

COMMON AREA LANDSCAPE AND LAUNDRY SERVICE 5

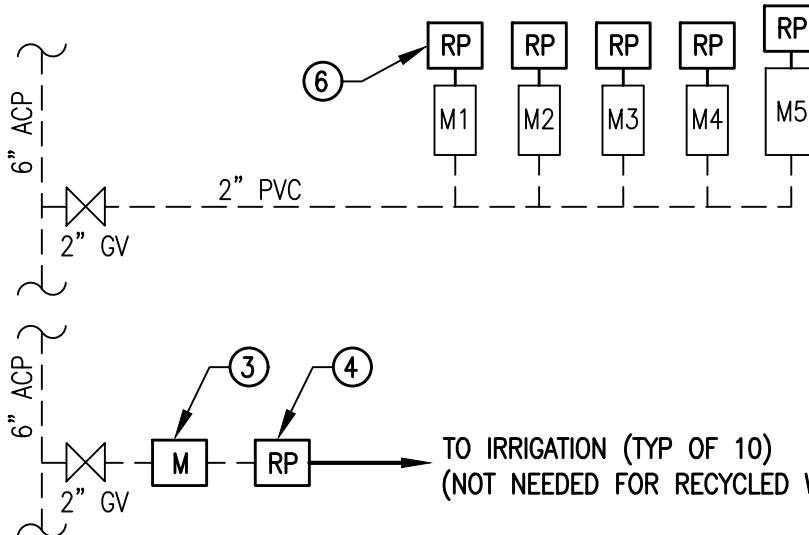
EXISTING CONDITION



NOTE: SPACER INSTALLED FOR DOMESTIC SERVICES 1-5 (ANGLED METER STOP TO REMAIN)



OPTION 1: HOA METER (NMWD PREFERRED OPTION)



NOTES:
 1. EXST WATER SERVICES 1-5 TO REMAIN.
 2. NEW 1" ABOVE GRADE RPs REQUIRED (TYP OF 5).
 3. RE-USE EXST HEADER (CONDITION UNKNOWN).
 4. NEW METER AND RP REQUIRED FOR IRRIGATION (TYP OF 10).

OPTION 2: 100% DOMESTIC RPs AND KEEP EXISTING METERS

USE EITHER OPTION 1 OR 2 FOR DOMESTIC AND RECYCLED WATER FOR IRRIGATION.

OPTION 3

- REQUIRES MAINS IMPROVEMENTS (SEE DWG 5.6058.20 FOR DETAILS)
- REQUIRES POSSIBLE NEW EASEMENT

PARTS LIST	
ITEM NO	DESCRIPTION
1	HYMAX CLAMP CC 6"x2"
2	2" GATE VALVE (FxF)
3	1.5" T10 METER
4	2" RP (ABOVE GRADE) PER NMWD STD NO 19
5	2" HEADER PER NMWD STD NO 14
6	1" RP (ABOVE GRADE) PER NMWD STD NO 19
7	1" COPPER LATERAL



**GATEWAY COMMONS
 BACKFLOW IMPROVEMENT OPTIONS**



DSGN	DRWN	DATE	REV	FIG NO
AP	SD	2/23/2022		4093.001

9



MEMORANDUM

To: Board of Directors

From: Tony Williams, General Manager 
Ryan Grisso, Water Conservation Coordinator 

Subject: North Marin Water District 75-Year Anniversary
v:\memos to board\75 year anniversary memo.doc

April 18, 2023

RECOMMENDED ACTION: Information Only

FINANCIAL IMPACT: Up to \$10,000 (Included in FY23 and FY24 Public Outreach Budgets)

This month, the District celebrate 75 years of excellent service to our customers. To recognize this accomplishment, we will be celebrating throughout the year with a campaign including a variety of efforts. We have developed a 75-year anniversary logo to be used on outreach materials and other documents. We placed an advertisement in the Novato advance with accompanying advertorial recognizing many of the milestones throughout the years. A banner design was created to be used as a back drop for Board meetings, but also a larger version has been printed to be mounted on the District shed facing highway 101. The Waterline newsletter will recognize the 75-year anniversary with a small write up and inclusion of major milestone accomplishments throughout the years. A website news story will also be developed along with accompanying social media. The District will be participating in the annual Novato 4th of July Parade with a decorated crew truck and will pass out the famous rubber duckies with 75-year anniversary logo. Lastly, we will be purchasing some additional promotional items to recognize the anniversary.

10

North Bay Watershed Association

Board Meeting - Agenda

April 7, 2023 | 9:30 – 11:30 a.m.

**MEETING WILL BE HELD AT THE
Novato Sanitary District
500 Davidson St, Novato, CA 94945**

For those wishing to attend virtually

Join Zoom Meeting:

<https://us02web.zoom.us/j/81630673971?pwd=dm94TXJCRWMyWFBLc3U5V2pTSMNRZz09>

Webinar ID: 816 3067 3971 Password: 216460

Agenda and materials will be available the day of the meeting at: www.nbwatershed.org

AGENDA

Time	Agenda Item	Proposed Action
9:30	Welcome and Call to Order – Roll Call and Introductions <i>Jean Mariani, Chair</i>	<i>N/A</i>
9:35	General Public Comments This time is reserved for the public to address the Committee about matters NOT on the agenda and within the jurisdiction of the Committee.	<i>N/A</i>
9:40	Agenda and Past Meeting Minutes Review <i>Jean Mariani, Chair</i> Treasure's Reports <i>Jean Mariani, Chair</i>	<i>Approve/ Review</i>
9:45	Guest Presentation— Status and Sustainable Management Plans for North Bay Groundwater Basins <i>Marcus Trotta, Sonoma Water Principal Hydrogeologist and Plan Manager for Sonoma and Petaluma Valley Groundwater Sustainability Agencies, and Jamison Crosby, Napa County Natural Resources Conservation Manager and Napa Valley Groundwater Sustainability Agency</i> Marcus and Jamison will provide basin status overviews, near- and long-term sustainability management programs and initiatives given the recent noteworthy approvals by DWR for their respective Groundwater Sustainability Plans, and opportunities for regional collaboration and multiple benefit funding.	

10:30	<p>Consider Appointment of Past Chair John Gibson as Non-Voting Honorary Member of the Board</p> <p><i>Andy Rodgers, Executive Director</i></p>	
10:40	<p>Executive Director Report & FY23/24 Workplan Overview</p> <p><i>Andy Rodgers, Executive Director</i></p> <p>Andy will provide general updates on NBWA activities since the March 3 Board meeting, including active projects, recent meetings, regional programs and initiatives, communications, and committees.</p> <p>Andy will also outline plans for NBWA’s FY23/24 workplan and solicit board input.</p>	<p><i>ED updates, Board questions, and input</i></p>
11:10	<p>Water Year 2023 Updates / Board Information Exchange</p> <p><i>Members</i></p> <p>Members will highlight issues and share items of interest.</p>	<p><i>N/A</i></p>
11:30	<p>Announcements/Adjourn</p> <p>Next Board Meeting: May 5, 2023 (Field Trip?)</p>	<p><i>N/A</i></p>

11

DISBURSEMENTS - DATED APRIL 6, 2023

Date Prepared 4/3/23


The following demands made against the District are listed for approval and authorization for payment in accordance with Section 31302 of the California Water Code, being a part of the California Water District Law:

Seq	Payable To	For	Amount
90577*	CalPERS	April Insurance Premium (Employer \$54,405, Retirees \$12,196 & Employees \$8,425)	\$75,026.35
1	Alpha Analytical Labs	Lab Testing (Novato-\$2,195 & West Marin)	2,415.00
2	A.S.T.I.	Quarterly Fire Service Inspection @ STP	215.00
3	AT&T	Telephone, Fax, Leased Lines & Data	531.82
4	Bay Area Crane Service, LLC	Reissue Check-Vendor Name Correction-Crane Truck Services-Split Case Pump @ STP	1,800.00
5	Buck's Saw Service	Trimmer Line (450') & Fuel for Yard Tools	212.65
6	Calif Dept of Water Resources	FY24 Annual Dam Fees	20,800.00
7	Carden, Jennifer	Refund Overpayment on Closed Account	78.20
8	CDW-Government, Inc.	Cell Modems for W.M. Pump Stations (6) (\$2,694), Router & APC Battery Backups (4)	3,472.68
9	Core & Main	Stiffeners (2), Elbows (6), Nuts (500), Tees (2) Meter Adapters (12), Couplings (3) & Angle Meter Stop	3,142.20
10	Crane Tech Inc	Annual Crane Inspection & Preventative Maintenance	1,313.00
11	Environmental Science Assoc	Prog Pymt#14: NMWD San Mateo Tank Permitting Assistance (Balance Remaining on Contract \$24,291)	517.50
12	Fishman Supply Co	Nitrile Gloves (36) & Rain Gear (Cons Svcs)	321.34
13	Fisher Scientific	Conductivity Standard, Safety Gloves (200) & pH Strips (Lab)	478.61
14	Franklin, Craig	Novato "Toilet Rebate" Program	375.00
15	Grainger	Chemical Metering Pump (Const) (\$2,256), Metal Cabinet for Fuel Sheets & Miscellaneous Maintenance Tools & Supplies	4,827.92


Seq	Payable To	For	Amount
16	Jonsson, Bonnie	Novato "Cash for Grass" Rebate Program	800.00
17	Marin County Registrar of Vote	Election Setup Fee (11/8/22-Divisions 1 & 5)	250.00
18	McMaster-Carr Supply Co	High Power Suction Hose, PVC Pipe (2) & Low Pressure Water Hoses (3)	1,649.25
19	Melendez, Jorge	Refund Overpayment on Closed Account	69.86
20	Natec International Inc	Asbestos Cement Pipe Initial Course & Pipe Refresher	1,770.00
21	Nerviani's Backflow	Backflow Testing Services for District/Customer Owned RP (33) (\$2,145) & DC Assemblies (7)	2,635.00
22	Noll & Tam Architects	Prog Pymt#23: Consulting Services for NMWD Headquarters Upgrade A/E Services (Balance Remaining on Contract \$109,811)	20,107.50
23	Novato Sanitary District	Semi Annual Sewer Service Charges (Yard/Office)	2,217.38
24	Novato Chamber of Commerce	Leadership Class (Pearlman)	300.00
25	ODP Business Solutions, LLC	Covid Tests (25) & Misc Office Supplies	192.98
26	Pedlar, Christopher	Excess Advance Over Actual Job Cost	591.35
27	RAE Products & Chemicals Corp.	Thermoplastic for Valve Markings	3,235.78
28	RoadSafe Traffic Systems, Inc.	Safety Flags (8), Marking Paint & Chalk	482.19
29	Soiland Co., Inc.	Rock (16 yds)	539.56
30	Staples Business Credit	Copy Paper (80 reams) & Miscellaneous Office Supplies	519.21
31	Tokarski, D	Refund Overpayment on Closed Account	40.00
32	US Bank	February Safekeeping Treasury Securities	140.00
33	Verizon Wireless	Cellular Charges: Data (\$1,472), Airtime & iPads for Asset Management	1,514.35
34	VWR International LLC	Sodium, Chlorine, Conductivity Standard & Biological Indicators (20) (Lab)	612.41
35	Watersmart Software Inc.	Watersmart Software Renewal (3/31/23-3/30/24)	24,897.50

Seq	Payable To	For	Amount
36	Wedge, Richard	Refund Overpayment on Closed Account	129.01
37		Vision Reimbursement	336.00
38	West Yost Associates	Prog Pymt#18: Recycled Water Reg 18 Update (Balance Remaining on Contract \$90,847)	2,916.25
		TOTAL DISBURSEMENTS	<u>\$181,472.85</u>

The foregoing payroll and accounts payable vouchers totaling \$181,472.85 are hereby approved and authorized for payment.


04/04/23

 Auditor-Controller Date


4/4/2023

 General Manager Date

DISBURSEMENTS - DATED APRIL 13, 2023

Date Prepared 4/10/23

The following demands made against the District are listed for approval and authorization for payment in accordance with Section 31302 of the California Water Code, being a part of the California Water District Law:

<u>Seq</u>	<u>Payable To</u>	<u>For</u>	<u>Amount</u>
P/R*	Employees	Net Payroll PPE 3/31/23	\$178,429.53
90578*	Internal Revenue Service	Federal & FICA Taxes PPE 3/31/23	78,258.26
90577*	State of California	State Taxes & SDI PPE 3/31/23	16,692.72
90579*	CalPERS	Pension Contribution PPE 3/31/23	44,315.87
1	Able Tire & Brake	Service on Tires & Tire Pressure Monitoring System ('15 F150 & '20 F250)	567.02
2	Alpha Analytical Labs	Lab Testing (W.M.)	210.00
3	Automation Direct	Communication Modules - West Marin PLC's (6)	1,979.04
4	Buck's Saw Service	Yard Tool Fuel, Chain Saw Oil & Loop	162.62
5	Comcast	April Phone Services (Buck Inst, Yard, STP & Wood Hollow)	1,524.33
6	Comcast	Ethernet Dedicated Internet (999 Rush Creek Place)	1,562.93
7	DataTree	March Subscription to Parcel Data Info	100.00
8		Vision Reimbursement	227.80
9	Delucchi, Mark	Refund of Deposit/New Development/WC Restriction-Novato	123.37
10	Direct Line Inc	March Telephone Answering Service	177.00
11	Dunne, Gary	Novato "Washer Rebate" Program	100.00
12	Evans, Joy	Board Approved Partial Refund of ADU Facility Reserve Charges	2,360.00
13	Fishman Supply Co	Safety Gloves (36) & Rain Gear (Const)	400.46
14	Grainger	Swivel Forks (2) & Utility Pump (STP)	491.60
15	Kehoe, Chris	Exp Reimb: Food for Department Meeting	60.00

Seq	Payable To	For	Amount
16	Konik, Iris	Board Approved Partial Refund of ADU Facility Reserve Charges	2,360.00
17	Lincoln Life Employer Serv	Deferred Compensation 3/31/23	11,913.60
18	Marin Landscape Materials	Mason Mix	29.73
19	Mitchell, Eric	Novato "Washer Rebate" Program	100.00
20	Nationwide Retirement Solution	Deferred Compensation 3/31/23	2,035.00
21	Nerviani's Backflow	Backflow Testing for District/Customer Owned RP (\$1,330) & DC (\$1,040) Assemblies	2,370.00
22	North Marin Auto Parts	Service Parts ('21 Nissan Frontier, '15 F250), Terry Cloth Rags (6 lbs), Motor Oil (8 qts) & Paint for Shop	545.09
23	North Bay Gas	Breathing Air, Carbon Dioxide & Nitrogen (STP)	262.97
24	Northbay Nissan	Service Parts ('21 Nissan Rogue)	70.22
25	Novato Builders Supply	Screws (100) & Lumber Bolts, Washers, Nuts,	245.63
26	NMWD Petty Cash	Food for Dept Meetings, Coffee for Kitchen, DOT Clearing House (5 Queries), Parking & Safety Bucks	100.33
27	Pini Hardware	Miscellaneous Maintenance Tools & Supplies	822.06
28	Pollard Water	Serrated Wrenches (4) & Screws (8)	159.93
29	Recology Sonoma Marin	March Trash Removal	618.51
30		Vision Reimbursement	184.00
31	State Water Resources Control	T2 Certification Renewal (Reischmann)	60.00
32	Veolia Water Technologies	Sand Pump & Hydrocyclone Parts (STP)	25,705.43
33	Verizon Wireless	SCADA & AMI Collectors	877.43

NORTH MARIN WATER DISTRICT
MONTHLY PROGRESS REPORT FOR March 2023
 April 18, 2023

1.

Novato Potable Water Prod* - RR & STP Combined - in Million Gallons - FYTD

Month	FY22/23	FY21/22	FY20/21	FY19/20	FY18/19	23 vs 22 %
July	224.5	282.9	341.7	317.7	341.1	-21%
August	235.9	212.4	290.1	287.1	300.9	11%
September	203.5	214.5	225.6	280.5	255.0	-5%
October	191.6	198.5	307.8	286.0	265.6	-4%
November	137.4	94.1	201.6	226.3	170.1	46%
December	106.6	137.1	183.0	141.2	157.8	-22%
January	113.8	118.3	156.6	111.9	114.7	-4%
February	105.2	118.6	110.5	120.3	110.9	-11%
March	123.1	130.3	124.1	151.8	138.8	-6%
FYTD Total	1,441.5	1,506.8	1,940.8	1,922.7	1,854.8	-4%

West Marin Potable Water Production - in Million Gallons - FY to Date

Month	FY22/23	FY21/22	FY20/21	FY19/20	FY18/19	23 vs 22 %
July	6.3	6.0	8.2	8.9	10.2	4%
August	6.8	5.7	9.2	8.4	9.9	19%
September	6.3	5.9	7.9	7.8	9.5	8%
October	5.7	5.1	6.7	7.5	8.3	13%
November	4.6	3.5	5.8	6.7	7.3	30%
December	4.3	4.0	5.1	4.8	5.7	7%
January	3.9	3.8	4.2	4.1	5.0	4%
February	3.3	4.0	3.8	4.4	3.5	-16%
March	3.7	4.1	5.1	5.2	4.4	-10%
FYTD Total	45.0	42.0	56.0	57.8	63.8	7%

Stafford Treatment Plant Production - in Million Gallons - FY to Date

Month	FY22/23	FY21/22	FY20/21	FY19/20	FY18/19	23 vs 22 %
July	56.3	67.0	105.8	68.2	78.6	-16%
August	67.9	31.3	81.1	103.8	79.3	117%
September	57.8	41.7	16.1	115.0	60.5	39%
October	54.0	28.2	7.7	103.4	74.5	92%
November	30.0	0.0	0.6	102.8	0.0	
December	0.0	0.0	0.0	0.0	0.0	-
January	0.0	0.0	0.0	0.0	0.0	-
February	0.0	0.0	0.0	0.0	0.0	-
March	50.5	0.0	0.0	0.0	19.2	
FYTD Total	316.5	168.1	211.3	493.0	312.1	88%

Recycled Water Production* - in Million Gallons - FY to Date

Month	FY22/23	FY21/22	FY20/21	FY19/20	FY18/19	23 vs 22 %
July	43.1	42.9	39.0	36.5	30.2	0%
August	41.6	41.4	43.2	33.3	30.6	1%
September	29.2	39.6	29.5	29.7	33.5	-26%
October	24.7	18.3	22.8	26.6	20.1	35%
November	5.1	0.8	10.9	10.8	12.7	526%
December	0.3	0.3	0.2	0.5	1.5	-1%
January	0.4	0.8	0.3	0.6	0.9	-44%
February	0.4	1.3	0.5	0.6	0.3	-71%
March	0.4	14.3	11.4	11.7	0.4	-97%
FYTD Total*	145.3	159.8	157.8	150.4	130.2	-9%

*Excludes potable water input to the RW system: FY23= 5.9 MG; FY22=10 MG; FY21=24.7 MG; FY20=16.7; FY19=20.0 MG; FY18=18.1MG

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2. Regional and Local Water Supply

Lake Sonoma

	Current	2022
Lake Storage*	82,548 MG	48,623 MG
Supply Capacity	103 %	61 %

*Normal capacity = 245,000 AF (79,833.5 MG)

Lake Mendocino

	Current	2022
Lake Storage *	27,524 MG	13,898 MG
Supply Capacity	118 %	62 %

*Normal capacity = 70,000-110,000 AF (22,800-35,840MG); flood control pool at 80,000 AF (26,000 MG)

3. Stafford Lake Data

	March Average	March 2023	March 2022
Rainfall this month	3.54 Inches	9.33 Inches	0.64 Inches
Rainfall this FY to date	24.14 Inches	38.57 Inches	16.90 Inches
Lake elevation*	193.3 Feet	196.8 Feet	191.5 Feet
Lake storage**	1,119 MG	1,454 MG	1,077 MG
Supply Capacity	98.6 %	100.4 %	97.7 %

* Spillway elevation is 196.0 feet

** Lake storage less 390 MG = quantity available for normal delivery

Temperature (in degrees)

	Minimum	Maximum	Average
March 2023 (Novato)	35	73	59
March 2022 (Novato)	21	88	70

4. Number of Services

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March 31	Novato Water			Recycled Water			West Marin Water			Oceana Marin Swr		
	FY23	FY22	Incr %	FY23	FY22	Incr %	FY23	FY22	Incr %	FY23	FY22	Incr %
Total meters installed	20,970	20,835	0.6%	102	100	2.0%	800	799	0.1%	-	-	-
Total meters active	20,821	20,677	0.7%	100	96	4.2%	792	789	0.4%	-	-	-
Active dwelling units	24,097	24,099	0.0%	-	-	-	837	837	0.0%	235	235	0.0%

5. Oceana Marin Monthly Status Report (March)

Description	March 2023	March 2022
Effluent Flow Volume (MG)	0.866	0.416
Irrigation Field Discharge (MG)	0.772	0.762
Treatment Pond Freeboard (ft)	4.3	6.7
Storage Pond Freeboard (ft)	4.0	8.0

6. Developer Projects Status Report (March)

Job No.	Project	% Complete	% This month
1.2831.00	Landsea Homes	85	0
1.2836.00	Residence Inn	20	5
1.2841.00	Hamilton Village	90	5
1.2855.00	NSD Ignacio Plant	20	0
1.2858.00	North Bay Children's Center	20	0
1.2860.00	Habitat Redwood Blvd	9	0
1.2863.00	Hen House	50	25

District Projects Status Report - Const. Dept. (March)

Job No.	Project	% Complete	% This month
1.2836.00	Residence Inn	75	0
1.2863.00	Hen House	25	10
1.7204.00	Loop Dead End Mains – Office to Yard	90	0

Employee Hours to Date, FY 22/23

As of Pay Period Ending March 31, 2023
 Percent of Fiscal Year Passed = 64%

Developer Projects				District Projects			
	Actual	Budget	% YTD Budget		Actual	Budget	% YTD Budget
Construction	1,383	1,400	99%	Construction	2,067	3,988	52%
Engineering	752	2,290	33%	Engineering	2,833	4,323	66%

7. Safety/Liability

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Industrial Injury with Lost Time				Liability Claims Paid		
Lost Days	OH Cost of Lost Days (\$)	No. of Emp. Involved	No. of Incidents	Incurred (FYTD)	Paid (FYTD) (\$)	
FY 23 through Mar	152	\$90,752	3	3	1	\$37,590
FY 22 through Mar	65	\$16,086	3	3	0	\$0

Days since lost time accident through March 31, 2023 155 Days

* (1) Claim settlement for driveway and concrete repair due to water damage to a property on Bugeia Lane. & (2) Landscape repair due to water line break on Taft Ct.

8. Energy Cost

FYE	kWh	March		Fiscal Year-to-Date thru March		
		¢/kWh	Cost/Day	kWh	¢/kWh	Cost/Day
2023 Stafford TP	46,374	22.9¢	\$342	442,398	22.4¢	\$361
Pumping	68,409	30.4¢	\$716	988,964	28.3¢	\$1,023
Other ¹	40,025	37.7¢	\$520	305,622	32.7¢	\$365
	154,808	30.0¢	\$1,578	1,736,984	27.6¢	\$1,749
2022 Stafford TP	60,347	22.2¢	\$433	386,813	22.0¢	\$310
Pumping	90,477	28.0¢	\$873	942,641	27.7¢	\$958
Other ¹	37,272	32.6¢	\$419	373,133	31.2¢	\$427
	188,096	27.0¢	\$1,725	1,702,587	27.2¢	\$1,695
2021 Stafford TP	25,873	26.3¢	\$219	370,862	21.6¢	\$293
Pumping	198,039	26.0¢	\$1,778	1,286,611	25.3¢	\$1,195
Other ¹	43,619	26.0¢	\$391	446,667	26.8¢	\$438
	267,531	26.1¢	\$2,388	2,104,140	25.0¢	\$1,926

¹Other includes West Marin Facilities

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9. Water Conservation Update

	Month of March 2023	Fiscal Year to Date	Program Total to Date
High Efficiency Toilet (HET) Rebates	9	64	4,472
Retrofit Certificates Filed	12	70	6,769
Cash for Grass Rebates	2	35	1,052
Washing Machine Rebates	0	16	6,883
Water Smart Home Survey	0	9	3,917

10. Utility Performance Metric

SERVICE DISRUPTIONS (No. of Customers Impacted)	March 2023	March 2022	Fiscal Year to Date 2023	Fiscal Year to Date 2022
PLANNED				
Duration Between 0.5 and 4 hours	12	1	104	71
Duration Between 4 and 12 hours	0	0	11	17
Duration Greater than 12 hours	0	0	0	0
UNPLANNED				
Duration Between 0.5 and 4 hours	16	4	125	17
Duration Between 4 and 12 hours	0	0	74	0
Duration Greater than 12 hours	0	0	0	0
SERVICE LINES REPLACED				
Polybutylene	4	1	44	34
Copper Replaced or Repaired)	0	0	14	16

Planned

For the month of March, we had 12 planned service disruptions.

Plastic: We replaced 4 plastic services on Noren Way and Fox Dr in West Marin.

Copper: No copper services replaced for the month of March.

Valve Replacement: We replaced two-2" blow off valves on Ignacio valley Circle that impacted 8 customers.

Unplanned

There were two main breaks on Fabian Ct, 2" PVC and Hillside Terrace, 6" AC that affected 16 customers.

Summary of Complaints and Service Orders

Tag Breakdown:

Total: 228 Consumer: 68 Office: 160

Type	Mar-23	Mar-22	Added Notes
Billing			
High Bill	2	2	
Low Bill	0	1	
Total	2	3	
Meter Replacement			
	31	21	
Total	31	21	
Need Read			
	10	6	
Total	10	6	
No-Water			
	2	4	
Total	2	4	
Leak			
Consumer	119	231	
District	17	7	
Total	136	238	
Noisy Pipes			
	0	1	
Total	0	1	
Check Pressure			
	3	0	
Total	3	0	
Turn Off / On			
	30	30	
Total	30	30	
Other			
	14	10	
Total	14	10	
TOTAL FOR MONTH:	228	313	-27%

Fiscal YTD Summary

Billing	16	16
Meter Replacement	162	159
Need Read	45	44
No-Water	28	12
Leak	1,570	1473
Water Quality	2	2
Noisy Pipes	-	3
Pressure	20	18
Turn Off / On	271	200
Other	133	89
Total	2,247	2,016

Change Primarily Due To

0%	No Change.
2%	Increase in Meter Replacements
2%	Increase in Reads
133%	Increase in No-Water
7%	Increase in Leaks
0%	No Change.
-100%	Decrease in Noisy Pipes
11%	Increase in Water Pressure
36%	Increase in Water On/Off
49%	Increase in Misc. Tags
11%	Increase overall

Bill Adjustments Under Board Policy:

March 23 vs. March 22

Mar-23	15	\$5,987
Mar-22	23	\$12,729

Fiscal Year vs Prior FY

FY 22/23	129	\$33,701
FY 21/22	141	\$57,507

Customer Service Questionnaire Quarterly Report

Quarter Ending 3/31/2023



NMWD

	Response		
	Agree	Neutral	Disagree
Water Quality			
Courteous & Helpful	0	0	0
Accurate Information	0	0	0
Prompt Service	0	0	0
Satisfactorily Resolved	0	0	0
Overall Experience	0	0	0
	<u>0</u>	<u>0</u>	<u>0</u>

	Agree	Neutral	Disagree
	Leak		
Courteous & Helpful	44	2	0
Accurate Information	44	1	0
Prompt Service	43	2	0
Satisfactorily Resolved	42	3	1
Overall Experience	44	1	0
	<u>217</u>	<u>9</u>	<u>1</u>

	Agree	Neutral	Disagree
	Billing		
Courteous & Helpful	1	1	0
Accurate Information	1	1	0
Prompt Service	1	1	0
Satisfactorily Resolved	0	2	0
Overall Experience	1	1	0
	<u>4</u>	<u>6</u>	<u>0</u>

	Response		
	Agree	Neutral	Disagree
Pressure			
Courteous & Helpful	0	0	0
Accurate Information	0	0	0
Prompt Service	0	0	0
Satisfactorily Resolved	0	0	0
Overall Experience	0	0	0
	<u>0</u>	<u>0</u>	<u>0</u>

	Agree	Neutral	Disagree
	Noisy Pipes		
Courteous & Helpful	0	0	0
Accurate Information	0	0	0
Prompt Service	0	0	0
Satisfactorily Resolved	0	0	0
Overall Experience	0	0	0
	<u>0</u>	<u>0</u>	<u>0</u>

	Agree	Neutral	Disagree
	Other		
Courteous & Helpful	2	1	0
Accurate Information	2	0	1
Prompt Service	2	0	0
Satisfactorily Resolved	2	0	1
Overall Experience	2	0	1
	<u>10</u>	<u>1</u>	<u>3</u>

Grand Total	<u>231</u>	<u>16</u>	<u>4</u>
	92%	6%	2%

Questionnaires Sent Out	127	100%
Questionnaires Returned	62	49%

Customer Service Questionnaire Quarterly Report
Quarter Ending :03/31/23

Customer Comments	Staff Response to Negative Comments	Issues NMWD Should Address In The Future
PRESSURE		
Very professional, well done! My concerns were satisfied.		
LEAK		
Your service is exceptional.		
Travis was very helpful and on time.		
Found a leaky toilet, everything else is fine.		
I called on New Year's Day because my property was flooding. Shawn Kane responded promptly and was very helpful. I am very grateful.		Continue to do good customer service. It is appreciated.
Darrell found the problem immediately.		I've had several previous leak notices which were probably affected by this faucet. I will have it repaired in the spring.
We were notified about water leaks and one of your reps came to our home to give us instructions but the information was not accurate. We went to Ace Hardware to get a second opinion.	Copy of questionnaire given to Jenny to follow up with rep regarding tag.	
I was very impressed with Rich Roberto and his great expertise, excellent communication, and willingness to spend time with me until I understood the situation and how to proceed. He was prompt and did a complete check of my system.		
Thank you for your promptness.		
I am grateful for the prompt response and very pleasant staff.		
On-call staff responded and provided accurate info. Excellent customer service.		
All staff members ranging from those on the phone to actual workers who came to my house were very polite and helpful. I have lived in Novato for 44 years in 3 different homes. Your service has remained excellent.		
I believe we have found the leak with your help. I hope we can get a break on the bill.	Called consumer to discuss our bill adjustment policy.	
I still need a follow up to explain why the system didn't alert me to the leak earlier.		Rich in contact with consumer and Water Smart to figure out what happened.
Rich was very helpful and patient, thank you very much, Thanks again!		
I was in rehab from an accident and wanted the water off until I got home. Robert & Rebecca in the office were outstanding! Rich in the field was outstanding.		There should be two separate outlets from the meter. One to the house and the other to the outside irrigation.
Rich was amazing! He arrived 20 minutes after we discovered the leak. He shut off the water and gave good instructions. He came within 20 minutes of our request to turn water back on. Great guy and great service.		The neighbors and I didn't know we should keep the water meter cover free from dirt or the smart signal wouldn't work.
I assume the leak has stopped, and need to apply for credit.		Gave Jenny customer information to contact in regards to bill adjustment.
Smart meter installed on 1/30/23. Two days later, pipe to house broke. Person who installed meter was quick and responsive to turn off water.		
Excellent & Quick response to my problem.		
Very quick and efficient! Thank you!		
Third party cable company working on my property without my permission broke water line. Chris NMWD provided direct contact to company who did the damage, very helpful.		Please coordinate with City of Novato to make sure all other work approved by them will not affect water supply. We were out of water for 20 hours.
Staff was very helpful over the phone. The associate who came out was very helpful. Thanks for helping us fix the irrigation leak and pin pointing the area.		
Great service, thank you.		
Might want to give a little more notice for turning water off. Men were very nice.		Service Leak identified - transferred to NMWD Construction
Very kind, professional man that came to our house.		
Travis the service tech was as pleasant and helpful as he could be. Your customer service people are some of the best I have encountered. Thank you so much.		
So happy with the service. Came out same day I called and identified source of leak. Friendly and professional.		
Fixed leak.		
Still a lot of water coming from my neighbors property to mine.		Advised to keep an eye on it.
He was very helpful.		
I have not heard back, someone was supposed to check the meter & outside pipes for any leaks. My bill was double & have not increased my usage.	Tag made for follow up service call.	
We were out of town when we received an email alert of continuous water use. We called the emergency number at 10 or 11pm and your on call rep came out and shut off the water meter and called us back in Hawaii to confirm. Excellent service!		
OTHER		
Lady on the phone was great and helpful and the guy came by almost immediately. He was very knowledgeable and helpful. I was very happy.		
Really awful your inspector told us our line is broken. He doesn't know what he is looking for. Our line is not broken. Probably wont even credit our account the \$2.	Per Jenny- A 2nd FSR was sent to confirm the findings. Leak is located in irrigation line. Account has been credited the \$2.	
Thank you, who came out to turn our water on and Travis & Rich who helped me over the phone.		

Russian River Water Forum

Water Advisory Committee, April 3, 2023

- **Overview**
- **Potter Valley Project (PVP)**
- **Russian River Water Forum**
 - Planning Group
 - Russian River Water Supplier Caucus
 - Russian River Water Forum Leadership Council
- **Next Steps**
 - Planning Group Member and Alternates (April 2023)
 - Leadership Council Membership (May 2023)
 - Water Supplier Caucus



Potter Valley Project (PVP)

- On average, 60,000 acre-feet (AF) of water is transferred annually
- Demand has recently exceeded supply, resulting in curtailments
- Loss of PVP water
 - Lake Mendocino water shortages in 8 out of 10 years
 - **Lake Mendocino is predicted to go dry 2 out of 10 years.**
 - **Losses in the tens of millions per year to the Russian River economy**



Russian River Water Forum (RRWF)

- Is there an interest in protecting this important source of water? If yes, then four big questions:
 - What PVP assets would be acquired and how would they be modified?
 - Who would acquire, modify, and operate these assets?
 - How would the acquisition, modification, and operation be funded?
 - How will water rights be impacted?*
- Sonoma Water received funding from the California Department of Water Resources Urban and Multi-benefit Drought Relief Grant Program to support water supply resiliency planning.
- The funding supports the establishment of a Russian River Water Forum.

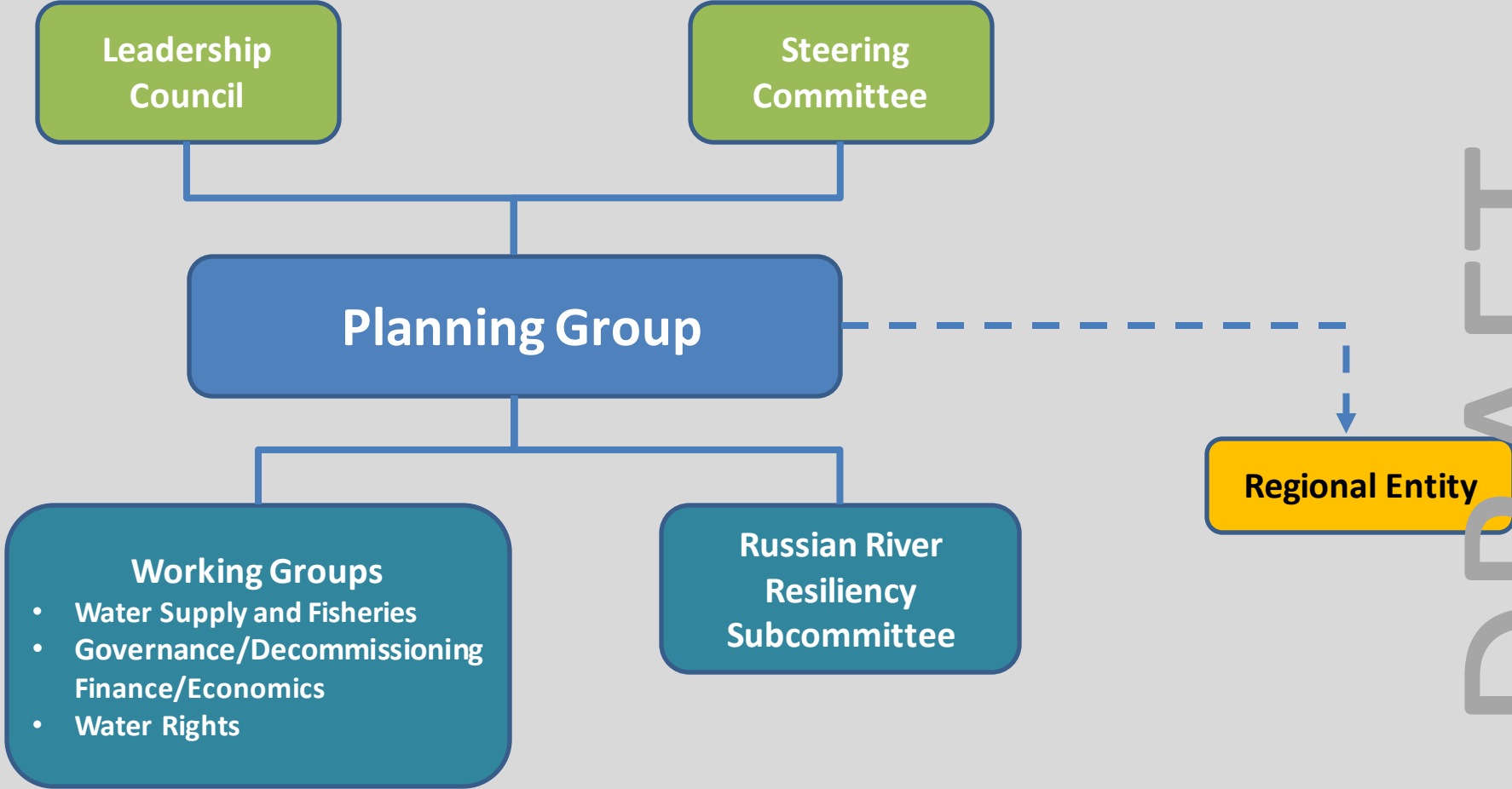


Russian River Water Forum Structure

- Russian River and Eel River basins interests
- Initial focus on PVP decommissioning solutions
- Focus on broader water resiliency issues over time
- Venue for inclusive engagement



Russian River Water Forum Structure



DRAFT

Planning Group (Technical Staff)

Purpose

- Collaborative, solutions-oriented process
- Improve understanding
- Problem-solve
- Seek an agreed-upon local solution
- Identify feasible funding sources
- Advance solution alternatives to the Leadership Council



Planning Group Membership

- Lake, Humboldt, Mendocino and Sonoma county governments
- Tribal governments in Russian River and Eel River basins
- Water suppliers
 - Six from Sonoma County
 - North County (member and alternate)
 - West County (member and alternate)
 - SCWA (member and alternate)
 - Water Contractors (3 members and 3 alternates)
- Environmental NGOs
- Agriculture interests
- Resource Conservation Districts
- Public and private recreation interests
- **Identify Members and Alternates by April 12th**



Sonoma County Water Supplier Caucus

- Limited number of Planning Group seats per category
- Caucus discussions outside Planning Group
- Working team participation
 - Water Supply and Fisheries
 - Finance and Economics
 - Governance and Decommissioning
 - Water Rights



Leadership Council: Elected Officials

- The purpose of the Leadership Council is to consider options and alternatives from the Planning Group.
- Members will share information, build understanding, and strive for consensus.
- Membership will be comprised of Tribal, county (Sonoma, Mendocino, Lake, and Humboldt counties), state, and federal elected officials and staff.
- Members will provide information and recommendations to their respective governments and constituents.
- **Suggested Topic for May 2023 Water Advisory Committee Meeting**

Next Steps

- Planning Group
 - Select Planning Group Members and Alternates
- Leadership Council
 - Further development/WAC Suggestions
- Sonoma County Water Supplier Caucus
 - Collaborating with Sonoma County Agriculture
 - Caucus Advisory Team
- “Hasten slowly” – Jake Mackenzie



Photo by E Salomone

Questions, Discussion, and Thank You



North Marin Aqueduct – Redwood Blvd Landslide Status

Date of Report: 4-7-23

Period Covered: 3-31-23 to 4-7-23

Overall Status: *Aqueduct isolated on either end of landslide area; STP operating with ~4.2 MGD maximum.*

Activities Completed/In-progress:

Flow Tests:

1. Conducted on 4-3-23, approximately 1.5 MG

Assessments (NMWD):

1. Interior Pipe Inspection
 - a. Access manways excavated and prepped for entry
 - b. Isolated segment of pipeline dewatered
 - c. Remoted-operated vehicle with camera deployed on 4-6-23.

Outcome: 65% of pipeline interior inspected via remote camera and no indication of distress to pipe. However, will need to deploy camera at new entry point south of slide and 1-2 days of preparation is needed before camera work continues. In addition, the aqueduct will remain isolated and dewatered in the inspection zone. Camera work scheduled for completion on 4-11-23.

- The goal is to evaluate all available data (including from Caltrans – see below) and determine level of aqueduct operations by 4-14-23.

Assessments (Others):

1. Subsurface Investigations (Caltrans)
 - a. Conducted soil boring in Redwood Blvd at the slide toe and near aqueduct alignment on 4-6-23.
 - b. Installed inclinometer (device that measure slide movement) – 4-6-23
2. Test pits (Caltrans): scheduled for 4-10-23 to determine slide material and native soil interface.

Outcome: There is still slight movement of the slide material. The inclinometer will provide real-time data of continued movement.

Meetings:

1. Weekly coordination meetings with Caltrans and PG&E
2. Ongoing meetings with geotechnical engineers
3. Regulars NMWD staff meetings on Tuesdays and Thursdays
4. 4-6-23: Met with Kyle Ochenduszk, Public Work Director of the City of Benicia

- a. Benicia has a very similar event along Interstate 680 but their 36" raw water aqueduct was damaged.
- b. Shared lessons-learned and status and possible next steps.
- c. Staff will maintain contact as both incidents progress.

Communications:

In light of ongoing assessments and the need to keep the aqueduct dewatered and prepped for the next camera inspection, all water demands will fall on STP. Additional demands, likely caused by irrigation will need to be limited until 4-14-23.

1. Website News Story: periodic updates planned as new information is received. See attached excerpt going on the website today.
2. Social media: - *We need your help, Novato! A section of the North Marin Aqueduct pipeline has been shut off as a precaution due to the landslide near Olompali State Park. We are making great progress towards its safe re-opening. In the meantime, we are asking all customers to keep outdoor irrigation/ sprinkler systems OFF until we complete our assessments next Friday, April 14. Please share this request, and thank you in advance. Visit NMWD.com for more information. See attached.*

Photos:

Pipeline Remoted-operated Camera Inspection





Caltrans drill rig installing inclinometer at toe of slide



Looking north along pipeline alignment



Attachments

- News Story
- Social Media Posts

Customers asked to keep shut irrigation shut off until April 14

(Posted April 7, 2023)

North Marin Water District is requesting that all residents and businesses keep outdoor irrigation and sprinklers shut off until Friday, April 14.

A section of the North Marin Aqueduct pipeline was recently isolated and closed due to the [landslide on Redwood Blvd](#), near Olompali State Park. North Marin Water District is working closely with partners to conduct an exhaustive assessment of the section of pipeline near the landslide to be certain that no damage has occurred.

Currently, Novato area domestic water demands are being met by Stafford Lake Treatment Plant, but as warmer weather approaches the District is concerned that outdoor irrigation will put a strain on the system.

We are therefore asking all customers to keep irrigation and sprinkler systems shut off until the assessment is completed, which is expected to be Friday April 14, 2023. Water quality has not been affected in any way by the temporary pipeline closure.

More information on the landslide near the North Marin Aqueduct [is available here](#).

Landslide Near North Marin Aqueduct

(Updated April 7, 2023)

On March 22, 2023 a significant landslide occurred along Redwood Blvd. near Olompali State Park in the vicinity of the North Marin Aqueduct, a 30-inch pipeline, which conveys water to Marin County from the Sonoma County Water Agency. Although it is not apparent if the slide has impacted the pipe itself, the District has isolated a segment of the aqueduct at this location, out of an abundance of caution, to avoid any public safety issues or water loss that would result from the potential failure of the pipeline. The District is conducting ongoing assessments of the

aqueduct to determine if there is any damage to the pipeline and is engaged in contingency planning for the next steps.

We are currently able to meet all of our current customer domestic water needs by operating our Stafford Lake Treatment Plant.

On April 4, 2023 the North Marin Water District Board declared a Local Emergency to address the Landslide at the North Marin Aqueduct. This authorizes the General Manager to implement water use prohibitions - if needed - to fit the need of the system, and is consistent with the District's Water Shortage Contingency Plan.

On April 7, 2023 the District asked all customers to keep irrigation and sprinkler systems shut off until the assessment is completed, which is expected to be Friday April 14, 2023. ([link to new news story](#))

At this time, there is no evidence of pipeline damage. However, our assessment is ongoing. If it is determined that the pipeline has suffered any damage, more significant water use reduction mandates will be implemented as the warmer season approaches. Please remember to use water as efficiently as possible at this time and avoid all non-essential water use (including outdoor irrigation/watering) and stay tuned for more details as they emerge.

Proposed post for April 7, 2023

**Please keep
irrigation &
sprinkler
systems shut off**
Until Friday, April 14.



NORTH MARIN
WATER DISTRICT



We need your help, Novato! A section of the North Marin Aqueduct pipeline has been shut off as a precaution due to the landslide near Olompali State Park. We are making great progress towards its safe re-opening. In the meantime, we are asking all customers to keep outdoor irrigation/ sprinkler systems OFF until we complete our assessments next Friday, April 14. Please share this request, and thank you in advance. Visit [NMWD.com](https://www.nmwd.com) for more information.



**Please keep
irrigation &
sprinkler
systems shut off**

Until Friday, April 14.



NORTH MARIN
WATER DISTRICT



**Please keep irrigation &
sprinkler systems shut off**

Until Friday, April 14.



NORTH MARIN
WATER DISTRICT









North Marin Aqueduct – Redwood Blvd Landslide Status

Date of Report: 4-13-23

Period Covered: 4-8-23 to 4-13-23

Overall Status: Aqueduct in operation for ~8 hours/day; STP operating with ~3.6 to 4.2 MGD maximum.

Activities Completed/In-progress:

Assessments (NMWD):

- a. Interior Pipe Inspection: Completed 4-6-23.
- b. Landslide/pipeline survey: completed 4-7-23

Outcome: 65% of pipeline interior inspected via remote camera, including through slide toe, and no indication of distress to pipe. Unable to deploy camera at new entry point south of slide and inspect remaining portion. Based on aerial survey and pipeline alignment survey, impact to remaining pipeline likely low.

Assessments (Others):

1. Subsurface Investigations (Caltrans)
 - a. Inclinometer (device that measure slide movement) that was installed on 4-6-23 shows landslide still moving several inches.
2. Test pits (Caltrans): to determine slide material and native soil interface
 - a. #1 completed on 4-10-23.
 - b. #2 cancelled but Caltrans will allow NMWD to conduct this excavation.

Outcome: There is still movement of the slide material. The first test pit indicates the slide mass is just above the top of pipeline. NMWD planning a second test pit for next week to confirm.

Meetings:

1. Weekly coordination meetings with Caltrans and PG&E.
2. Ongoing meetings with Caltrans and PG&E geotechnical engineers.
3. Regular NMWD response staff meetings on Tuesdays and Thursdays.

Water Demand Analysis

Using two limited NMA operational scenarios (10,000 gpm flow) and historical water demands, an analysis was completed to demonstrate adequate supply is available through June. Without increased NMA flows beginning in July and extending through mid-August, demand reduction measures or increased NMA flows may be needed as shown in the table below.

NMWD 6-month Water Supply Contingency

Demands		Supply Options (MGD)				Response	
Time Period	Historical Demand (MGD)	STP Production	NMWD SUPPLY Deficit w/o NMA	NMA Surplus/ (Deficit) @ 4.8 MGD	NMA Surplus/ (Deficit) @ 7.2 MGD	Emergency Demand Reduction Measures or Operational Changes	
6-month period	1-Apr-23	7.3	4.3	(3.0)	1.8	4.2	sprinkler system restriction (4-7 to 4-14)
	15-Apr-23	8.4	3.6	(4.8)	0.0	2.4	Isolation valves staffed
	1-May-23	7.9	3.6	(4.3)	0.5	2.9	Isolation valves staffed
	15-May-23	7.4	3.6	(3.8)	1.0	3.4	Isolation valves staffed
	1-Jun-23	8.7	3.6	(5.1)	(0.3)	2.1	Isolation valves staffed
	15-Jun-23	9.2	3.6	(5.6)	(0.8)	1.6	Isolation valves staffed
	1-Jul-23	12.1	3.6	(8.5)	(3.7)	(1.3)	<i>initiate measures or increase NMA flow</i>
	15-Jul-23	11.6	3.6	(8.0)	(3.2)	(0.8)	<i>initiate measures or increase NMA flow</i>
	1-Aug-23	12.4	3.6	(8.8)	(4.0)	(1.6)	<i>initiate measures or increase NMA flow</i>
	15-Aug-23	11.8	3.6	(8.2)	(3.4)	(1.0)	<i>initiate measures or increase NMA flow</i>
	1-Sep-23	9.7	3.6	(6.1)	(1.3)	1.1	TBD
	15-Sep-23	9.1	3.6	(5.5)	(0.7)	1.7	TBD
	1-Oct-23	8.5	3.6	(4.9)	(0.1)	2.3	TBD
	15-Oct-23	7.9	3.6	(4.3)	0.5	2.9	TBD
End of production	1-Nov-23	6.8	3.6	(3.2)	1.6	4.0	TBD
	15-Nov-23	5.3	3.6	(1.7)	3.1	5.5	TBD

NOTES:

Historical demand based on average of FY18/19 to 20/21 production
 STP production baseline at 3.6 MGD to allow flexibility

Communications:

In light of completed assessments to date and the ability to operate the aqueduct for 8 hours per day (up to 12 hours if needed), current water demands are met at least until July 1, 2023.

1. Website News Story: updated posted this morning
 - a. See website: <https://nmwd.com/landslide-near-north-marin-aqueduct/>
2. Social media: - Updated: *Thank you to our Novato customers, who responded to our call to temporarily avoid using irrigation or sprinklers in the wake of the recent landslide emergency. Testing and assessments appear to show that the landslide along Redwood Blvd. has not impacted our North Marin Aqueduct. We expect to resume partial operation of the aqueduct to accommodate demands. Customer water use can resume as normal on Friday, April 14th. In the event that we need to extend the prohibition on irrigation and sprinkler use beyond that date, we will post a news story to that effect. Visit <link to news story> to read the full update.*

Photos:

Landslide/Pipeline Survey Analysis (courtesy of MMWD)



Test Pit #1 (upslope side of the NMA alignment)



Attachments

- None

BAY AREA

Heavy winter rain could end toxic algae problem

Made worse by drought, blooms have shut lakes



A sign warning visitors of the possibility of harmful algae stands by Nicasio Reservoir in Nicasio.
PHOTOS BY ALAN DEP — MARIN INDEPENDENT JOURNAL



Algae grows along the shore of Nicasio Reservoir.

BY WILLIAM MCCARTHY

BAY AREA NEWS GROUP

In recent years, thick layers of algae have closed popular local swimming spots and killed thousands of fish in San Francisco Bay.

Algae blooms have become state and nationwide problems. In the Bay Area, water managers were beginning to wonder if the extreme drought conditions of recent years had pushed the problem into a dangerous new phase in local waters.

But the steady and sometimes torrential rainfall this winter means that the bay's waterways could avoid a repeat of last year's out-of-control toxic blooms.

"Given all the rain and runoff, we're hopeful we can get through the spring and summer without a massive, harmful bloom," said Eileen White, an executive officer for the San Francisco Bay Regional Water Quality Control Board. "But we're kind of in uncharted territory."

Although algae is always present in some quantity in lakes and the bay, higher temperatures, stagnant water and excessive nutrient levels can cause the algae to multiply.

If the particular species has toxins in it, such as cyanobacteria — commonly known as blue-green algae — or the *Heterosigma akashiwo* species that bloomed in the bay last summer, the water can become unsafe for humans and animals.

Marin has experienced algae and cyanobacteria blooms during the recent drought, though the county largely avoided impacts from the bloom in the bay.

Greg Pirie, deputy director of Marin County environmental health services, said his division has received no reports of algae blooms this spring.

"I am hopeful the increased rainfall will assist with less stagnant water and lower water temperatures, decreasing the amount of harmful blooms in Marin County," Pirie said in an email.

Still, water quality managers recognize that weather is only a temporary solution. Next year could be another wet winter, or the start of a 10-year drought.

And the rain won't address the region's long-term problem: too many nutrients in the water. For freshwater lakes such as Lake Anza and Lake Temescal, problems with high water temperatures and nutrients are exacerbated by sediment build-up. When Lake Temescal opened to the public in the 1930s, it was 80 feet deep. Now its deepest point is only 16 feet below the surface.

“There is something like 60 feet of sediment in there,” said Becky Tuden, an ecological services manager at East Bay Regional Parks. “And with sediment comes nutrients.”

Stafford Lake near Novato has had a long history of cyanobacteria, including some “big issues in the last few years, said North Marin Water District water quality supervisor Pablo Ramudo.

The reservoir was built near former dairies, which caused nutrients to flush into the lake and settle into the lake sediments. This combined with lower water levels, rising water temperatures during the past few decades and a lack of significant rainfall to flush out the water can create ripe conditions for an algae bloom.

“Generally, the years we don’t get a lot of rain algal productivity goes up,” Ramudo said, “and the years when we do get a lot of rain we get a good flush of water through the lake and that is able to wash out some of the nutrients and lower productivity in the next year.”

The significant rainfall this winter should help to reduce the chances of a major bloom, Ramudo said. While the algae aren’t harmful, they do produce compounds that can affect the taste and odor of water, Ramudo said. The water district, which manages the lake, installed carbon filters in the early 2000s at its treatment plant to remove these unsavory compounds.

The Marin Municipal Water District did not experience any major algal blooms in its seven reservoirs during the drought, according to district Water Resources Director Paul Sellier.

The Nicasio Reservoir water levels significantly dropped amid the drought, prompting concern about potential large blooms. Sellier said strong winds in the valley ended up helping by stirring up some of the sediment, which assisted in blocking the sunlight.

“When the rains came it was so low that the lake was quite turbid for a while, almost all of last year,” Sellier said. “So we didn’t see hardly any algae issues I think because of that.”

The district has received a significant amount of rainfall in the past three months, causing its reservoirs to spill on several occasions.

“Algae blooms typically don’t start happening until later in the year,” Sellier said. “We’ll be on high alert monitoring the reservoirs.”

In the bay, stormy weather stirs up sediment that makes it harder for algae to photosynthesize. According to the state's harmful algal bloom report map, there are currently no incidents in the region.

In lakes, however, it's possible rain may make the situation worse. Although the lakes have filled with colder water, more sediment also has been deposited throughout the winter. Dredging the lake would cost upwards of \$20 million.

Instead, state and regional partners have worked to identify mitigation measures, and they've targeted nutrient levels as a primary area in which they can have an impact.

For both Lake Temescal and the San Francisco Bay, releases from wastewater treatment plants are often the primary reason for the higher levels of nutrients. According to both Tuden and White, managing those releases will be a priority moving forward.

"What we learned last summer is that we've reached a tipping point," White said. "I can't control the sun, can't control the temperature of the water, can't control the wind or the amount of runoff. But the one thing we could control is the nutrient loads in the bay."

Independent Journal reporter Will Houston contributed to this report.

Eco-Friendly Garden Tour

Saturday, May 13, 2023

This free annual, self-guided garden tour promotes sustainable landscaping practices by showcasing native gardens throughout Sonoma and Marin counties.

Registration required
SavingWaterPartnership.org



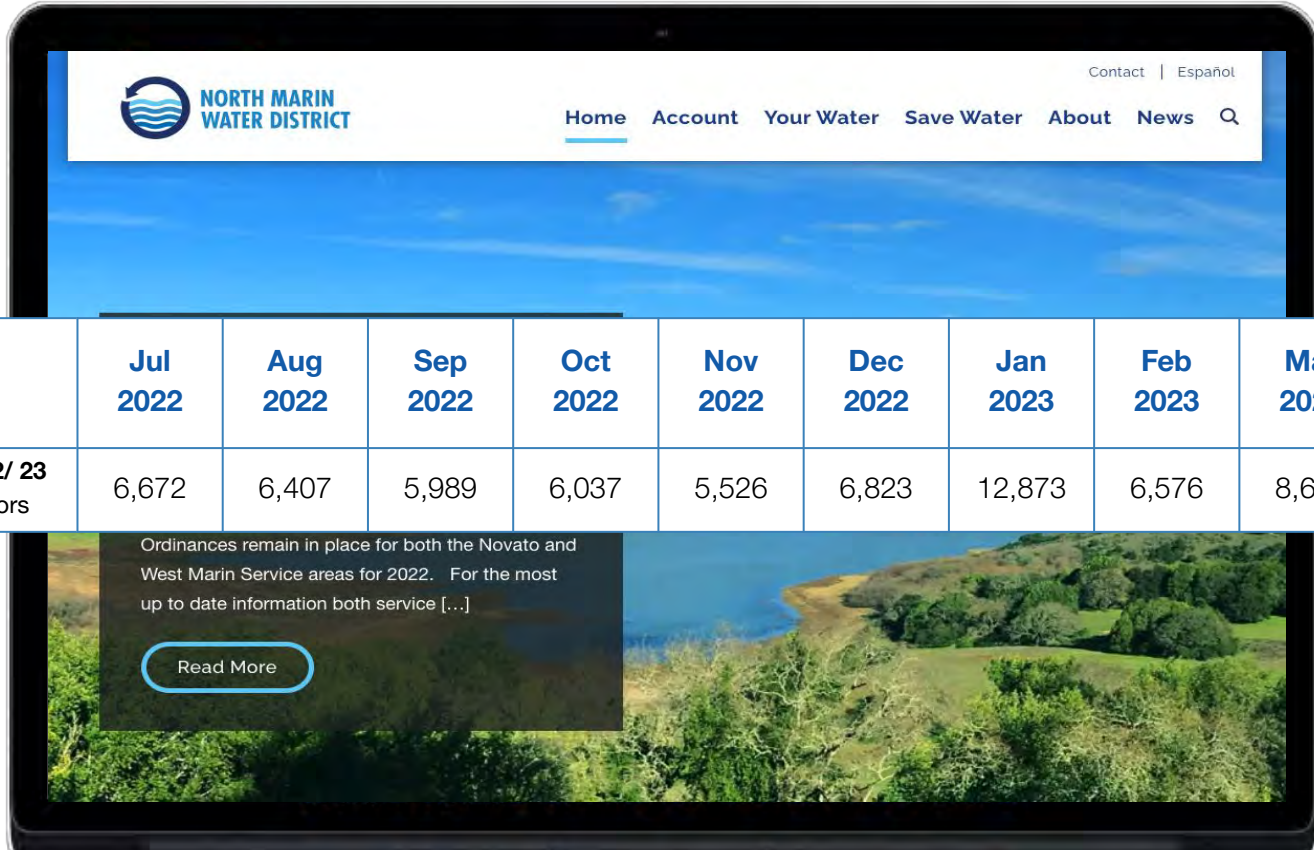


**NORTH MARIN
WATER DISTRICT**




Web & Social Media Report

March 2023

Website Statistics



Social Media Followers

	Jul-2022	Aug-2022	Sep-2022	Oct-2022	Nov-2022	Dec-2022	Jan-2023	Feb-2023	Mar-2023
 Facebook Followers	1,838	1,904	1,964	2,005	2,042	2,095	2,172	2,202	2,243
 Twitter Followers	77	77	75	74	71	76	110	112	113
 Instagram Followers	679	689	693	709	722	735	748	759	774



NMWD Most Visited Pages

Pages	Unique Pageviews	% of Total
Home	4,718	32.29%
Weather & Production Statistics	2,357	16.44%
Online Billing	1,982	14.53%
My Water Usage	770	5.70%
What Is An Acre Foot?	261	1.55%
Novato Water	219	1.44%
Contact	213	1.41%
Meetings 2023	207	1.35%
Landslide Near North Marin Aqueduct	200	1.34%





March Social Media Highlights | Facebook



115 people reached | 2 engagements



475 people reached | 65 engagements

Engagements include likes, reactions, clicks and comments






March Social Media Highlights | Facebook

North Marin Water District
Published by Hootsuite · 4 March ·

North Marin Water District Board meetings have returned to in-person! Customers are welcome and encouraged to attend next Tuesday. See the agenda here: nmwd.com/meetings

Board of Directors Meeting

Tuesday,
March 7th
6:00pm



NORTH MARIN WATER DISTRICT

214 people reached | 5 engagements

North Marin Water District
Published by Hootsuite · 8 March at 00:00 ·

A new washing machine can be a great way to save water! New, high efficiency, clothes washers use far less water than older models. Check here for available rebates in your service area: <https://www.savingwaterpartnership.org/pro.../washer-rebate/>
#rebates #savewater



Upgrade Your Fixtures to **SAVE WATER**



NORTH MARIN WATER DISTRICT



192 people reached | 5 engagements

Engagements include likes, reactions, clicks and comments





March Social Media Highlights | Facebook



411 people reached | 51 engagements



115 people reached | 7 engagements

Engagements include likes, reactions, clicks and comments





March Social Media Highlights | Facebook

North Marin Water District
Published by Hootsuite · 14 March at 23:00 · 🌐

New technology means a high efficiency showerhead can reduce water use by 20%. That new technology also means strong performance. Upgrade your shower head, choose a WaterSense labeled fixture, and save water every time you shower! Visit NMWD.com for available water-saving rebates and devices. #savewater #upgrades #bathroom



look for
WaterSense
EPA Choice


Upgrade Your Fixtures to SAVE WATER



179 people reached | 2 engagements

North Marin Water District
Published by Hootsuite · 15 March at 17:01 · 🌐

A leaky toilet wastes water and money, but we've got a solution! Take the #DyeTabChallenge – not only will you find out if you are flushing money down the drain, but you'll also be entered to win a \$25 gift card if you share your results with us by March 31. To obtain free dye tabs, share your results, and view rules, visit savingwaterpartnership.org/challenge.




Test your toilet

See if you have a leak.

Enter your results for a chance to win \$25.

TOILET TANK LEAK DETECTING TABLETS
1. Drop tablet in tank, stir slightly.
2. Wait 15 minutes. If color appears in bowl, you have a leak.
3. Please make repairs.
NON-TOXIC. HARMLESS IF SWALLOWED.
NEW RESOURCE GROUP | WWW.NWOGAS.COM

Request free dye tabs and share your results at
SavingWaterPartnership.org/challenge



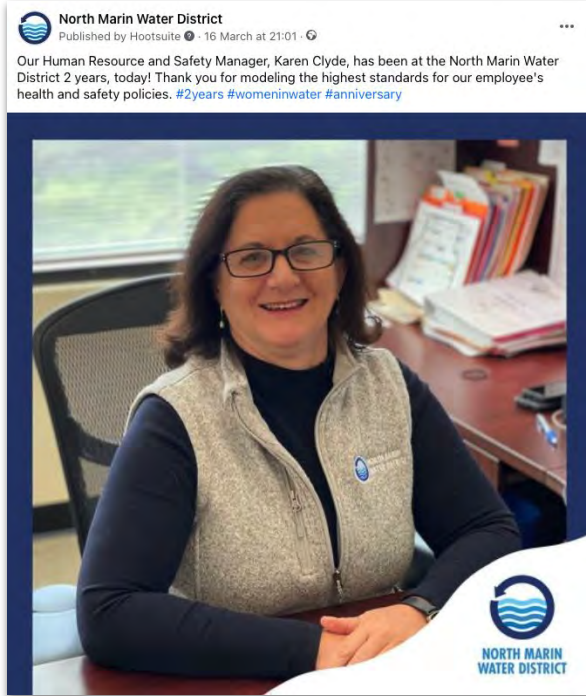
85 people reached | 5 engagements

Engagements include likes, reactions, clicks and comments





March Social Media Highlights | Facebook



366 people reached | 38 engagements



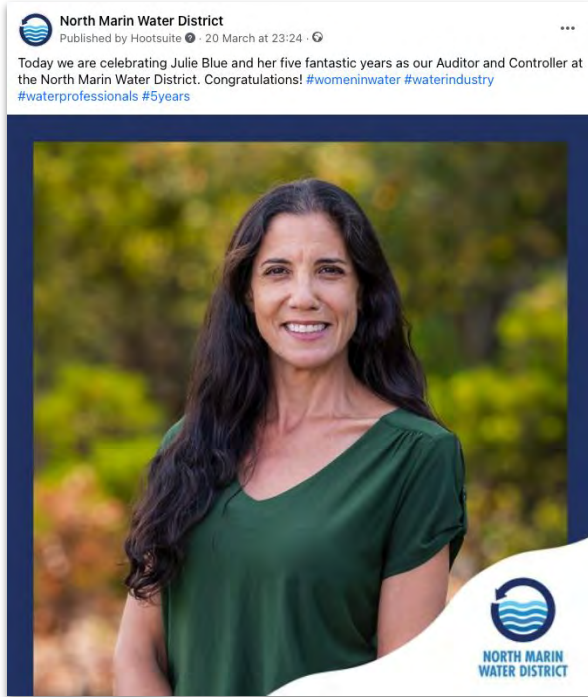
194 people reached | 2 engagements

Engagements include likes, reactions, clicks and comments

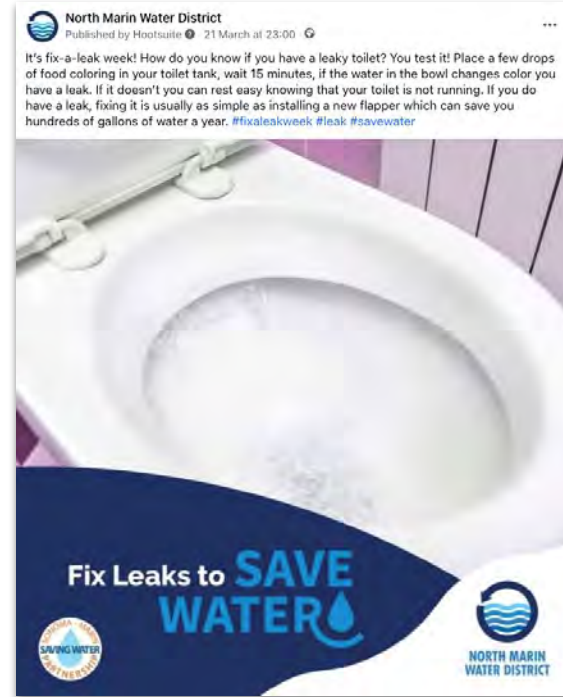




March Social Media Highlights | Facebook



419 people reached | 30 engagements



180 people reached | 7 engagements

Engagements include likes, reactions, clicks and comments

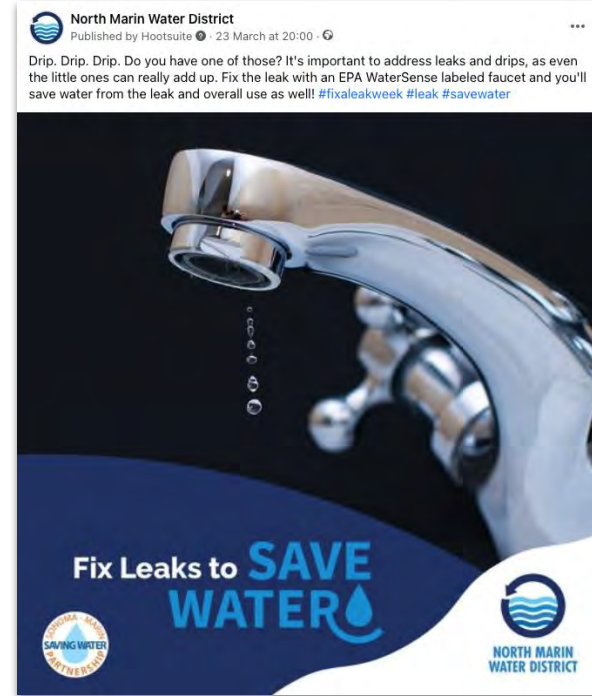




March Social Media Highlights | Facebook



106 people reached | 3 engagements



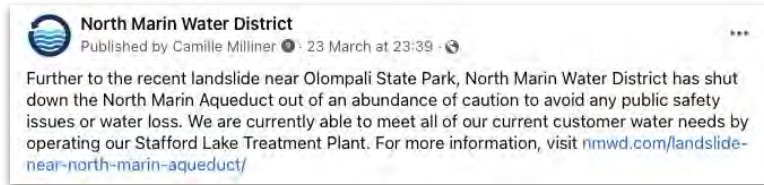
146 people reached | 3 engagements

Engagements include likes, reactions, clicks and comments





March Social Media Highlights | Facebook



186 people reached | 23 engagements



108 people reached | 3 engagements

Engagements include likes, reactions, clicks and comments





March Social Media Highlights | Facebook

North Marin Water District
Published by Hootsuite · 3 d · 🌐

Tomorrow is the last day to participate in the [#DyeTabChallenge](#)! While a minor toilet tank leak might not seem like a huge deal – the water and money being flushed down the drain can really add up. The first step is checking if you even have a leak. Those participating in the challenge will be entered to win a \$25 gift card! Already completed the challenge? Help others become leak detectives too by sharing this post. Visit savingwaterpartnership.org/challenge for more information.

TOILET TANK LEAK DETECTING TABLETS
1. Drop tablet in tank, stir slightly.
2. Wait 15 minutes. If color appears in bowl, you have a leak.
3. Please make repairs.
NON-TOXIC. AVAILABLE AT [www.nmwd.com](#)

Test your toilet
See if you have a leak.
Enter your results for a chance to win \$25.

Request free dye tabs and share your results at SavingWaterPartnership.org/challenge

NORTH MARIN WATER DISTRICT

64 people reached | 2 engagements

Engagements include likes, reactions, clicks and comments

North Marin Water District
Published by Camille Milliner · 2 d · 🌐

North Marin Water District is continuing to oversee the recent events from the landslide near Olompali State Park. As a precautionary measure, we are continuing to keep the North Marin Aqueduct shut off. We are still able to meet all of our current customer water needs by operating our Stafford Lake Treatment Plant, and water quality is not affected.

As a reminder, please remember to use water as efficiently as possible at this time and avoid all non-essential water use (including outdoor irrigation/watering). For more information, visit <https://nmwd.com/landslide-near-north-marin-aqueduct/>

75 people reached | 3 engagements





March Social Media Highlights | Facebook



64 people reached | 2 engagements

Engagements include likes, reactions, clicks and comments





March Social Media Highlights | Twitter

 **North Marin Water District** @NorthMarinWater · Mar 1 ...

With higher efficiency standards, new Energy Star dishwashers use 3.5 gallons of water or less per load. When you upgrade to a high efficiency dishwasher and only run full loads of dishes, your water savings (and energy savings) will really add up! [#upgrade](#) [#savewater](#) [#dishwater](#)



Upgrade Your Fixtures to **SAVE WATER**

 NORTH MARIN WATER DISTRICT

 **North Marin Water District** @NorthMarinWater · Mar 3 ...

It's [#nationalemLOYEEappreciationday](#)! We are so thankful for our employees and appreciate everything you do for the North Marin Water District. [#thankyou](#) [#employees](#) 🙌



 NORTH MARIN WATER DISTRICT

 NORTH MARIN WATER DISTRICT





March Social Media Highlights | Twitter

 **North Marin Water District** @NorthMarinWater · Mar 4

North Marin Water District Board meetings have returned to in-person! Customers are welcome and encouraged to attend next Tuesday. See the agenda here: nmwd.com/meetings

Board of Directors Meeting

Tuesday, March 7th
6:00pm


NORTH MARIN WATER DISTRICT

 **North Marin Water District** @NorthMarinWater · Mar 8

A new washing machine can be a great way to save water! New, high efficiency, clothes washers use far less water than older models. Check here for available rebates in your service area: [savingwaterpartnership.org/programs_list/...](https://savingwaterpartnership.org/programs_list/) [#rebates](#) [#savewater](#)




Upgrade Your Fixtures to
SAVE WATER


NORTH MARIN WATER DISTRICT





March Social Media Highlights | Twitter

 **North Marin Water District** @NorthMarinWater · Mar 8 ...

Today is International Women's Day! Thank you to all the women who continue to bring hard work and dedication to the North Marin Water District team. [#womeninwater](#) [#internationalwomensday](#)



 **North Marin Water District** @NorthMarinWater · Mar 10 ...

The water quality report is a great way to learn more about the continual water quality monitoring we perform yearly and details about where your water comes from, what it contains and how it compares to regulatory standards. Learn more by visiting nmwd.com/your-water/wat.. [#water](#)





March Social Media Highlights | Twitter

 **North Marin Water District** @NorthMarinWater · Mar 14

New technology means a high efficiency showerhead can reduce water use by 20% and have a strong performance. Choose a WaterSense labeled fixture when upgrading, and save water! Visit NMWD.com for available water-saving rebates and devices. #savewater #upgrades



look for  

Upgrade Your Fixtures to **SAVE WATER**

 NORTH MARIN WATER DISTRICT

 **North Marin Water District** @NorthMarinWater · Mar 15

Take the [#DyeTabChallenge](https://twitter.com/hashtag/DyeTabChallenge) – not only will you find out if you are flushing money down the drain, but you'll be entered to win a \$25 gift card if you share your results by March 31. To obtain free dye tabs, share your results, and view rules, visit savingwaterpartnership.org/challenge.



Test your toilet

See if you have a leak.

Enter your results for a chance to win \$25.

Request free dye tabs and share your results at SavingWaterPartnership.org/challenge

 NORTH MARIN WATER DISTRICT





March Social Media Highlights | Twitter

 **North Marin Water District** @NorthMarinWater · Mar 16 ...

Our Human Resource and Safety Manager, Karen Clyde, has been at the North Marin Water District 2 years, today! Thank you for modeling the highest standards for our employee's health and safety policies. #2years #womeninwater #anniversary



 NORTH MARIN WATER DISTRICT

 **North Marin Water District** @NorthMarinWater · Mar 18 ...

Customers are welcome and encouraged to attend North Marin Water District's board meeting next Tuesday. See the agenda here: nmwd.com/meetings



Board of Directors Meeting
Tuesday, March 21st
6:00pm

 NORTH MARIN WATER DISTRICT





March Social Media Highlights | Twitter

 **North Marin Water District** @NorthMarinWater · Mar 20 ...

Today we are celebrating Julie Blue and her five fantastic years as our Auditor and Controller at the North Marin Water District. Congratulations!
[#womeninwater](#) [#waterindustry](#) [#waterprofessionals](#) [#5years](#)



 NORTH MARIN WATER DISTRICT

 **North Marin Water District** @NorthMarinWater · Mar 21 ...

It's fix-a-leak week! How do you know if you have a leaky toilet? You test it! If you have a leak, fixing it is usually as simple as installing a new flapper, saving you hundreds of gallons of water a year. [#fixaleakweek](#) [#leak](#) [#savewater](#)



 **Fix Leaks to SAVE WATER** 

 NORTH MARIN WATER DISTRICT





March Social Media Highlights | Twitter

 **North Marin Water District** @NorthMarinWater · Mar 22

Today is [#WorldWaterDay](#). Did you know there are over 2 billion people who don't have access to clean drinking water around the world? Take action today to save water in your household or business. Visit [nmwd.com](#) for ideas. [#everydropcounts](#) [#raisingawareness](#)



 **North Marin Water District** @NorthMarinWater · Mar 23

Drip. Drip. Drip. Do you have one of those? It's important to address leaks and drips, as even the little ones can really add up. Fix the leak with an EPA WaterSense labeled faucet and you'll save water from the leak and overall use as well! [#fixaleakweek](#) [#leak](#) [#savewater](#)





March Social Media Highlights | Twitter

 **North Marin Water District** @NorthMarinWater · Mar 23

Visit [nmwd.com/landslide-near...](https://nmwd.com/landslide-near-olompali-state-park) for recent news on the North Marin Aqueduct and the landslide near Olompali State Park.

 nmwd.com
Landslide Near North Marin Aqueduct - North Ma...
(Updated March 28, 2023) On March 22, 2023 a landslide occurred along Redwood Blvd. near ...

 **North Marin Water District** @NorthMarinWater · Mar 24

If a leaky faucet drips once every 10 seconds you can lose about 3/4 of a gallon of water down the drain every day! Fix that leak to save water.
[#fixaleakweek](#) [#leak](#) [#savewater](#)



The graphic features a close-up of a silver faucet with a single drop of water falling. On the left, a dark blue curved banner contains the text 'Fix Leaks to SAVE WATER' in white and blue. A small circular logo with 'SAVING WATER' and a water drop icon is in the top left of the banner. The North Marin Water District logo is in the bottom right corner of the graphic.





March Social Media Highlights | Twitter

 **North Marin Water District** @NorthMarinWater · Mar 30

Tomorrow is the last day to participate in the [#DyeTabChallenge](#) – not only will you find out if you are flushing money down the drain, but you'll be entered to win a \$25 gift card. To obtain free dye tabs, share your results, and view rules, visit savingwaterpartnership.org/challenge.



Test your toilet


See if you have a leak.

Enter your results for a chance to win \$25.


Request free dye tabs and share your results at
SavingWaterPartnership.org/challenge



NORTH MARIN WATER DISTRICT

 **North Marin Water District** @NorthMarinWater · Mar 31

Regarding the landslide near Olompali State Park, we are asking customers to please remember to use water as efficiently as possible and avoid all non-essential water use (including outdoor irrigation/watering). For more information, visit

 nmwd.com

Landslide Near North Marin Aqueduct - North Ma...
(Updated March 28, 2023) On March 22, 2023 a landslide occurred along Redwood Blvd. near ...





March Social Media Highlights | Twitter

 **North Marin Water District** @NorthMarinWater · Mar 31 ...

Customers are welcome and encouraged to attend North Marin Water District's board meeting next Tuesday. See the agenda here: nmwd.com/meetings

Board of Directors Meeting

Tuesday, April 4th
4:00pm


NORTH MARIN WATER DISTRICT

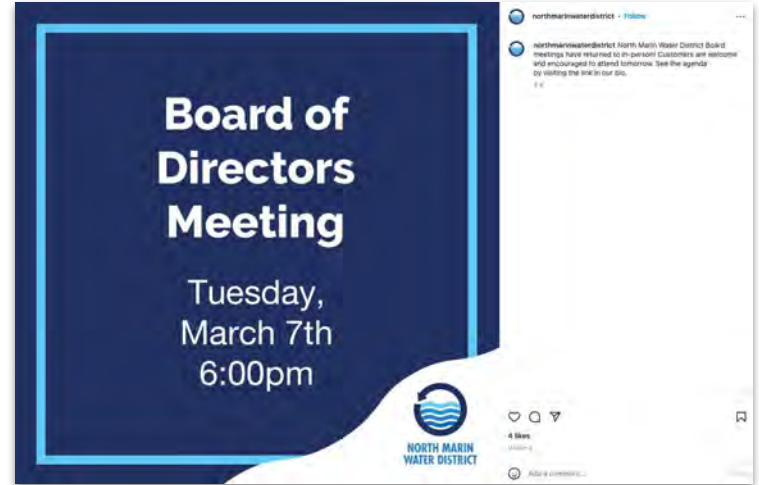




March Social Media Highlights | Instagram



2 likes



4 likes





March Social Media Highlights | Instagram



5 likes



20 likes

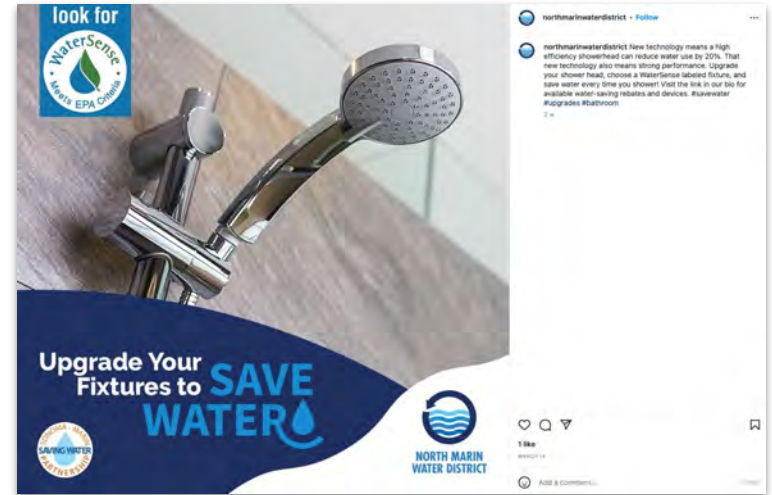




March Social Media Highlights | Instagram



9 likes



1 like





March Social Media Highlights | Instagram

TOILET TANK LEAK DETECTING TABLETS
1. Drop tablet in tank, stir slightly.
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3. Please make repairs.
NORTH MARIN WATER DISTRICT

Test your toilet

See if you have a leak.

Enter your results for a chance to win \$25.

Request free dye tabs and share your results at SavingWaterPartnership.org/challenge

NORTH MARIN WATER DISTRICT

northmarinwaterdistrict • Follow

northmarinwaterdistrict A leaky toilet wastes water and money, but we've got a solution! Take the #leakchallenge - not only will you find out if you are flushing money down the drain, but you'll also be entered to win a \$25 gift card if you share your results with us by March 31. To obtain free dye tabs, share your results, and view rules, visit SavingWaterPartnership.org/challenge.

3 likes

3 likes

NORTH MARIN WATER DISTRICT

northmarinwaterdistrict • Follow

northmarinwaterdistrict Our Human Resource and Safety Manager, Karen Clyde, has been at the North Marin Water District 2 years, today Thank you for modeling the highest standards for our employer's health and safety policies. #2Years #womenwater #anniversary

Liked by kiosklaire and 7 others

March 18

Add a comment...

7 likes





March Social Media Highlights | Instagram



2 likes



17 likes

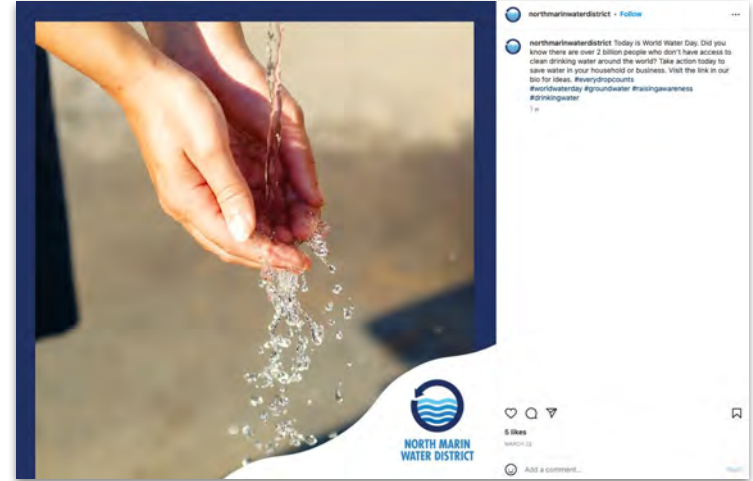




March Social Media Highlights | Instagram



2 likes



5 likes





March Social Media Highlights | Instagram



4 likes



5 likes





March Social Media Highlights | Instagram

TOILET TANK LEAK DETECTING TABLETS
1. Drop tablet in tank, stir slightly.
2. Wait 15 minutes. If color appears in bowl, you have a leak.
3. Please make repairs.
NONTXDC, HANALIZED IF SWALLOWED
NEW RESOURCES GROUP | WWW.NRGCEAS.COM

Test your toilet

See if you have a leak.
Enter your results for a chance to win \$25.

Request free dye tabs and share your results at
SavingWaterPartnership.org/challenge

northmarinwaterdistrict · Follow

northmarinwaterdistrict Tomorrow is the last day to participate in the #DyeTabChallenge! While a minor toilet tank leak might not seem like a huge deal – the water and money being flushed down the drain can really add up. The first step is checking if you even have a leak. Those participating in the challenge will be entered to win a \$25 gift card! Already completed the challenge? Help others become leak detectives too by sharing this post. Visit savingwaterpartnership.org/challenge for more information.

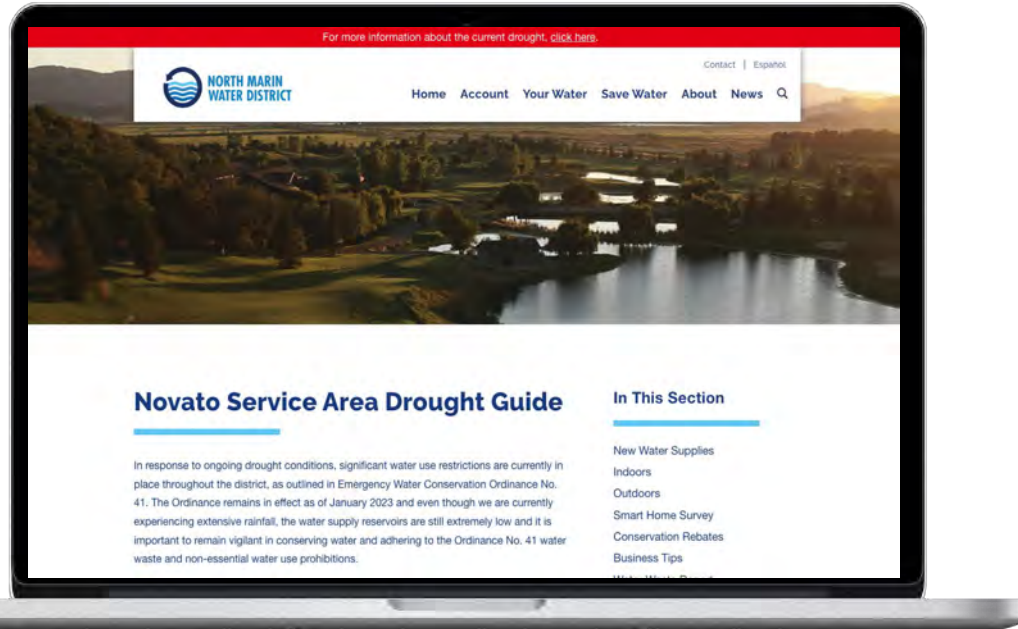
4 likes
1 comment

Add a comment...

4 likes

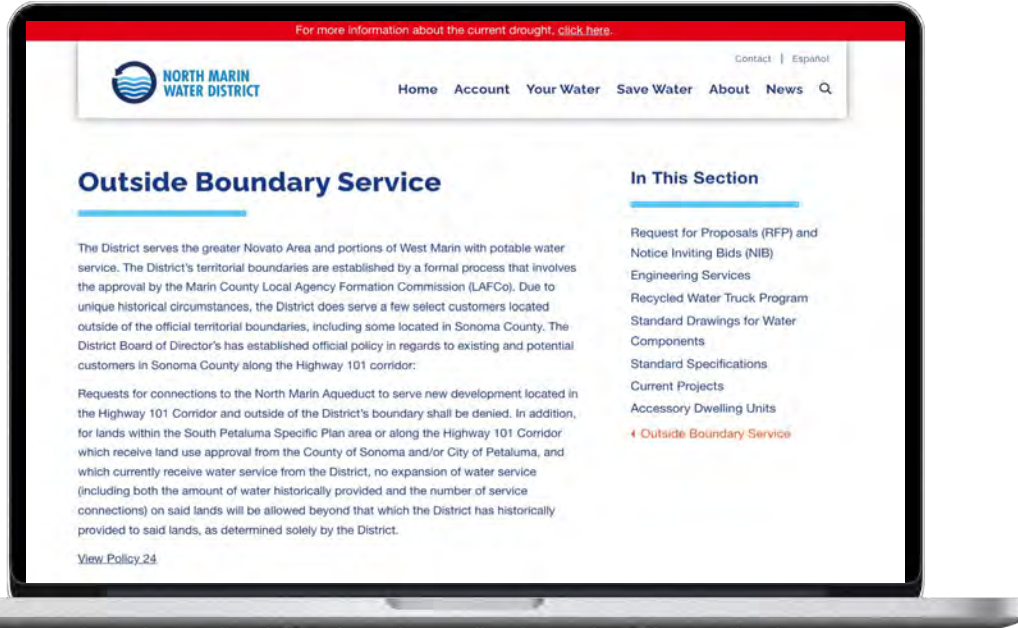


Website - March Updates



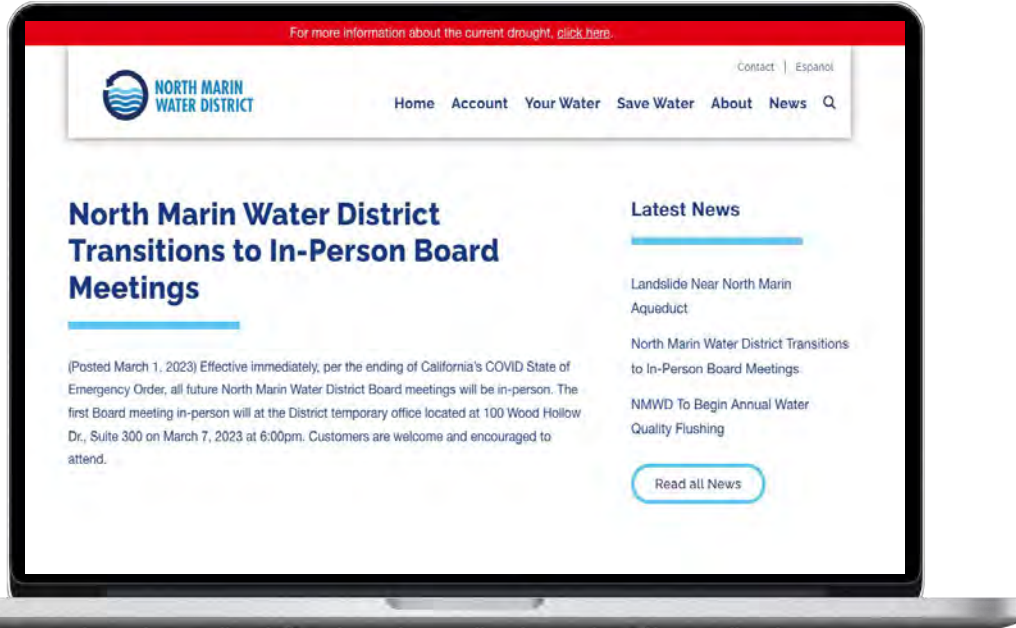
Kiosk made updates to the [Novato Drought Guide](#).

Website - March Updates



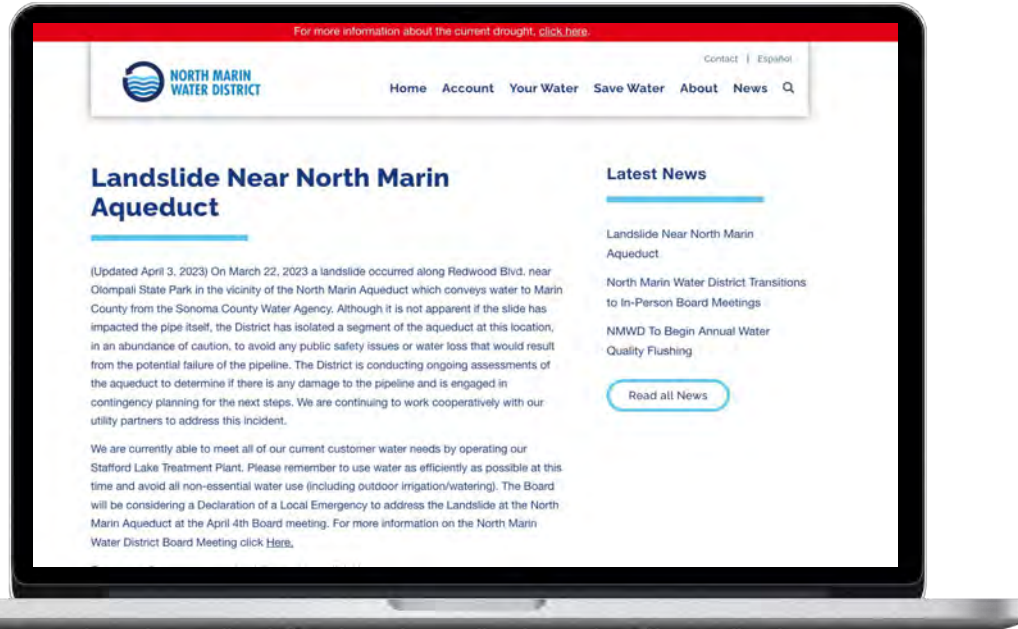
Kiosk created a new page called [Outside Boundary Service](#).

March News Stories



News Story on [North Marin Water District Transitions to In-Person Board Meetings](#).

March News Stories



News Story for the [Landslide Near North Marin Aqueduct](#).

Annual Report Completed



DeLaguer staff feed using the DeLaguer and 42 healthy water was provided to areas that structure at 1000 galling the trough.

Maintenance Group
The Maintenance Group employs seven technicians: Electrical/Mechanical (E/M), Building/Grounds, Floor, Distribution Cross Connection Control and a Technical Program Administrator - who are responsible for all maintenance tasks throughout the Novato, West Marin and Occoira Marin service areas.

The Group works closely with the Engineering and Construction Departments on new projects for electrical and mechanical installations, and with Operations to ensure proper operation of Treatment and Distribution facilities for continuous service to our customers. Throughout the service area the E/M team maintains the Supervisory Control and Data Acquisition (SCADA), Advanced Meter Infrastructure (AMI) and computer network communication systems.

In Novato, facilities include the Stafford Lake Water Treatment Plant, Deer Island Recycled Water Treatment Facility, pump stations, tanks, pressure regulators and cross connection devices, while also maintaining the Office and Corporation yard facilities. In West Marin, the Maintenance Group maintains the Lagunitas Creek wells, Puzo Reyes treatment plant, tanks and pump stations. Additionally, the group maintains the collection and wastewater treatment systems at Occoira Marin.



Novato treatment recycled water to water.



Stafford Treatment Plant High-Density Pump Station capital Project in West Marin.

Water Quality Group
The Water Quality Group is a team of five chemists and lab technicians who provide oversight to all aspects of North Marin Water District's operations ensuring that water quality is protected using a multi-barrier approach.

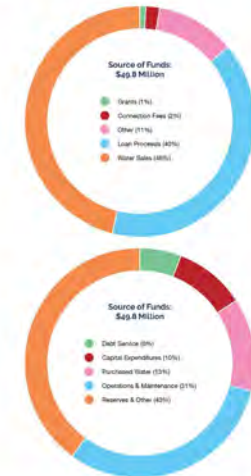
The primary goal of the District is for water at the tap to be safe and taste good. The objectives for meeting this goal, collaboratively established by District's Board of Directors and staff, are to meet or exceed all regulatory standards, work to control prevent all adverse tastes and odors, and work in appropriate agencies to protect public health.

Surveillance and monitoring is performed at multiple points from source to tap. During FY 21-22, the District's Laboratory performed over 13,000 water quality tests as required by state and federal drinking water regulations and to support the work order by other District departments. Annually, a water quality report is sent to all District customers in both Novato and West Marin. In addition, Water Quality staff respond to customer calls with specific information on water quality.

The District's Water Quality laboratory is certified by the California Environmental Laboratory Accreditation Program to perform analyses for both regulated and unregulated contaminants. The laboratory provides testing services to other District departments for quality control of the water supply as well as testing in response to customer concerns. The laboratory also provides the Novato Sanitary District with sample collection, analysis and reporting.

Fluoride tests are performed on the Sacramento and Occoira conditions of the local water in Stafford Lake and the Puzo Reyes wells. High fluoride levels can increase algal growth, which result in taste and odor concerns. Tests are also conducted on the water purchased from Sonoma County Water Agency.

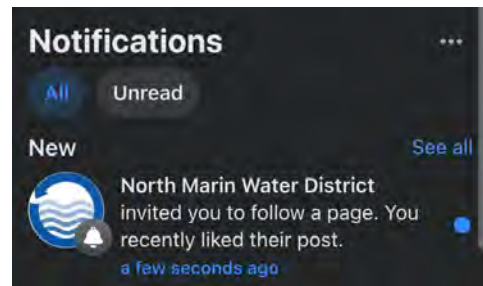
Source and Use of Funds



Facebook Likes Campaign - March Report



We are running an evergreen ad which encourages customers in the NMWD service areas to 'like' (follow) the NMWD Facebook page.



Spend in March 2023	Reach (Number of people who saw the ad)	Impressions	Results (New Page Likes)	Cost Per New Page Like
\$46.14	2,920	5,704	41	\$1.28

*This month, we were able to reach over **2,920** people with the Likes Campaign*



What's Next?

- Kiosk presentation to the Board scheduled for May 2, 2023
- Website updates following easing of drought restrictions
- Roll out social posts promoting the Eco Friendly Garden Tour in May
- Continuation of social posts to highlight employees on their work anniversaries
- Work has begun on the Spring Waterline Newsletter 2023
- Redesign of the Novato and West Marin Rate Increase letters
- Redesign of Water Conservation forms



Thank You