



## NORTH MARIN WATER DISTRICT

### NORTH MARIN WATER DISTRICT AGENDA - REGULAR MEETING February 20, 2018 – 6:00 p.m. District Headquarters 999 Rush Creek Place Novato, California

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Est. Time	Item	Subject
6:00 p.m.	<b>CALL TO ORDER</b>	
	1.	<b>CLOSED SESSION:</b> In accordance with California Government Code Section 54957 for PUBLIC EMPLOYEE APPOINTMENT: Auditor – Controller
	2.	<b>APPROVE MINUTES FROM SPECIAL MEETING,</b> January 30, 2018
	3.	<b>APPROVE MINUTES FROM REGULAR MEETING,</b> February 6, 2018
	4.	<b>GENERAL MANAGER'S REPORT</b>
	5.	<b>OPEN TIME:</b> <i>(Please observe a three-minute time limit)</i>  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.
	6.	<b>STAFF/DIRECTORS REPORTS</b>
	7.	<b>MONTHLY PROGRESS REPORT</b>
	<b>CONSENT CALENDAR</b>  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.	
	8.	<b>Consent – Approve:</b> <i>Ridge Road Water Line Replacement Bid Advertisement</i>
	9.	<b>Consent – Approve:</b> <i>Norman Tank Rehabilitation Project Notice of Completion</i>
	<b>INFORMATION ITEMS</b>	
	10.	Dry Year Conditions Update
	11.	Water Conservation Mid-Year Update (July-December 2017)
	12.	FY 17-18 Mid-Year Progress Report - Engineering Department
	13.	<b>MISCELLANEOUS</b> Disbursements- Dated February 8, 2018 Disbursements- Dated February 15, 2018 SCWA Public Meeting on Local Fish Habitat Restoration Projects Letter- Reappointment to Flood Control Zone #1 Edward Victor Grundstrom Obituary

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
		<u>News Articles:</u>
		West Marin ranch gets grant to reduce greenhouse gas
		Dam inspection legislation shipped to governor's desk
		Alternative Water Supplies
		Editorial: Marin's support pays off for MALT's mission
		Can New California Water Storage Projects Win State Funding?
		California could face the first dry February in 150 years
8:15 p.m.	14.	<b><i>ADJOURNMENT</i></b>

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**NORTH MARIN WATER DISTRICT  
MINUTES OF SPECIAL MEETING  
OF THE BOARD OF DIRECTORS  
January 30, 2018**

**CALL TO ORDER**

President Fraites called the special meeting of the Board of Directors of North Marin Water District to order at 6:00 p.m. at the District headquarters and the agenda was accepted as presented. Present were Directors Jack Baker, Rick Fraites, James Grossi, Michael Joly, and Stephen Petterle. Also present were General Manager Drew McIntyre, District Secretary Katie Young, Chief Engineer Rocky Vogler and Auditor-Controller David Bentley.

District employees Terrie Kehoe (Engineering Services Representative), Eileen Mulliner (Engineering Secretary) and Stacie Goodpaster (Sr. Chemist) were also present.

**DISTRICT SECRETARY INTERVIEWS**

Mr. McIntyre reminded the Board that current District Secretary Katie Young will be leaving the District on February 8, 2018 after 12+ years with the District. He advised the Board that an internal job recruitment was conducted and two employees, Eileen Mulliner and Terrie Kehoe applied. He informed the Board that yesterday, Mr. Bentley, Mrs. Young and he conducted initial interviews with both candidates. Mr. McIntyre advised the Board that tonight's interviews are being conducted to solicit input from the Directors.

The Board conducted interviews with both Terrie Kehoe and Eileen Mulliner and provided input to Mr. McIntyre.

**ADJOURNMENT**

President Fraites adjourned the meeting at 7:00 p.m.

Submitted by

A handwritten signature in black ink, appearing to read 'Katie Young', with a stylized flourish at the end.

Katie Young  
District Secretary

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DRAFT  
NORTH MARIN WATER DISTRICT  
MINUTES OF REGULAR MEETING  
OF THE BOARD OF DIRECTORS  
February 6, 2018

**CALL TO ORDER**

President Fraites called the regular meeting of the Board of Directors of North Marin Water District to order at 6:00 p.m. at the District Headquarters and the agenda was accepted as presented. Present were Directors Jack Baker, Rick Fraites, and Stephen Petterle. Also present were General Manager Drew McIntyre, District Secretary's Katie Young and Terrie Kehoe, Auditor-Controller David Bentley and Chief Engineer Rocky Vogler. Director Michael Joly arrived at 6:03 and Director James Grossi was absent.

District employees, Robert Clark (Maintenance/Operations Superintendent) and Tony Arendell (Construction/Maintenance Superintendent) were in the audience.

**MINUTES**

On motion of Director Petterle, seconded by Director Baker the Board approved the minutes from the previous meeting as presented by the following vote:

AYES: Director Baker, Fraites, and Petterle

NOES: None

ABSENT: Director's Grossi and Joly

ABSTAIN: None

**GENERAL MANAGER'S REPORT**

Director Joly arrived at the Board meeting.

Mr. McIntyre recapped portions of Monday's WAC/TAC meeting and reminded Board Members of the annual Russian River Public Policy Facility Committee meeting which is Thursday, February 22<sup>nd</sup> at Lake Sonoma Visitors Center from 10:00 a.m. until noon.

**OPEN TIME**

President Fraites asked if anyone in the audience wished to bring up an item not on the agenda and there was no response.

**STAFF/DIRECTORS REPORTS**

President Fraites asked if staff or Directors wished to bring up an item not on the agenda and the following items were discussed:

1 Ms. Young introduced the new District Secretary Terrie Kehoe and announced that she will  
2 officially take over on Friday after only five days of training. Ms. Young reminded everyone that the  
3 California Fair Political Practices Commission Form 700 and Ethics Training Certificates are both  
4 due April 1<sup>st</sup> and that the first strategic plant workshop is on Tuesday, February 13<sup>th</sup> from 9 a.m.-3  
5 p.m.

6 Mr. Vogler discussed the Center Road water facilities upgrade project and the city's request  
7 to withhold final paving and make a payment contribution to the city for this work to be added to a  
8 future city paving project. Director Joly asked if the current condition of the pavement patches is  
9 acceptable. Mr. Vogler replied that the existing paving patches provide a good wearable surface but  
10 are not perfectly smooth.

#### 11 **QUARTERLY FINANCIAL STATEMENT**

12 During the Quarterly Financial Statement Mr. Bentley provided a summary of the District's  
13 financial performance for the first six months of the fiscal year. Mr. Bentley discussed the new AMI  
14 project, and the Recycled Water Capital Expansion and Replacement Fund with Novato and Las  
15 Gallinas Sanitary Districts. Director Joly inquired about the thirteen million dollar connection fee  
16 deficit. Mr. Bentley explained that \$6 million will be reimbursed by SRF loan and grant funds, and  
17 that we will rely on connection fees for the balance to replenish the fund. Director Joly asked if we  
18 were likely to get enough fees, and Mr. Bentley responded that there are many projects coming in  
19 that are working their way through the planning process. Director Baker asked if most of the  
20 projects were residential, and Director Fraites replied that they were mostly commercial.

#### 21 **CONSENT CALENDAR**

22 On the motion of Director Petterle, seconded by Director Baker the Board approved the  
23 following items on the consent calendar by the following vote:

24 AYES: Director Baker, Fraites, Joly and Petterle

25 NOES: None

26 ABSENT: Director Grossi

27 ABSTAIN: None

#### 28 **PROPOSED FY18/19 BUDGET REVIEW SCHEDULE**

29 The Board approved the Proposed FY 18/19 Budget Review Schedule.

#### 30 **PROPOSED FY18/19 RATE HEARING SCHEDULE**

31 The Board approved the Proposed FY 18/19 Rate Hearing Schedule.

1 **ACTION CALENDAR**

2 **SCWA FY19 PROPOSED BUDGET DEBT ISSUANCE – CASH-OUT OPTION**

3 Mr. Bentley requested that the Board approve exercising a provision in the SCWA  
4 Restructured Agreement for water supply that allows the District to pay its portion of the proposed  
5 capital improvements in cash, rather than participate in Sonoma County Water Agency's 2019  
6 revenue bond issue.

7 On the motion of Director Petterle, and seconded by Director Baker, the Board approved  
8 authorizing the General Manager to advise SCWA that NMWD will elect to pay its portion of the  
9 capital projects to be financed by debt issuance in cash by the following vote:

10 AYES: Director Baker, Fraites, Joly and Petterle

11 NOES: None

12 ABSENT: Director Grossi

13 ABSTAIN: None

14 **RESOLUTION OF APPRECIATION – KATIE YOUNG**

15 President Fraites read a Resolution of Appreciation to Katie Young for her many years of  
16 service as an Officer of the District in the capacity of District Secretary. On the motion of Director  
17 Petterle, and seconded by Director Joly, the Board approved the Resolution of Appreciation by the  
18 following vote:

19 AYES: Director Baker, Fraites, Joly and Petterle

20 NOES: None

21 ABSENT: Director Grossi

22 ABSTAIN: None

23 **INFORMATION ITEMS**

24 **WATER METER DISCONNECTION – 20 TAMARIN LANE**

25 Mr. Vogler provided information in regards to an illegal water service connection on Tamarin  
26 Lane that provided water service to a residence on an adjacent parcel. The illegal connection was  
27 detected during a routine high bill complaint. Mr. Vogler stated that both Marin County Code  
28 Enforcement and the Novato Fire Protection District were also notified. Mr. Vogler added that he  
29 was informed today that the illegal connection has been removed. Director Baker asked questions  
30 about the service disconnection. Mr. Vogler responded that Tony has witness the disconnection

1 and that the adjacent property owner stated he would be coming in to the District for a new water  
2 service.

3 **MID-YEAR OPERATIONS/MAINTENANCE 17/18 UPDATE**

4 Mr. Clark provided a mid-year Operations and Maintenance Update. He stated that staff  
5 participated in five safety training events through the first half of the fiscal year and Stafford  
6 Treatment Plant production could still reach 100% of the annual target of 750 MG if the lake fills to  
7 an elevation at or above 188 feet. Mr. Clark stated that there is a discrepancy between production  
8 and consumption in West Marin water and that staff is investigating the matter. Mr. Clark also  
9 added the Recycled Water Project is almost complete. Director Joly asked about the recent  
10 interviews for six new employees, and Mr. Clark clarified that this was not additional staff but rather  
11 to re-fill existing vacancies.

12 **2018 STRATEGIC (LONG RANGE) PLAN DEVELOPMENT – STATUS UPDATE**

13 Mr. McIntyre reminded the Board that the first of two Strategic (Long Range) Workshops  
14 with facilitator, Martin Rauch, is on Tuesday, February 13 at the Novato Fire Protection District  
15 Administration Building. The workshop runs from 9 a.m. to 3 p.m. and is designed to identify  
16 strategic issue areas.

17 **NORTH BAY WATER WORKSHOP NO. 1 MEETING – JANUARY 22, 2018**

18 Mr. McIntyre provided the Board with an update on the January 22 North Bay Water  
19 Workshop No. 1 he attended along with Director Baker. He stated that there will be five workshops  
20 to explore the viability of forming a new North Bay organization focusing on surface water, storm  
21 water and groundwater management.

22 **NBWA MEETING – FEBRUARY 2, 2018**

23 Director Fraites recapped that North Bay Watershed Association meeting and mentioned the  
24 concern for rising sea levels and how that will influence North Bay communities.

25 **MISCELLANEOUS**

26 The Board received the following miscellaneous items: Disbursements, 2<sup>nd</sup> Quarter Labor  
27 Cost Report, and Reimbursement Program 2017.

28 The Board also received the following news articles: Diverted River Sustains California Wine  
29 Country, but It's Killing Salmon, Marin January wetter, but behind average; no rain in sight, Editorial:  
30 Clear process needed to determine conflicts, Water contamination plagues surviving homes in  
31 Santa Rosa's Fountaingrove neighborhood, New Novato Fire Chief Bill Tyler takes the reins, and  
32 Watershed council out of dormancy.

1 **CLOSED SESSION**

2 President Fraites adjourned the Board into closed session at 6:46 p.m. in accordance with  
3 Government Code Section 54957 for Public Employment, Title: Auditor-Controller.

4 **OPEN SESSION**

5 Upon returning to regular session at 7:04 p.m., President Fraites stated that during the  
6 closed session the Board had discussed the issue and no reportable action had been taken.

7 **ADJOURNMENT**

8 President Fraites adjourned the meeting at 7:05 p.m.

9 Submitted by

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12  
13 Theresa Kehoe  
14 District Secretary  
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**NORTH MARIN WATER DISTRICT**  
**MONTHLY PROGRESS REPORT FOR *January 2018***  
February 20, 2018

1.

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

Month	FY17/18	FY16/17	FY15/16	FY14/15	FY13/14	18 vs 17 %
July	331	310	227	319	385	7%
August	303	300	235	301	360	1%
September	292	302	210	276	332	-3%
October	274	203	299	221	313	35%
November	164	144	145	173	229	14%
December	152	148	145	129	182	3%
January	131	121	130	137	168	9%
FYTD Total	1,647	1,527	1,391	1,556	1,968	8%

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

Month	FY17/18	FY16/17	FY15/16	FY14/15	FY13/14	18 vs 17 %
July	9.5	7.9	6.6	8.6	9.3	19%
August	8.8	7.4	7.0	8.5	9.3	19%
September	8.4	6.4	6.4	7.8	8.5	31%
October	7.9	5.2	6.5	5.4	8.0	52%
November	5.4	4.2	4.7	4.6	6.8	29%
December	5.1	3.7	3.9	4.7	6.4	37%
January	4.6	3.6	3.7	4.4	5.9	30%
FYTD Total	49.7	38.4	38.9	44.0	54.1	29%

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

Month	FY17/18	FY16/17	FY15/16	FY14/15	FY13/14	18 vs 17 %
July	113	70	108	83	98	61%
August	81	90	79	61	83	-10%
September	123	97	38	26	56	27%
October	102	94	50	0	82	9%
November	54	64	58	8	5	-16%
December	0	0	0	0	2	-
January	0	0	0	0	0	-
FYTD Total	473	415	333	178	326	14%

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

Month	FY17/18	FY16/17	FY15/16	FY14/15	FY13/14	18 vs 17 %
July	27.7	27.1	21.3	21.8	27.6	2%
August	26.1	26.0	26.2	26.0	26.2	0%
September	25.0	23.5	15.7	19.2	18.6	6%
October	19.1	8.3	15.8	9.4	15.8	130%
November	2.5	1.2	3.2	3.7	6.4	111%
December	0.8	0.4	0.8	1.6	1.6	123%
January	1.0	0.3	0.2	0.8	1.2	218%
FYTD Total*	102.2	86.8	83.2	82.3	97.3	18%

\*Excludes potable water input to the RW system: FY18=0.8MG; FY17=0.3MG; FY16=7.0MG; FY15=6.9MG; FY14=7.2MG

## 2. Stafford Lake Data

	January Average	January 2017	January 2018
Rainfall this month	5.66 Inches	13.79 Inches	4.82 Inches
Rainfall this FY to date	15.84 Inches	25.51 Inches	9.96 Inches
Lake elevation*	188.2 Feet	196.6 Feet	182.2 Feet
Lake storage**	871 MG	1439 MG	558 MG

\* Spillway elevation is 196.0 feet

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

## Temperature (in degrees)

	Minimum	Maximum	Average
January 2017 (Novato)	32	70	51
January 2018 (Novato)	40	80	56

## 3. Number of Services

January 31	Novato Water			Recycled Water			West Marin Water			Oceana Marin Swr		
	FY18	FY17	Incr %	FY18	FY17	Incr %	FY18	FY17	Incr %	FY18	FY17	Incr %
Total meters installed	20,778	20,779	0.0%	57	48	18.8%	789	787	0.3%	-	-	-
Total meters active	20,556	20,534	0.1%	53	44	20.5%	781	781	0.0%	-	-	-
Active dwelling units	24,012	23,980	0.1%	0	0	-	831	830	0.1%	232	231	0.4%

## 4. Oceana Marin Monthly Status Report (January)

Description	January 2017	January 2018
Effluent Flow Volume (MG)	1.203	0.640
Irrigation Field Discharge (MG)	0.721	0.403
Treatment Pond Freeboard (ft)	5.0	6.1
Storage Pond Freeboard (ft)	2.6	7.6

## 5. Developer Projects Status Report (January)

### District Projects Status Report - Const Dept (January)

Job No.	Project	% Complete	% This month
1.7168.00	Center Rd. 6" CIP	99	1

### Employee Hours to Date, FY 17/18

As of Pay Period Ending January 31, 2018

Percent of Fiscal Year Passed = 58%

Developer Projects	Actual	Budget	% YTD Budget	District Projects	Actual	Budget	% YTD Budget
Construction	94	1,400	7%	Construction	3,102	4,920	63%
Engineering	325	1,414	23%	Engineering	1,876	4,000	47%

## 6. Safety/Liability

FY 18 through January

FY 17 through January

Days without a lost time accident through January 31, 2018 = 96 days

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) (\$)
54	26,472	3	2	3	\$1,340
43	\$22,304	2	2	4	\$2,702

## 7. Energy

FYE	January			Fiscal Year-to-Date thru January		
	kWh	¢/kWh	Cost/Day	kWh	¢/kWh	Cost/Day
2018 Stafford TP	27,912	19.7¢	\$178	379,261	19.5¢	\$344
Pumping	76,604	20.2¢	\$484	903,718	21.1¢	\$891
Other*	35,417	22.4¢	\$256	303,417	25.2¢	\$361
	139,933	20.7¢	\$933	1,586,396	21.5¢	\$1,602
2017 Stafford TP	34,295	19.2¢	\$212	371,745	18.9¢	\$327
Pumping	64,410	20.5¢	\$413	774,743	20.3¢	\$736
Other*	40,496	20.6¢	\$261	292,714	24.8¢	\$341
	139,202	20.2¢	\$907	1,439,202	20.9¢	\$1,411
2016 Stafford TP	22,091	18.6¢	\$133	339,312	18.4¢	\$290
Pumping	62,988	18.6¢	\$345	713,133	17.6¢	\$586
Other*	37,323	19.6¢	\$229	270,446	23.5¢	\$299
	122,402	18.9¢	\$724	1,322,891	19.0¢	\$1,180

\*Other includes West Marin Facilities

## 8. Water Conservation Update

	Month of January 2018	Fiscal Year to Date	Program Total to Date
High Efficiency Toilet (HET) Rebates	11	84	3,819
Retrofit Certificates Filed	21	148	5,979
Cash for Grass Rebates Paid Out	0	11	896
Washing Machine Rebates	5	18	6,775
Water Smart Home Survey	29	195	3,100

## 9. Utility Performance Metric

<b>SERVICE DISRUPTIONS (No. of Customers Impacted)</b>	<b>January 2018</b>	<b>January 2017</b>	<b>Fiscal Year to Date 2018</b>	<b>Fiscal Year to Date 2017</b>
<b>PLANNED</b>				
Duration Between 0.5 and 4 hours	8	4	252	145
Duration Between 4 and 12 hours	82*		85	3
Duration Greater than 12 hours				
<b>UNPLANNED</b>				
Duration Between 0.5 and 4 hours	3	2	64	3
Duration Between 4 and 12 hours			88	16
Duration Greater than 12 hours		1 (irrigation)		2
<b>SERVICE LINES REPLACED</b>				
Polybutylene	5	3	59	75
Copper (Replaced or Repaired)	3	2	10	14

\* 12-inch main repair on Bahama Reef

# NORTH MARIN WATER DISTRICT

## Summary of Complaints & Service Orders January 2018

2/7/2018

Type	Jan-18	Jan-17	Action Taken January 2018
<b><u>Consumers' System Problems</u></b>			
Service Line Leaks	0	0	~
Meter Leak Consumer's Side	13	10	Notified Consumer
House Plumbing	0	0	~
Noisy Plumbing	0	0	~
Seepage or Other	0	0	~
House Valve / Meter Off	2	2	Notified Consumer
Nothing Found	5	1	Notified Consumer
Low Pressure	0	1	~
High Pressure	0	0	~
Water Waster Complaints	0	0	~
<b>Total</b>	<b>20</b>	<b>14</b>	
<b><u>Service Repair Reports</u></b>			
Register Replacements	0	0	~
Meter Replacement	2	0	Notified Consumer
Meter Box Alignment	0	0	~
Meter Noise	0	0	~
Dual Service Noise	0	0	~
Box and Lids	0	2	~
Water Off/On Due To Repairs	4	5	Notified Consumer
Misc. Field Investigation	1	0	Notified Consumer
<b>Total</b>	<b>7</b>	<b>7</b>	
<b><u>Leak NMWD Facilities</u></b>			
Main-Leak	0	0	~
Mains-Nothing Found	0	0	~
Mains-Damage	0	0	~
Service- Leak	4	3	Repaired
Services-Nothing Found	3	3	Notified Consumer
Service-Damaged	0	0	~
Fire Hydrant-Leak	1	1	Repaired
Fire Hydrants-Nothing Found	0	0	~
Fire Hydrants-Damaged	0	0	~
Meter Replacement	2	0	Repaired
Meter Leak	0	0	~
Meters-Nothing Found	0	0	~
Meters Damaged	0	0	~
Washer Leaks	4	2	Repaired
<b>Total</b>	<b>14</b>	<b>9</b>	
<b><u>High Bill Complaints</u></b>			
Consumer Leaks	7	5	Notified Consumer
Meter Testing	0	0	~
Meter Misread	4	4	Notified Consumer
Nothing Found	21	28	Notified Consumer
Projected Consumption	0	0	~
Excessive Irrigation	0	0	~
<b>Total</b>	<b>32</b>	<b>37</b>	

# NORTH MARIN WATER DISTRICT

## Summary of Complaints & Service Orders January 2018

2/7/2018

Type	Jan-18	Jan-17	Action Taken January 2018
<b><u>Low Bill Complaints</u></b>			
Meter Misread	0	0	~
Stuck Meter	0	0	~
Nothing Found	1	2	~
Projected Consumption	0	0	~
Minimum Charge Only	0	0	~
<b>Total</b>	<b>1</b>	<b>2</b>	

## **Water Quality Complaints**

Taste and Odor	3	2	<p><b><i>Customer reported bad taste in water. (Bel Marin Keys Blvd)</i></b>  Water was normal at time of sampling. Off taste may be due to the container. All results normal for NMWD supply. Customer was notified of results.</p> <p><b><i>Customer reported bad taste in water, when cup sat out overnight. (Barcelona Dr)</i></b>  No off taste noticed by staff at time of sampling. All results normal for NMWD supply. Customer was notified of results.</p> <p><b><i>Customer reported bad taste in water. (Alameda Del Prado)</i></b>  At time of sampling, water tasted good per customer. All results normal for NMWD supply. Customer was notified of results.</p>
Color	0	1	~
Turbidity	0	0	~
Suspended Solids	0	2	~
Other	1	0	
			<p><b><i>Customer concerned about residue on cooking pot. (Oak Shad Ln)</i></b>  Residue is from minerals. Results normal for NMWD supply. Customer was notified of results.</p>

<b>Total</b>	<b>4</b>	<b>5</b>	
<b>TOTAL FOR MONTH:</b>	<b>78</b>	<b>74</b>	<b>5%</b>
<b><u>Fiscal YTD Summary</u></b>			
Consumer's System Problems	244	222	10%
Service Repair Report	68	81	-16%
Leak NMWD Facility	135	112	21%
High Bill Complaints	403	495	-19%
Low Bills	1	3	-67%
Water Quality Complaints	25	31	-19%
<b>Total</b>	<b>876</b>	<b>944</b>	<b>-7%</b>
			<b><u>Change Primarily Due To</u></b>
			Increase in Nothing Found
			Decrease In Water On/Off Due to Repairs
			Increase In Washer Leaks
			Decrease In Nothing Found
			Decrease In Nothing Found
			Decrease In Taste and Odor

# NORTH MARIN WATER DISTRICT

## Summary of Complaints & Service Orders January 2018

2/7/2018

Type	Jan-18	Jan-17	Action Taken January 2018
<b><u>"In House" Generated and Completed Work Orders</u></b>			
<b><u>Check Meter:</u></b> possible consumer/District leak, high bill, flooded, need read, etc.	253	267	
<b><u>Change Meter:</u></b> leaks, hard to read	4	2	
<b><u>Possible Stuck Meter</u></b>	0	0	
<b><u>Repair Meter:</u></b> registers, shut offs	0	0	
<b><u>Replace Boxes/Lids</u></b>	0	0	
<b><u>Hydrant Leaks</u></b>	0	0	
<b><u>Trims</u></b>	26	0	
<b><u>Dig Outs</u></b>	84	15	
<b><u>Letters to Consumer:</u></b> meter obstruction, trims, bees, gate access, etc. get meter number, kill service, etc.	0	0	
	<b>367</b>	<b>284</b>	

## Bill Adjustments Under Board Policy:

### January 18 vs. January 17

Jan-18	32	\$14,427
Jan-17	26	\$7,216

### Fiscal Year vs Prior FY

17/18 FY	267	\$114,999
16/17 FY	350	\$113,033

t:\cons srvc\complaint report\[complain 18.xls]jan18

## MEMORANDUM

To: Board of Directors

February 16, 2018

From: David L. Bentley, Auditor-Controller

Subj: Auditor-Controller's Monthly Report of Investments for January 2018

t:\ac\word\invest\18\investment report 1217.doc

**RECOMMENDED ACTION:** Information

**FINANCIAL IMPACT:** None

At month end the District's Investment Portfolio had an amortized cost value (i.e., cash balance) of \$13,625,896 and a market value of \$13,593,847. During January the cash balance increased by \$131,918. The market value of securities held decreased \$32,049 during the month. The ratio of total cash to budgeted annual operating expense stood at 88%, up 1% from the prior month.

At January 31, 2018, 19% of the District's Portfolio was invested in California's Local Agency Investment Fund (LAIF), 29% in Time Certificates of Deposit, 22% in Federal Agency Securities, 18% in US Treasury Notes, 7% in the Marin County Treasury, and 5% retained locally for operating purposes. The weighted average maturity of the portfolio was 246 days, compared to 230 days at the end of December. The LAIF interest rate for the month was 1.35%, compared to 1.24% the previous month. The weighted average Portfolio rate was 1.24%, compared to 1.21% the previous month.

**NORTH MARIN WATER DISTRICT**  
**AUDITOR-CONTROLLER'S MONTHLY REPORT OF INVESTMENTS**  
**January 31, 2018**

Type	Description	S&P Rating	Purchase Date	Maturity Date	Cost Basis <sup>1</sup>	1/31/2018 Market Value	Yield <sup>2</sup>	% of Portfolio
<b>LAIF</b>	State of CA Treasury	AA-	Various	Open	\$2,625,079	\$2,620,074	1.35% <sup>3</sup>	<b>19%</b>
<b>Time Certificate of Deposit</b>								
TCD	Wells Fargo Bank	n/a	3/23/16	3/23/18	\$248,000	\$248,000	1.10%	2%
TCD	Mercantil Commerce Bank	n/a	6/17/16	6/15/18	248,000	248,000	1.00%	2%
TCD	Customers Bank	n/a	6/24/16	6/25/18	248,000	248,000	1.20%	2%
TCD	Merrick Bank	n/a	7/19/16	7/19/18	249,000	249,000	1.00%	2%
TCD	BMO Harris Bank	n/a	8/18/16	8/17/18	248,000	248,000	1.05%	2%
TCD	Ally Bank	n/a	10/4/16	9/28/18	248,000	248,000	1.15%	2%
TCD	Everbank	n/a	11/17/16	11/15/18	248,000	248,000	1.20%	2%
TCD	Investors Bank	n/a	12/16/16	12/17/18	248,000	248,000	1.35%	2%
TCD	Capital One Bank	n/a	7/19/17	7/19/19	247,000	247,000	1.70%	2%
TCD	Capital One NA	n/a	8/9/17	8/9/19	247,000	247,000	1.70%	2%
TCD	American Express FSB	n/a	9/6/17	9/6/19	247,000	247,000	1.75%	2%
TCD	Goldman Sachs Bank USA	n/a	10/11/17	10/11/19	247,000	247,000	1.70%	2%
TCD	Morgan Stanley Private Bank	n/a	11/22/17	5/22/19	248,000	248,000	1.60%	2%
TCD	Morgan Stanley Bank	n/a	11/9/17	11/12/19	247,000	247,000	1.75%	2%
TCD	American Express Centurion	n/a	12/5/17	12/5/19	247,000	247,000	1.90%	2%
TCD	Sallie Mae Bank	n/a	1/10/18	1/10/20	247,000	247,000	2.20%	2%
					<b>\$3,962,000</b>	<b>\$3,962,000</b>	<b>1.46%</b>	<b>29%</b>
<b>US Treasury Notes</b>								
Treas	1,000 - 1.375%	n/a	11/17/16	12/31/18	\$1,002,967	\$995,117	1.05%	7%
Treas	1,000 - 1.50%	n/a	1/10/17	2/28/19	1,002,855	995,039	1.23%	7%
Treas	1,000 - 1.38%	n/a	1/10/18	7/31/19	496,313	495,039	1.88%	4%
					<b>\$2,502,135</b>	<b>\$2,485,195</b>	<b>1.29%</b>	<b>18%</b>
<b>Federal Agency Securities</b>								
FICO	0.86% MTN	n/a	4/22/16	5/11/18	\$1,014,629	\$1,012,405	0.85%	7%
FNMA	0.875% MTN	n/a	7/19/16	7/27/18	999,687	995,426	0.97%	7%
FHLB	1.625% MTN	n/a	11/21/17	6/14/19	999,519	995,899	1.65%	7%
					<b>\$3,013,835</b>	<b>\$3,003,730</b>	<b>1.16%</b>	<b>22%</b>
<b>Other</b>								
Agency	Marin Co Treasury	AAA	Various	Open	\$898,508	\$898,508	0.75%	7%
Other	Various	n/a	Various	Open	624,339	624,340	0.41%	5%
<b>TOTAL IN PORTFOLIO</b>					<b>\$13,625,896</b>	<b>\$13,593,847</b>	<b>1.24%</b>	<b>100%</b>

Weighted Average Maturity = **246 Days**

LAIF: State of California Local Agency Investment Fund.

TCD: Time Certificate of Deposit, Treas: US Treasury Notes with maturity of 5 years or less.

FICO: Financing Corporation, FNMA: Federal National Mortgage Association, FHLB: Federal Home Loan Bank

Agency: STP State Revolving Fund Loan Reserve.

Other: Comprised of 4 accounts used for operating purposes. US Bank Operating Account, US Bank STP SRF Loan Account, Bank of Marin AEEP Checking Account & NMWD Petty Cash Fund.

1 Original cost less repayment of principal and amortization of premium or discount.

2 Yield defined to be annualized interest earnings to maturity as a percentage of invested funds.

3 Earnings are calculated daily - this represents the average yield for the month ending January 31, 2018.

<b>Interest Bearing Loans</b>	Loan Date	Maturity Date	Original Loan Amount	Principal Outstanding	Interest Rate
StoneTree Golf Loan	6/30/06	2/28/24	\$3,612,640	\$1,411,400	2.40%
Marin Country Club Loan	1/1/18	11/1/47	\$1,265,295	\$1,259,262	1.00%
Marin Country Club Loan	1/1/18	11/1/27	\$430,463	\$424,230	2.80%
Employee Housing Loans (5)	Various	Various	934,200	934,200	Contingent
<b>TOTAL INTEREST BEARING LOANS</b>			<b>\$6,242,598</b>	<b>\$4,029,091</b>	

**The District has the ability to meet the next six months of cash flow requirements.**

8

## MEMORANDUM

To: Board of Directors  
From: Rocky Vogler, Chief Engineer *RW*  
Subject: Ridge Road Water Line Replacement

Date: February 16, 2018

R:\Folders by Job No\7000 jobs\7161 Ridge Rd\BOD 2-20-18 Ridge Road Bid Advertise.doc

**RECOMMENDED ACTION:** Board Authorize Advertisement of the Ridge Road Water Line Replacement Project – Approve Bid Advertisement

**FINANCIAL IMPACT:** Estimated at \$540,000 (included in FY18 and FY19 budgets)

Background

Approximately 1,400 lineal feet of aging 6-inch asbestos cement (AC) water main in Ridge Road has exhibited signs of accelerated deterioration and needs to be replaced. The existing 6-inch AC main (beginning near the District's pump station adjacent to 450 Ridge Road) has experienced multiple failures over the last decade, requiring emergency repairs. The District plans to replace the 6-inch AC main with 8-inch welded steel pipe to affect improved hydraulic performance as well as enhancing structural characteristics. The project extends from 450 Ridge Road to the intersection with Half Moon Road (adjacent to 402 Ridge Road – see attached map). The site conditions are challenging given the narrow, windy roadway which acts as the single point of ingress/egress for the hilltop neighborhood, as well as the lack of construction staging/laydown areas. The Novato Heights Property Owners Association actively manages road maintenance and the District's Chief Engineer has provided ongoing communication with the Association regarding construction timing and impacts.

Project Costs

In an effort to reduce overall impacts to residents, construction mitigation elements have been built into the design drawings including a shuttle service requirement, limiting work hours from 9am to 5pm, and temporary water service connections to limit water outages. Even with these mitigations, construction progress will be limited. The District recognized the need to hire a quality contractor with a proven track record to effectively manage both physical constraints as well as homeowner expectations. As such, the Engineering Department requested that two contractors who both have existing on-call construction contracts with the District (Ghilotti Construction and Team Ghilotti) provide bids to perform the work. The bid totals are as follows:

- Ghilotti Construction \$542,975.00
- Team Ghilotti \$613,956.25

In addition, the District will also need to perform work in advance of the contractor's work, estimated at \$90,000. This work includes multiple tie-ins, pump station upgrades, and temporary service line connections. Total costs to date including design, survey, potholing, etc. are approximately \$82,000. The current budget for the project is \$400,000 in FY18, and \$140,000 in FY19.

Approved by GM *[Signature]*

Date 2-16-18

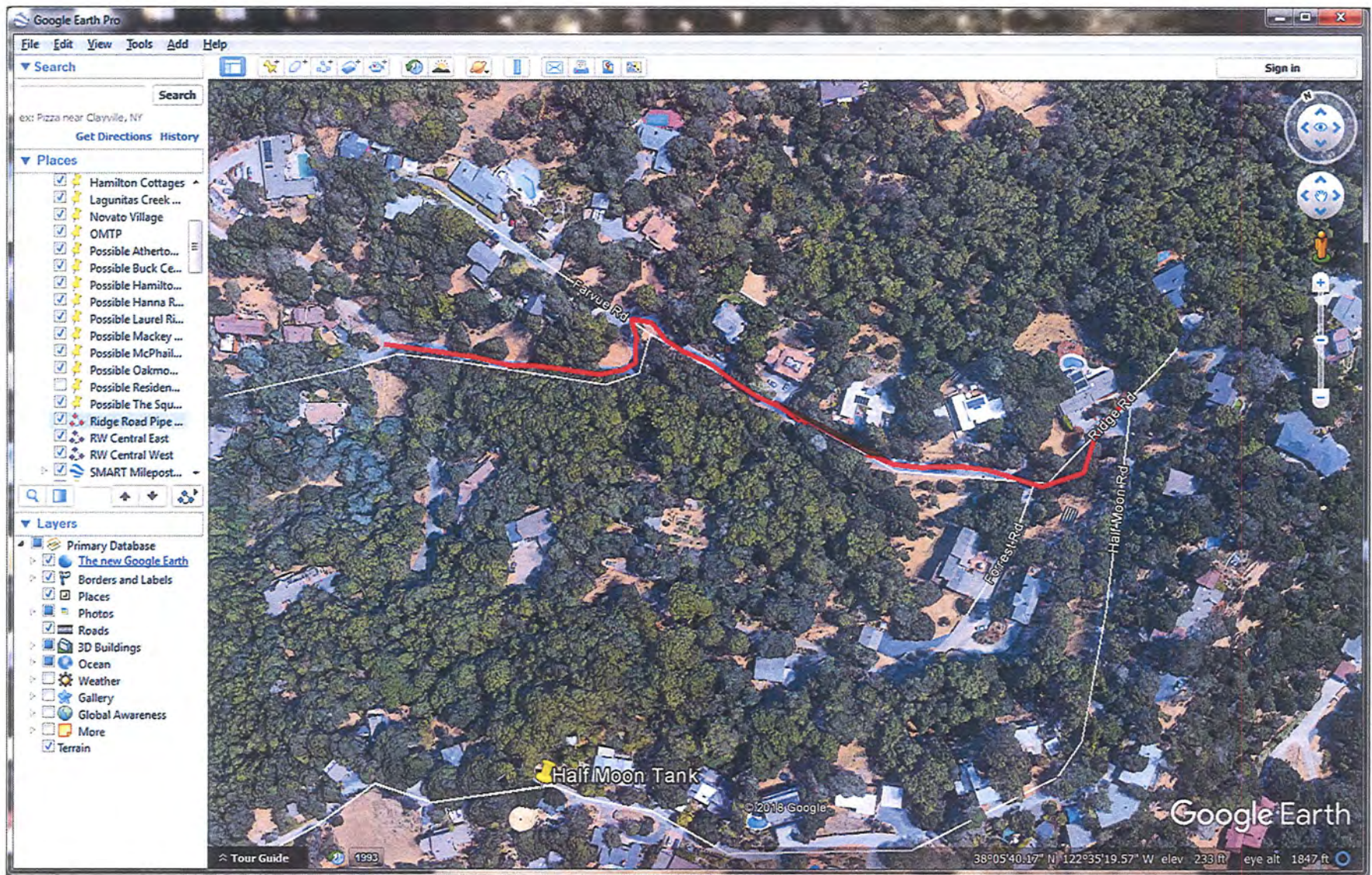
Given the higher than initially anticipated estimated project costs, staff is recommending that the project be publicly bid. The following project schedule identifies key dates including the proposed bid advertising date.

SCHEDULE

Advertise Project	March 2, 2018
Plans & Specs Available	March 2, 2018
Pre-Bid Meeting	March 13, 2018
Bid Opening	March 27, 2018
Board Authorization of Award (tentative)	April 3, 2018
Notice of Award (tentative)	April 4, 2018
Notice to Proceed (tentative)	April 18, 2018
Construction Substantially Complete (tentative)	June 4, 2018
Final Completion	July 12, 2018

Recommendation

Board authorize bid advertisement of the Ridge Road Water Line Replacement Project.



9

## MEMORANDUM

To: Board of Directors February 16, 2018

From: Rocky Vogler, Chief Engineer *RV*  
Carmela Chandrasekera, Associate Engineer *Mc*

Subject: Notice of Completion for Recycled Water Expansion Central Service Area - Norman Tank Rehabilitation Project (Piazza Construction)

R:\Folders by Job No\6000 jobs\6068 RW Central\BOD Memos\6068.50 Norman Tank Notice of Completion BOD memo.doc

**RECOMMENDED ACTION:** Authorize the General Manager to execute and file a Notice of Completion for the Recycled Water Expansion Central Service Area – Norman Tank Rehabilitation project.

**FINANCIAL IMPACT:** None

Pursuant to and in conformance with contract requirements for the Recycled Water Expansion Central Service Area - Norman Tank Rehabilitation project, the contractor (Piazza Construction) has fulfilled their obligations under the contract. Corrections of work deficiencies and punch list items have been completed. All work performed by Piazza Construction (Piazza) has been inspected by District staff, construction manager (The Covello Group), and Geotechnical consultant (Miller Pacific Engineering Group). Piazza's work was completed on February 5, 2018.

Per the Contract Documents, Piazza has furnished written notice that the work is complete and that all subcontractors and equipment suppliers have been paid (**see Attachment A**). Piazza has released the District of all claims. Piazza's last Progress Payment (No. 8) for \$20,073.01 is currently being processed by the District and will be paid within 30 days of the receipt of the invoice. A Notice of Completion is provided as **Attachment B** which, if approved, will be filed with Marin County within 10 days of the Board approval. Final payment (for monies held in retention) in the amount of \$44,317.07 will be processed for release, by April 5, 2018, subject to absence of any claims filed during the 30-day notice period.

Project Cost Summary

The Board approved the award of the contract with Piazza for \$873,164.50 with a contingency of \$44,000 (~5% of contract value) on April 3, 2017. The total change orders amounted to \$13,176.97 (1.5% of the contract amount). The total contractor payment is \$886,341.47, \$30,823.03 less than the approved budgeted amount (including contingency).

RECOMMENDATION

Authorize the General Manager to execute and file a Notice of Completion for the Recycled Water Expansion Central Service Area – Norman Tank Rehabilitation project.

Approved by GM *DM*

Date *2-16-18*



February 15, 2018

Mr. Rocky Vogler, Chief Engineer  
North Marin Water District  
999 Rush Creek Place  
Novato, CA 94948

Subject: Project Closeout Recommendation  
Project: Recycled Water Expansion – Central Service Area– Norman Tank Rehabilitation Project  
Project No.: 5 6058.50

Dear Mr. Vogler,

Piazza Construction (PC) has completed work and administrative items on the Final Punchlist in accordance with §00700 8.6 Final Inspection and Payment with the exception of minor site grading work and revising the Record Documents as required by §01720.

§00700 8.6 requires the Contractor to submit a letter which shall be a release to the District, the Construction Manager, the Design Consultant, and their duly authorized agents, from all claim of and/or liability to the Contractor arising by virtue of the Contract.

PC has submitted this letter, attached herein, as a Conditional Waiver Release and Certificate of Final Payment. Thus, the District, et.al will be released from any and all claims, contingent upon payment of Progress Payment 8, withholds and retention. Progress Payment 8 is in process and will be issued to PC shortly. Retention release will constitute the Final Payment for the Project. As such, Covello recommends the District take the Project to its Board for formal acceptance. Within ten (10) days of formal acceptance by the Board, the District should then take action to have the County Recorder file and publish the Notice of Completion. Final Payment should then be made by the District to PC after expiration of the Stop Notice Period and within 60 days of the date listed on the Notice of Completion.

If the revised Record Documents are not received prior to Final Payment, then monies should be withheld from the final payment until the Record Documents are received and accepted. In accordance with § 00700 8.6, 125% of the disputed value can be withheld. The approved schedule of values lists the value of as-builts as \$5,000. Therefore, we recommend the withhold be \$6,250, if applicable.

Sincerely,  
The Covello Group, Inc.

A handwritten signature in black ink, appearing to read "Gary Skrel". The signature is fluid and cursive, with the first name "Gary" being more prominent than the last name "Skrel".

Gary Skrel, P.E.  
Construction Manager

cc: Carmela Chandrasekera – North Marin Water District  
JD Brosnan – Covello Group

ATTACHMENT A

**CONDITIONAL WAIVER**  
**RELEASE AND CERTIFICATE OF FINAL PAYMENT**

TO: North Marin Water District (District)

JOB: 5 6058.50

CONTRACT DATED: April 19, 2017

CONTRACTOR:  
Piazza Construction  
P.O. Box 573  
Penngrove, CA 94951

DESCRIPTION OF PROJECT: Interior and exterior recoat and seismic upgrade of 0.5-million-gallon surplus tank to be re-purposed for Recycled Water storage (last used for potable water in 2009), and upgrades to Plum Street Tank Controls.

DESCRIPTION OF SITE (LOCATION): This portion of the work will be accessed from Rowe Ranch Way for Norman Tank rehabilitation efforts and from Zandra Place for upgrades to Plum Street Tank controls.

With reference to said contract, as amended, between the undersigned contractor and the District, the undersigned hereby certifies and represents that it has made full payment of all costs, charges and expenses incurred by it or on its behalf for work, labor, services, materials and equipment supplied to the foregoing site and/or used in connection with its work under said contract.

The undersigned further certifies that to its best knowledge and belief, each of its subcontractors and materialmen has made full payment of all costs, charges and expenses incurred by them or on their behalf for work, labor, services, materials and equipment supplied to the foregoing site and/or used by them in connection with the undersigned's work under said contract.

In consideration of the sum of \$64,390.09 as final payment under the contract to be received hereafter within a reasonable time, the undersigned, upon receipt of such final payment, waives and releases and forever discharges the District and the site and property from all claims, stop notices and obligations of every nature arising out of or in connection with the performance of said contract by the undersigned and all amendments thereto except as set forth below.

1. NONE

(Note: If none, write "NONE" in space above. If the space above is left blank, it is interpreted that "NONE" is claimed. Any claims excepted must be described and the specific amount claimed must be set forth.)

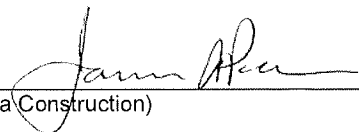
Unless any claims, stop notices, and obligations are described, and the specific amounts claimed, are described in the space above, contractor certifies that there are none.

As additional consideration for the final payment the contractor agrees to indemnify and hold harmless the District from and against all costs, losses, damages, claims, causes of action, judgments and expenses, including attorney's fees arising out of or in connection with claims against the District which claims arise out of the performance of the work under the contract and which may be asserted by the contractor or any of its suppliers, subcontractors of any tier or any of their representatives, officers, agents or employees except for those claims listed above.

The foregoing shall not relieve the undersigned of its obligations under the provisions of said contract, as amended, which by their nature survive completion of the work including, without limitation, warranties, guarantees and indemnities.

Executed this 14 day of February 20 18

Please attach appropriate  
notarial certificate

  
(Piazza Construction)

By: James A. Piazza

Title: owner

Distribution:  
Original Contractor  
Copy Job File

Z:\Folders by Job No\6000 jobs\60551\Segment 1\CONSTRUCTION\Seg 1 CONDITIONAL WAIVER CERT\_FINAL PAYMENT.doc

Posting requested by:

NORTH MARIN WATER DISTRICT

After Posting Time has Expired Mail To:

North Marin Water District  
P. O. Box 146  
Novato, CA 94948-0146

NORTH MARIN WATER DISTRICT  
NOVATO, CALIFORNIA

**NOTICE OF COMPLETION**

To: Marin County Clerk  
3501 Civic Center Dr., Rm 234  
San Rafael, CA 94903

Date: February 21, 2018

File No.: 5 6058.50

Date of Completion: February 5, 2018

Owner: North Marin Water District  
999 Rush Creek Place  
Novato, CA 94947

**OWNER'S ESTATE OR INTEREST:**

Easement \_\_\_\_\_ Fee Title       X       Encroachment Permit \_\_\_\_\_  
Other (describe) \_\_\_\_\_

**CONTRACTOR:**

Name: Piazza Construction  
Address: PO Box 573, Penngrove, CA 94951

**TITLE OF PROJECT:** Recycled Water Expansion - Central Service Area – Norman Tank Rehabilitation

**DESCRIPTION OF PROJECT:** Surface preparation and complete recoating of interior and exterior surfaces and associated rehabilitation work on the District's 50' diameter, 35' tall, 500,000 gallon capacity welded steel recycled water storage tank in Novato, California. Associated rehabilitation work includes but is not limited to installation of a spiral stair and stairway security enclosure, inside ladder and platform, shell manway, roof hatch, sample tap, inlet/outlet pipe modifications, screen replacement, cathodic protection system, other project components and appurtenances and tank foundation and rock anchors installation.

The project also includes modification of existing yard piping and related appurtenances at a second tank site (Plum Street Tank).

**DESCRIPTION OF SITE (LOCATION):** Near Entrada Drive in Novato, CA.

Final payment will be made to the above contractor on or after 35 days from the recording date of this notice of completion, except where otherwise provided for by law.

The undersigned under penalty of perjury says that he is the General Manager of the North Marin Water District, the public agency authorizing the work or improvement referred to in the foregoing notice of completion; that he has executed such notice of completion on behalf of such public agency and likewise makes this verification on behalf of said public agency pursuant to authority granted by the District's Board of Directors; and that he has read said notice of completion and knows the contents thereof and that the facts therein stated are true.

\_\_\_\_\_  
Drew McIntyre, General Manager

**VERIFICATION**  
**STATE OF CALIFORNIA )**  
**COUNTY OF MARIN       )**

THE UNDERSIGNED, declares that he has read the foregoing notice, knows the contents thereof, and the same is true of his own knowledge. I certify under penalty of perjury that the foregoing is true and correct.

**SEAL:**

\_\_\_\_\_  
Drew McIntyre, General Manager

\_\_\_\_\_  
Date and Place

Disposition: Original: County Recorder  
Copy: Contractor  
Copy: Project File

ATTACHMENT B



Lic. No. 406456 • P.O. Box 573 • Penngrove • CA 94951 • (707) 876-3410

February 13, 2018

Covello  
1660 Olympic Blvd, Suite 300  
Walnut Creek, California 94596

Project: Norman Tank Rehabilitation  
RE: Final Completion Notice

Brooke,

This letter is to notify that as of February 5<sup>th</sup>, 2018, Piazza Construction reached final completion for the Norman Tank Rehabilitation project.

Sincerely,

James A. Piazza  
Piazza Construction

10

## MEMORANDUM

To: Board of Directors  
 From: Drew McIntyre, General Manager  
 Subject: Preparing for Dry Year Conditions  
I:\gmibod misc 2018\preparing for dry year conditions 2018.doc

February 16, 2018



**RECOMMENDED ACTION:** Information Only

**FINANCIAL IMPACT:** None at this time

To-date, this water year is looking very similar to 2012. Rainfall in Novato through Thursday, February 15<sup>th</sup> is 9.96 inches (vs 9.21 inches in 2012). On Lagunitas Creek rainfall at the Kent Lake rain gauge is 18.18 inches (vs 18.05 inches in 2012). On the Russian River Sonoma County Water Agency (SCWA) will most likely declare dry year conditions on March 1. Absent rainfall similar to the 1991 "Miracle March" it's likely that dry year conditions will prevail on the Russian River and on Lagunitas Creek for the summer season. A table of dry year rainfall totals is attached for your information (Attachment 1).

### Lagunitas Creek

Rainfall in the Lagunitas Creek watershed measured by Marin Municipal Water District currently totals 18.18 inches, nearly 10 inches below that necessary for normal year classification (i.e., 28 inches). Beginning April 1<sup>st</sup>, it's likely that a dry year will be designated on Lagunitas Creek which means that summer flows beginning July 1<sup>st</sup> will be set at 6 cubic feet per second (cfs). Since the State Water Resources Control Board (SWRCB) Order 95-17 was issued in 1995, a dry year condition on Lagunitas Creek has only happened once, in 2014. This could be the second year that NMWD may have to operate with flows in Lagunitas Creek at less than 8 cfs during the summer. NMWD's water shortage contingency plan for the West Marin service area is included as Attachment 2. Pursuant to that plan, beginning April 1<sup>st</sup> of a dry year NMWD must inform customers of a Water Shortage Emergency public hearing and contingency measures in the West Marin WaterLine. NMWD must also post stages of action in the Pt. Reyes Light and at the Pt. Reyes Station Post Office. From April 1<sup>st</sup> through June 30<sup>th</sup> of a dry year on Lagunitas Creek we are to request a 15% voluntary reduction in water use from a prior normal year, and from July 1<sup>st</sup> through November 1<sup>st</sup> during a dry year on Lagunitas Creek we are to request a 25% mandatory reduction in water use from a prior normal year. A draft West Marin emergency water conservation ordinance intended to achieve these reduction levels is also included for the Board's information (Attachment 3). Note that at this time a mandatory 25%

reduction would be for the service areas as a whole and does not necessarily impose a 25% mandatory reduction for individual residential customers.

Our intertie agreement with Marin Municipal enables NMWD to request up to 250 acre feet (AF) of water to be released from storage to Lagunitas Creek for rediversion by NMWD. For each AF of water released by Marin Municipal for this purpose we are to pay the cost of delivering Kent Lake water to Marin Municipal customers (approximately \$200 per acre/ft). The intertie agreement also requires that if Marin Municipal has requested voluntary or mandatory water use reductions of its customers, that NMWD would require its West Marin customers to reduce water use by a similar percentage. It is not likely Marin Municipal will request any water use reduction from their customers since their storage is close to 75% (versus 80% in 2012) and the mandatory requirements of NMWD's water shortage contingency plan would likely trump any call for conservation in the Marin Municipal service territory. Over the next weeks, District staff will be monitoring rainfall data and preparing the West Marin WaterLine for distribution to keep customers informed.

#### **Stafford Lake and Novato**

The Russian River water supply system will most likely be designated as dry pursuant to SWRCB Decision 1610 on March 1. While possible, it is not likely that the classification will fall to critical dry. The dry year classification means that minimum flows in the Russian River can be reduced, thus preserving storage in both Lake Mendocino and Lake Sonoma for later release necessary for water supply or fishery requirements. Through February 13<sup>th</sup>, Lake Mendocino still holds just over 63,000 AF (vs 62,000 AF in 2012) and Lake Sonoma holds just under 206,000 AF (vs 205,000 AF in 2012), ample water supply to meet the regions needs this summer (Attachments 4 & 5).

Stafford Lake is a different story with water storage at 41% (vs 35% in 2012) of capacity through February 14<sup>th</sup>. While the watershed soil is likely saturated and a "Miracle March" could fill Stafford Lake, it's not likely this will occur. Water should be available for diversion from the Russian River and there is no limit on delivery capacity in the SCWA Transmission System, enabling Novato customers to avoid water use restrictions. A SWRCB order to require diversion reductions pursuant to SCWA's Petition for Temporary Urgency Change to fulfill Biological Opinion requirements should not happen with a dry year designation and lowered flows pursuant to Decision 1610. However, we won't know conclusively until after April 1<sup>st</sup>. Staff is also investigating alternate staff assignments for treatment plant operators as

its likely Stafford Treatment Plant production will be greatly reduced this summer. Staff will continue to keep the Board apprised as the weeks proceed.

# Dry Year Rainfall

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct-Jan Total	Water Year Total
1976	3.16	0.35	0.68	0.26	2.29	1.06	2.06	0.00	0.00	0.00	0.54	0.28	4.45	10.68
1977	0.43	1.45	1.25	2.17	1.33	2.69	0.15	1.04	0.00	0.00	0.08	0.70	5.3	11.29
1991	0.28	0.46	1.63	0.51	4.22	9.39	0.87	0.13	0.31	0.00	0.28	0.00	2.88	18.08
2007	0.53	2.91	4.66	0.58	4.37	0.13	1.14	0.38	0.02	0.01	0.02	0.06	8.68	14.81
2009	1.27	2.20	2.34	10.24	10.24	2.73	0.41	0.02	0.00	0.00	0.00	0.33	16.05	29.78
2012	2.04	2.53	0.10	3.40	2.08	5.69	0.47	0.00	0.00	0.00	0.01	0.00	8.07	16.32
2013	2.06	6.47	8.02	0.67	0.57	0.71	1.00	0.05	0.40	0.00	0.00	0.33	17.22	20.28
2014	0.00	1.21	0.92	0.03	7.84	2.56	1.07	0.01	0.00	0.00	0.00	0.30	2.16	13.94
2015	1.40	3.08	15.59	1.60	2.81	0.15	0.66	0.00	0.00	0.00	0.00	0.04	21.67	25.33
2018	0.29	3.40	0.04	6.20									9.93	

T:\GM\BOD Misc 2018\[Dry Year Rainfall Data.xlsx]Sheet1

**NORTH MARIN WATER DISTRICT'S  
WATER SHORTAGE CONTINGENCY PLAN  
FOR WEST MARIN SERVICE AREA**

**April 29, 2016**

**NORTH MARIN WATER DISTRICT  
WATER SHORTAGE CONTINGENCY PLAN  
FOR WEST MARIN SERVICE AREA**

**April 2016**

Customer Notification

- I. January 1 water year classification “dry”
  - A. NMWD notifies customer by bill message.

“There are dry year conditions on Lagunitas Creek which may trigger implementation of water shortage contingency measures. Final determination will be made on April 1. Please use water wisely.”
  - B. NMWD issues press release in February and March informing that potential dry year conditions exist and promoting customer participation in NMWD water conservation programs.
- II. April 1 water year classification “normal”
  - A. Spring edition of NMWD West Marin “Water Line” promotes conservation measures.
- III. April 1 water year classification “dry”
  - A. Spring edition of NMWD West Marin “Water Line” informs customers of “Water Shortage Emergency,” public hearing and contingency measures. Water conservation programs and giveaways to be on display.
  - B. Stages of Action published as required in Point Reyes Light and posted at Point Reyes Station post office.

Specific Triggers

- Stage 1 Trigger:** When the total precipitation that occurs from October through April 1 of the following year is less than 28” as measured at the MMWD Kent precipitation gage and the period is April 1 through June 30, or when the NMWD Board of Directors determines that Dry Conditions prevail based on advice from NMWD staff or the State Water Resources Control Board.
- Stage 2 Trigger:** When the total precipitation that occurs from October through April 1 of the following year is less than 28” as measured at the MMWD Kent precipitation gage and the period is July 1 through November 1, or when the NMWD Board of Directors determines that Dry Conditions prevail based on advice from NMWD staff or the State Water Resources Control Board.
- Stage 3 Trigger:** When the total precipitation that occurs from October through April 1 of the following year is less than 28” as measured at the MMWD Kent precipitation gage and water demands in any preceding thirty-day period exceed an average of 433,000 gpd, or when the NMWD Board of Directors determines that Critical Dry Conditions prevail based on advice from NMWD staff or State Water Resources Control Board.

Consumption Limits (do not apply where private well or recycled water supply is used)

**Stage 1:** (Request for up to \_\_\_\_\_% voluntary reduction)

Residential: \_\_\_\_\_% voluntary reduction in water use from a prior year for similar billing period to be determined by the NMWD Board of Directors depending on circumstances in place at the time of enactment.

Commercial and Industrial: \_\_\_\_\_% voluntary reduction in water use from a prior year for similar billing period (exceptions may be granted in order to preserve jobs) to be determined by the NMWD Board of Directors depending on circumstances in place at time of enactment.

**Stage 2:** (Mandatory water use restrictions to enable reduction in water use up to \_\_\_\_\_%)

Residential: Water use for certain purposes are restricted as determined by the NMWD Board of Directors depending on circumstances in place at time of enactment.

Commercial and Industrial: Water use for certain purposes are restricted as determined by the NMWD Board of Directors depending on circumstances in place at time of enactment (exceptions may be granted in order to preserve jobs).

**Stage 3:** (Up to 50% mandatory reduction)

Residential: \_\_\_\_\_% mandatory reduction in water use from a prior year for similar billing period or maximum gallons per person per day allowance to be determined by the NMWD Board of Directors depending on circumstances in place at time of enactment.

Commercial and Industrial: \_\_\_\_\_% mandatory reduction in water use from a prior year for similar billing period to be determined by the NMWD Board of Directors depending on circumstances in place at time of enactment (exceptions may be granted to preserve jobs).

Stages of Action

**Stage 1** Voluntary - achieve \_\_\_\_\_% reduction<sup>1</sup> in water use by implementation of any of the following

- a. Encourage voluntary rationing;
- b. Pursue vigorous enforcement of water wasting regulations and provisions of District's Water Conservation Regulation 17 which requires water saving devices in new construction, prohibits installation of certain wasteful types of turf configurations, and encourages turf avoidance;
- c. Request customers to make conscious efforts to conserve water;
- d. Request other governmental agencies to demonstrate leadership and implement restrictive water use programs;
- e. Distribute water saving kits upon customer request, to assure availability to existing and new customers (Note: Similar kits were distributed system wide to all customers

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<sup>1</sup>Exact amount and District wide measurement of goal and method of achievement to be established by Board of Directors after examining projected supplies and after holding water shortage emergency public hearing.

during the 1976-77 California drought);

- f. Encourage private sector to use alternate water sources such as recycled water or use of private wells;
- g. Encourage the non-commercial washing of privately owned motor vehicles, trailers and boats only from a bucket and except that a hose equipped with a shut-off nozzle may be used for a quick rinse.;
- h. Encourage nighttime irrigation;
- i. Request restaurants, hotels, cafes, cafeterias, bars or other public places where food or drink are served/purchased to serve water only upon request;
- j. Implement detailed measures from other stages to meet desired objective;
- k. Any use of potable water from a fire hydrant except for fighting fire, human consumption, essential construction needs or use in connection with animals;
- l. Navy style showering will be promoted (e.g., turn on water to wet person or persons, turn off water, lather up, scrub, then turn on water for a quick rinse, then turn off shower with free push button showerhead control valves available to customers upon request);
- m. Customers will be urged not to regularly flush their toilets for disposal of urine only;
- n. Request hotel and motel operators to provide guests with the option of choosing not to have towels and linens laundered daily;
- o. Prohibit use of potable water for dust control at construction sites or other locations;

**Stage 2** Mandatory - achieve a \_\_\_\_% reduction<sup>1</sup> in water use by declaring a water shortage emergency and implementing Stage 1 (voluntary) and Stage 2 (mandatory) restrictions on water use for the following certain purposes

- a. Washing sidewalks, driveways, parking areas, tennis courts, patios or other exterior paved areas except by the Marin County Fire Department or other public agency for the purpose of public safety;
- b. Refilling a completely drained swimming pool and/or initial filling of any swimming pool;
- c. Non-commercial washing of privately-owned motor vehicles, trailers and boats except from a bucket and except that a hose equipped with a shut-off nozzle may be used for a quick rinse;
- d. Watering of any lawn, garden, landscaped area, tree, shrub or other plant except from a hand-held hose or container or drip irrigation system except sprinklers can be used if customer maintains the volume or percent reduction pursuant to the NMWD Board of Directors determination compared to a prior year's use in same billing period;
- e. Any non-residential use by a vehicle washing facility in excess of the volume percent or reduction pursuant to the NMWD Board of Directors determination;
- f. Irrigating landscape other than between the hours of 7pm and 9am the following day;
- g. Irrigating landscape more than \_\_\_\_\_ days per week;
- h. Irrigating landscape during or within 48 hours of measureable precipitation;
- i. Irrigating with potable water of lawn area on public street medians.

- j. Intertie deliveries through the intertie to Inverness Public Utility District (IPUD), except for critical needs as determined by the General Manager.

**Stage 3** Mandatory – achieve up to a \_\_\_\_\_%<sup>2</sup> reduction in water use by declaring a water emergency and implementing Stage 1 (Voluntary), Stage 2 (Mandatory) and the following additional Stage 3 (Mandatory) requirements.

- a. Watering any residential lawn, or any commercial or industrial area lawn maintained for aesthetic purposes, at any time day or night during the period of July 1, through October 31. (These designated lawns will be allowed to dry up for the summer). Affected customers will be advised on tested methods for re-greening the lawns at minimum expense beginning on November 1, during a Stage 3 mandatory period if operating conditions permit. By following the prescribed instructions, the affected customers will likely avoid the cost of replacing lawns.
- b. Planting any new landscaping, except for designated drought resistant landscaping authorized by NMWD.
- c. Public groups may apply to the General Manager for exemptions for watering specific public lawns used extensively for community wide recreation. Such public area lawn watering shall only be done under methods and time periods prescribed by the General Manager. Such exemptions will only be given by the General Manager, if the mandatory \_\_\_\_\_% reduction in water can otherwise be achieved on a service area basis.
- d. All day and nighttime sprinkling will be discontinued. Any and all outside watering will be done only with a hand held nozzle. An exception will be made to permit drip irrigation for established perennial plants and trees using manual or automatic time controlled water application sufficient only for assured plant survival.
- e. No new annual plants, vegetables, flowers or vines may be planted until the Stage 3 mandatory period is over. An exception will be considered on a case by case basis for customers who are eliminating existing thirsty landscaping and replacing same with drought resisting landscaping prescribed by NMWD, as in b. above.
- f. Limit deliveries of water to outside service area customers to that needed for human consumption, sanitation and public safety only or as stipulated in outside service agreements.
- g. Discontinue all water deliveries through the intertie to IPUD.

Plan Preparation

This plan has been coordinated with County, State and Federal Emergency Services Offices.

Adoption of Plan

The Stage of Action will be enacted after public hearing required by the District's Emergency Water Conservation Ordinance and a determination by the District's Board of Directors that a West Marin Water Shortage Emergency exists.

Monitoring of Actual Water Use

Monitoring of water use will be by meters with data analysis using the District's computers.

Mandatory Prohibitions

Wasting of water is prohibited by Regulation 17 of the North Marin Water District.

Stage 2 and Stage 3 of the Water Shortage Contingency Plan contain specific mandatory provisions.

Revenue and Expenditure Analysis

Temporary Drought Revenue Recovery Surcharge

In the event that mandatory water use restrictions or mandatory reduction in water use is triggered (Stage 2 or Stage 3 herein), a Temporary Drought Revenue Recovery Surcharge may be implemented. The Temporary Drought Revenue Recovery Surcharge will serve to mitigate the revenue loss resulting from a reduction in water use. The Temporary Drought Revenue Recovery Surcharge shall be a quantity charge for each 1,000 gallons as specified in District Regulation 54.

**DRAFT**

**NORTH MARIN WATER DISTRICT  
WEST MARIN SERVICE AREA  
EMERGENCY WATER CONSERVATION ORDINANCE NO.**

April 1, 2014

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## EMERGENCY WATER CONSERVATION ORDINANCE

### ORDINANCE NO. 29

AN ORDINANCE OF NORTH MARIN WATER DISTRICT DECLARING THE EXISTENCE OF A WATER SHORTAGE EMERGENCY CONDITION WITHIN THE WEST MARIN SERVICE AREA OF THE DISTRICT, PROHIBITING THE WASTE AND NON-ESSENTIAL USE OF WATER, AND PROVIDING FOR THE CONSERVATION OF THE WATER SUPPLY OF THE DISTRICT

BE IT ORDAINED by the Board of Directors of North Marin Water District as follows:

#### ***Section 1. Declaration of a Water Shortage Emergency***

This Board of Directors does hereby find and declare as follows:

(a) A public hearing was held on April 1, 2014, on the matter of whether this Board of Directors should declare a water shortage emergency condition exists within the West Marin water service area of this District which is served by wells adjacent to Lagunitas Creek.

(b) Notice of said hearing was published in the Point Reyes Light and West Marin Citizen, newspapers of general circulation printed and published within said West Marin water service area of the District.

(c) At said hearing all persons present were given an opportunity to be heard and all persons desiring to be heard were heard.

(d) Said hearing was called, noticed and held in all respects as required by law.

(e) This Board heard and has considered each protest against the declaration and all evidence presented at said hearing.

(f) A water shortage emergency condition exists and prevails within the portion of the territory of this District served by wells adjacent to Lagunitas Creek. Said portion of this District is hereinafter referred to as the West Marin area and consists in all the territory of this District generally known as Point Reyes Station, Inverness Park, Olema, Bear Valley and Paradise Ranch Estates. Said water shortage exists by reason of the fact that the ordinary demands and requirements of the water consumers in the West Marin area cannot be met and satisfied by the water supplies available to this District in the West Marin Service Area without depleting the water supply to the extent that there would be insufficient water for human consumption, sanitation and fire protection.

(g) On April 1, 2014 the Board of Directors enacted the North Marin Water District Water Shortage Contingency Plan for the West Marin Service Area (Plan) and said Plan defines specific triggers for stages of action applicable to District customers, and pursuant to this ordinance. The specific triggers for stages of action vary and are determined based on rainfall measured at the Marin Municipal Water District Kent precipitation gage, calendar period and water demands in the West Marin Service Area.

#### ***Section 2. Purpose and Authority***

The purpose of this ordinance is to conserve the water supply of the District for the greatest public benefit with particular regard to public health, fire protection and domestic use, to conserve water by reducing waste, and to the extent necessary by reason of drought and the existing water shortage emergency condition to reduce water use fairly and equitably. This ordinance is adopted pursuant to Water Code Section 350 to and including 358, and Sections 31026 to and including

### ***Section 3. Effect of Ordinance***

This ordinance shall take effect on April 1, 2014, shall be effective only in the West Marin service area, shall supersede and control over any other ordinance or regulation of the District in conflict herewith, and shall remain in effect until the Board of Directors declares that the water shortage emergency has ended.

### ***Section 4. Suspension of New Connections to the District's Water System***

(a) From July 1, 2014 until, the Board of Directors by resolution declares that the water shortage has ended, which period is hereinafter referred to as the suspension period, no new or enlarged connection shall be made to the District's water system except the following:

- (1) connection pursuant to the terms of connection agreements which prior to July 1, 2014, had been executed or had been authorized by the Board of Directors to be executed;
- (2) connections of fire hydrants;
- (3) connections of property previously supplied with water from a well which runs dry.
- (4) connection of property for which the Applicant agrees to defer landscape installation until after the suspension period.

(b) During the suspension period applications for water service will be processed only if the Applicant acknowledges in writing that such processing shall be at the risk and expense of the Applicant and that if the application is approved in accordance with the District's regulations, such approval shall confer no right upon the Applicant or anyone else until the suspension period has expired, and that the Applicant releases the District from all claims of damage arising out of or in any manner connected with the suspension of connections.

(c) Upon the expiration of the suspension period, the District will make connections to its water system in accordance with its regulations and the terms of connection agreements for all said applications approved during the suspension period. The water supply then available to the District will be apportioned equitably among all the customers then being served by the District without discrimination against services approved during the suspension period.

(d) Nothing herein shall prohibit or restrict any modification, relocation or replacement of a connection to the District's system if the General Manager determines that the demand upon the District's water supply will not be increased thereby.

### ***Section 5. Waste of Water Prohibited***

No water furnished by the District shall be wasted. Waste of water includes, but is not limited to, the following:

- (a) permitting water to escape down a gutter, ditch or other surface drain;
- (b) failure to repair a controllable leak of water;
- (c) failure to put to reasonable beneficial use any water withdrawn from the District's system.

### ***Section 6. Prohibition of Non-Essential Use of Water***

(a) No water furnished by the District shall be used for any purpose declared to be non-essential by this ordinance for the following stages of action as determined by the Board of Directors

after considering specific triggers consistent with the Water Shortage Contingency Plan for the West Marin Service Area.

**Stage 1 - Voluntary Stage (15% reduction).** Achieve 15% reduction in water usage compared to the corresponding billing period in 2013 by encouraging voluntary rationing, enforcement of water wasting regulations and water conservation Regulation 17, requesting customers to make conscious efforts to conserve water, request restaurants to serve water only upon request, encourage private sector to use alternate source and encourage night irrigation.

**Stage 2 - Mandatory Stage (25% reduction)**

(b) The following uses are declared to be non-essential from and after July 1, 2014:

- (1) washing sidewalks, driveways, parking areas, tennis courts, patios or other exterior paved areas except by the Marin County Fire Department or other public agency for the purpose of public safety;
- (2) refilling a swimming pool drained after July 1, 2014;
- (3) non-commercial washing of privately-owned motor vehicles, trailers and boats except from a bucket and except that a hose equipped with a shut-off nozzle may be used for a quick rinse.
- (4) Request restaurants to serve water only upon request.

(c) The following additional uses are declared to be non-essential from and after July 1, 2014:

- (1) any use of water from a fire hydrant except for fighting fires, human consumption, essential construction needs or use in connection with animals;
- (2) watering of any lawn, garden, landscaped area, tree, shrub or other plant except from a handheld hose equipped with an automatic shut-off nozzle, container or drip irrigation system except overhead sprinkler irrigation can be used if customer maintains an overall 25% reduction in water use compared to the corresponding billing period in 2013, (customers using less than 200 gallons per day are permitted to water their landscape without a 25% reduction) and properly operates the irrigation system in a non-wasteful manner between the hours of 7:00 p.m. and 9:00 a.m the next day. If sprinkler water is used in a wasteful manner, the General Manager may prohibit sprinkling by that customer.
- (3) use of water for dust control at construction sites;
- (4) initial filling of any swimming pool for which application for a building permit was made after April 1, 2014;
- (5) use by a vehicle washing facility in excess of 25% less than the amount used by it during the corresponding billing period in 2013. If the facility was not operating in 2013, an assumed amount shall be computed by the District from its records.
- (6) any non-residential use in excess of 25% less than the amount used by the customer during the corresponding billing period in 2013. If connection to the District system was not in existence or use in 2013, an assumed amount will be computed from the District's records.
- (7) Intertie deliveries to Inverness Public Utilities District (IPUD), except for critical needs as determined by the General Manager
- (8) Deliveries to customers outside the service area except as needed for human

consumption, sanitation and public safety or as stipulated in outside service agreements.

### **Stage 3 - Severe Mandatory Rationing (50% reduction)**

(d) From and after the date that the Board of Directors, by resolution, determines that the water shortage emergency requires severe rationing, the following additional uses are declared to be non-essential:

- (1) Watering any residential lawn, or any commercial or industrial area lawn maintained for aesthetic purposes, at any time of the day or night during the period of August 1, through October 31, when a Stage 3 is in progress.
- (2) Planting any new landscaping, except for designated drought resistant landscaping prescribed by the District.
- (3) All day and nighttime sprinkling will be discontinued. Any and all outside watering will be done only with a hand held nozzle. An exception will be made for carefully timed drip irrigation for established perennial plants and trees. Only sufficient water for assured plant survival may be applied.
- (4) No new annual plants, vegetables, flowers or vines may be planted during the Stage 3 emergency period. An exception will be made for customers who are eliminating existing thirsty landscaping and replacing same with drought resisting landscaping prescribed by the District, as in (2) above.

The combined rationing including Stage 1, 2, and 3 is designed to achieve a minimum reduction of 50% or more in West Marin service territory water consumption as compared with normal year annual usage.

(e) The percentages stipulated in Stage 2 and Stage 3 may be increased by the General Manager for any class of customer if the General Manager determines that such increase is necessary to protect the public health, safety and welfare or to spread equitably among the water users of the District the burdens imposed by the drought and the shortage in the District's water supply.

### **Section 7. Variances**

Applications for a variance from the provisions of Section 6 of this ordinance may be made to the General Manager. The General Manager may grant a variance to permit a use of water otherwise prohibited by Section 6 if the General Manager determines that the variance is reasonably necessary to protect the public health and safety and/or economic viability of a commercial operation. Any decision of the General Manager under this section may be appealed to the Board of Directors.

### **Section 8. Violations**

(a) If and when the District becomes aware of any violation of any provision of Section 5 or 6 of this ordinance, a verbal warning will be given, then if the violation continues or is repeated, a written notice shall be placed on the property where the violation occurred and mailed to the person who is regularly billed for the service where the violation occurs and to any other person known to the District who is responsible for the violation or its correction. Said notice shall describe the violation and order that it be corrected, cured and abated immediately or within such specified time as the General Manager determines is reasonable under the circumstances. If said order is not complied with, the District may forthwith disconnect the service where the violation occurs.

(b) For the first offense, a fee of \$50 shall be paid for the reconnection of any service disconnected pursuant to subsection (a) during the suspension period. For each subsequent violation of Section 8 (a), the fee for reconnection shall be \$75.

(c) No service which is disconnected twice because of a violation of Section 5 or 6 of this ordinance during the suspension period, shall be reconnected unless a device supplied by the District which will restrict the flow of water to said service is installed. Furthermore, the fee for reconnection of such a service during the suspension period shall be \$100 in lieu of the fee required by subsection (b) hereof.

### ***Section 9. Signs on Lands Supplied from Private Wells***

The owner or occupant of any land within the West Marin water service area that is supplied with water from a private well shall post and maintain in a conspicuous place thereon a sign furnished by the District giving public notice of such supply.

### ***Section 10. Drought Surcharge***

In the event a mandatory reduction in water use is triggered under the District's Water Shortage Contingency Plan for the West Marin Service Area, a Drought Surcharge will be implemented simultaneous with enactment of the mandatory stage. The Drought Surcharge will serve to mitigate the revenue loss resulting from a reduction in water use, as well as to offset the cost for water purchased from Marin Municipal Water District (MMWD) under the Interconnection Agreement between North Marin Water District and MMWD triggered by dry year conditions. The Drought Surcharge shall be a quantity charge for each 1,000 gallons as specified in District Regulation 54.

\* \* \* \* \*

I hereby certify that the foregoing is a true and complete copy of an ordinance duly and regularly adopted by the Board of Directors of North Marin Water District at a regular meeting thereof held on April 1, 2014 by the following vote:

AYES: Directors Baker, Fraites, Petterle, Rodoni, Schoonover  
NOES: None  
ABSENT: None  
ABSTAINED: None

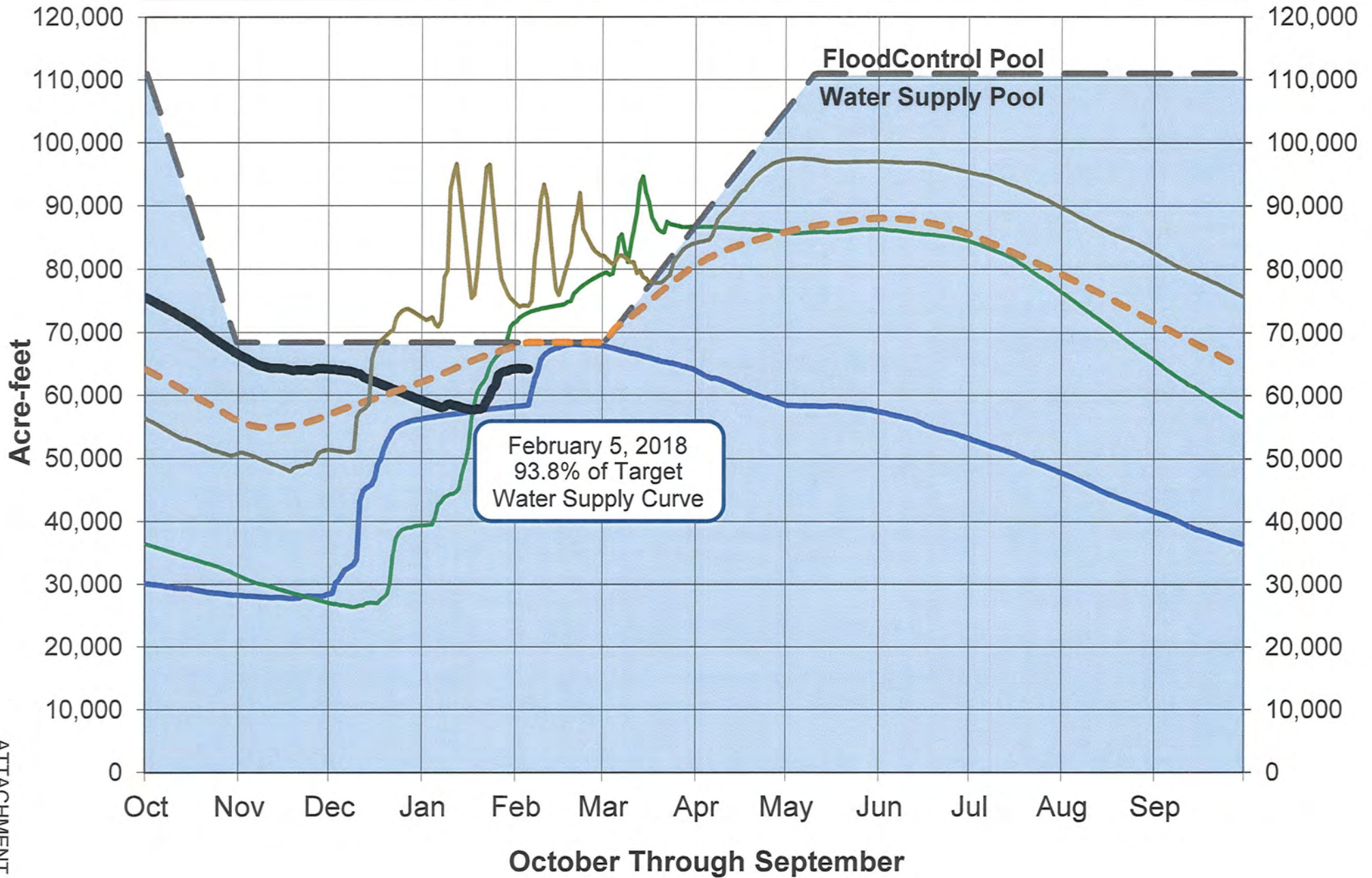
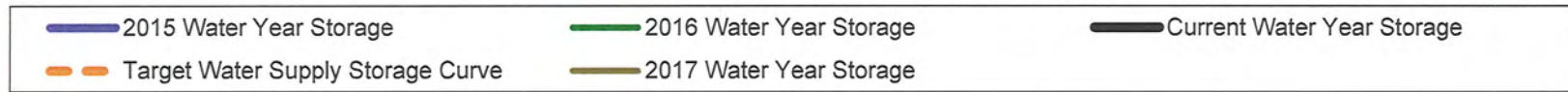
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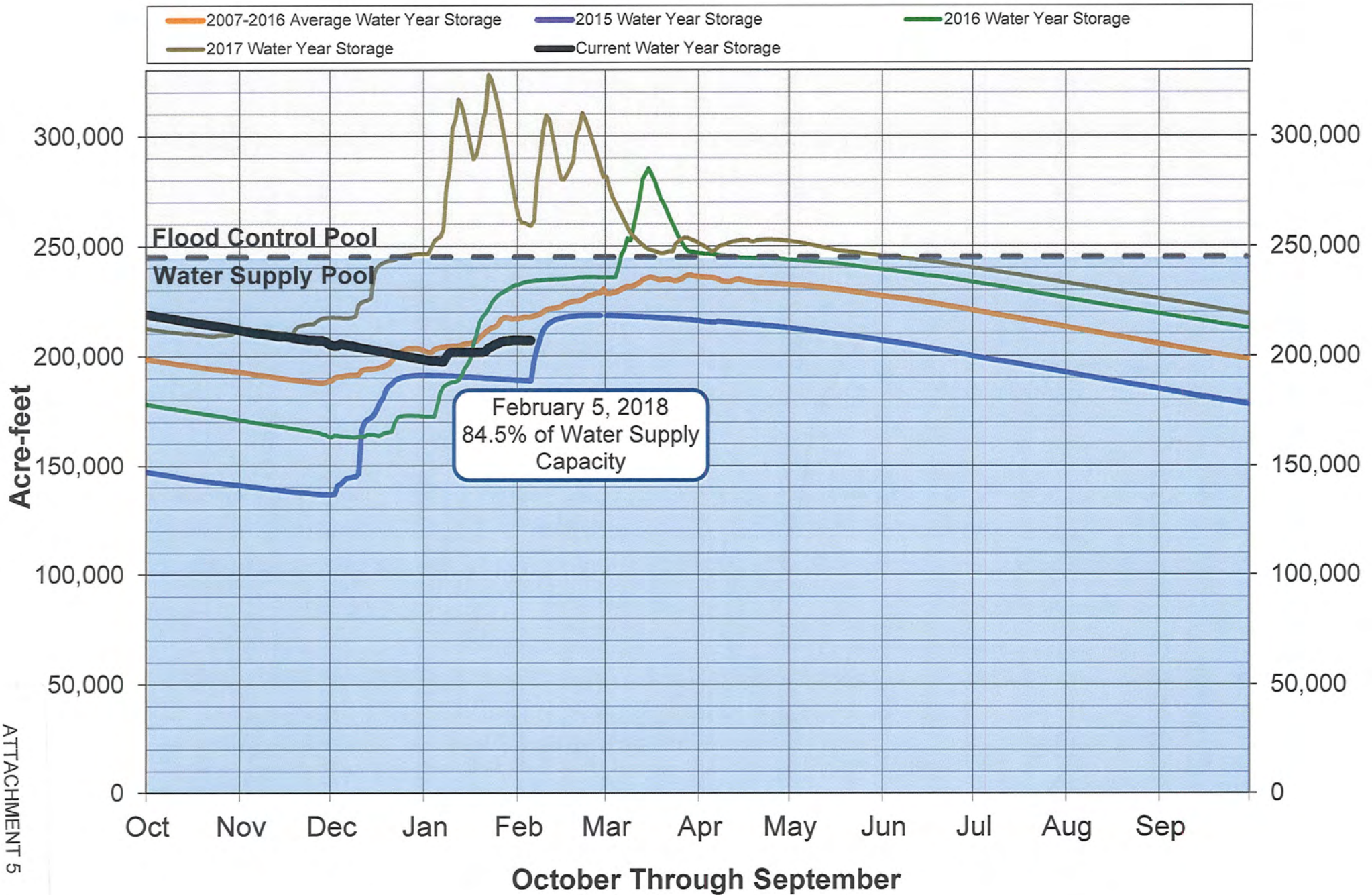
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Katie Young  
District Secretary  
North Marin Water District

# Lake Mendocino Storage



# Lake Sonoma Storage



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## MEMORANDUM

To: Board of Directors

February 16, 2018

From: Ryan Grisso, Water Conservation Coordinator *Rb*

Subject: Water Conservation Mid-Year Update (July-December 2017)

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**RECOMMENDED ACTION:** Information**FINANCIAL IMPACT:** NoneWater Conservation

This memo provides an update on all water conservation and public outreach activities implemented during the first half of Fiscal Year 2017/18 (FY 18). Water Conservation participation numbers for the first half of the current and previous two fiscal years are summarized in Table 1 below. Participation in some select water conservation programs continues to drop during this post drought period and this appears to be a consistent decline amongst other utility conservation programs throughout northern California.

**Table 1: Water Conservation Program Participation (July through December)**

Program	FY16	FY17	FY18
Water Smart Home Surveys	137	242	166
Water Smart Commercial Surveys	5	0	3
High Efficiency Toilet Rebates (Residential)	148	121	73
High Efficiency Toilet Rebates (Commercial)	1	1	0
Retrofit on Resale (Dwellings Certified)	116	136	127
High Efficiency Washing Machine Rebates	63	42	13
Cash for Grass Rebates	104	45	11 <sup>1</sup>
Water Smart Landscape Rebates	5	6	1
Smart Irrigation Controller Rebates	5	9	12
New Development Sign-offs (Residential Units)	19	22	62
New Development Sign-offs (Commercial Units)	10	11	9
Large Landscape Audits (Number of accounts)	5	0	2

<sup>1</sup> Cash for Grass participants removed 10,680 square feet in FY18 compared to 36,806 square feet in FY17

**Water Conservation Programs**

Water Smart Home Survey (WSHS) Program: This program provides the customer with an in-depth analysis of both their indoor and outdoor water use with water efficient recommendations

for customers to implement. The WSHS Program also provides staff with an opportunity to present applicable rebate programs which the participating customer may be eligible. WSHS participation has decreased with 166 WSHS completed during the first half of FY 18, compared to 242 completed in FY17, although still higher than previous fiscal years. The increase last fiscal year was due to the high water use calls that occurred between July and December of 2016 due to the meter reading issue.

Water Conservation Fixture Distribution: Staff continues to distribute water conserving fixtures at the front counter of the District Administration Building, on service calls and WSHS, and at various public outreach events. Fixtures include 1.5 gallon per minute (GPM) showerheads, 1.0 and 0.5 GPM sink aerators, hose nozzles (when available) and other related items. The District also offers commercial establishments installation of 0.5 GPM sink aerators on all hand-washing sinks when conducting a Water Smart Commercial Survey.

High Efficiency Toilet (HET) Replacement Program: The District provides \$100 rebates for residential and commercial customers, for purchase and installation of qualified HETs (1.28 gallons per flush). During the first half of FY 18, the District rebated 73 residential HETs. The Ultra High Efficiency Toilet (UHET) Rebate program, which offers a \$150 for toilets that flush less than 1.1 gallons per flush, was set up to help transform the market to the next level of toilet water use efficiency. 12 UHETs rebated were rebated during the first half of the fiscal year. In the future, staff will recommend elimination of the HET rebate, and retain the \$150 UHET rebate in an effort to continue market transformation and persuade stores to carry more UHET rebate eligible products.

Retrofit on Resale: The District currently requires toilets, showerheads, and bathroom sinks to be retrofitted to meet current water conservation standards by the seller before the close of escrow of any property sold in the District service area. HET rebates are available and fixtures (showerheads and sink aerators) are free to customers to help ease any potential financial hardships from the requirement. In the first half of FY 18, the District received certificates for 127 dwellings, which is a slight increase from the previous fiscal year.

High Efficiency Clothes Washer Rebate Program: The District currently offers rebates for qualified high efficiency clothes washing machines through the Sonoma-Marín High Efficiency Clothes Washer Program (with rebates paid directly by the District). During the first half of FY 18 the District rebated 13 clothes washing machines through the program. These numbers are significantly down from previous years due to the change to Energy Star "Most Efficient" rating which has a higher water efficient factor/qualification for rebate eligibility. Additionally, staff learned that the absence of the energy rebate has caused some confusion amongst purchasing customers as to whether or not there is in fact a water rebate. Staff has been conducting store visits when possible to educate salespeople on the program. In the future, staff will likely be recommending to sunset

this rebate program.

Cash for Grass Rebate Program: The District has rebated customers for removing irrigated turf and replacing with low water use landscaping since 1989 and has the longest active Cash for Grass Program in existence. Participation has decreased again in the first half of FY 18, with the District only rebating 11 Cash for Grass projects for a total of 10,680 square feet of turf removed. This is a trend throughout the State with other utilities experiencing similar decline in lawn removal participation (along with other water conservation programs) during the post-drought period.

Water Smart Landscape Rebate Program: The District currently rebates a percentage of equipment costs (up to \$100) for landscape efficiency upgrade projects such as spray to drip irrigation conversions, and high volume spray head to low volume multi-stream rotating spray head conversions. In the first half of FY 18 the District rebated one landscape efficiency upgrade project.

Water Smart Irrigation Controller Rebate Program: Rebates are available for purchase, installation and activation of District approved Smart Irrigation Controllers (Smart Controllers) at a minimum level of \$100, or \$30 per active station, up to \$1,200. The District rebated 12 controllers in the first half of FY 18. There has been an increase in the availability of reasonably priced mobile device-operated WiFi irrigation controllers, resulting in an increase in installations and participations. Staff expects this welcomed participation increase to continue as more products come to the market from online retailers at an affordable price point.

Large Landscape Water Conservation Program: The Large Landscape Water Conservation Program consists of the Large Landscape Audit Program, the Large Landscape Budget Program, Water Smart Controller Rebate Program (previously covered in the Water Smart Irrigation Controller Rebate Program section) and the Large Landscape Water Smart Landscape Efficiency Rebate Program. All programs are aimed at assisting large landscape accounts (dedicated irrigation and large mixed use meters) to become more water use efficient in their landscape water management practices. Two large landscape audits were performed in the first half of FY 18. However, large landscape conservation activities through the mid-year focused almost solely on recycled water onsite retrofit conversions.

## **Public Outreach and Conservation Marketing**

In the first half of FY18, the District distributed the Fall 2017 issue of "Water Line" to the Novato Service Area. This issue updated customers on water supply and conservation achievements, updated progress on the recycled water expansion project, formally announced that AMI is coming in 2018, and spotlighted solar projects in the watershed (solar power and solarbees). The District also actively maintains a Facebook page with regular updates on water use efficiency, construction projects and other District activities. Staff has created a NextDoor account and plans to do regular

postings to service area designated neighborhoods regarding District information (NextDoor is an emerging social media outlet allowing neighborhood level communication).

## **Budget**

Table 2 summarizes the mid-year expenditures for the last three fiscal years (July-December). Expenditures in FY18 have decreased compared to FY16 and FY15, mainly due to the declining program participation.

**Table 2: Water Conservation and Public Outreach Expenditures (July-December)**

	FY 18	FY 17	FY 16
Total Budget	\$440,000	\$410,000	\$410,000
July-December Actual	\$140,896	\$160,816	\$209,056

## **Prop 84 Grant Funding**

The District was awarded a Prop 84 Round 1 Grant (\$183,750 allocated to the District) in 2013, a Prop 84 Round 2 Grant (\$33,000 allocated to the District) in 2015, and a Prop 84 Round 3 Grant (\$94,000 allocated to the District) in 2016, in cooperation with the Sonoma County Water Agency (SCWA) and other Bay Area Agencies, which helped fund HET rebates, Cash for Grass rebates, Smart Controllers, and Clothes Washer rebates. To date, all grant funding has been expended except for a remaining balance of \$8,100 from the Prop 84 Round 3 Grant allocation (which should be expended by the end of the current fiscal year).

## **Staffing**

Water Conservation is staffed by one full time Water Conservation Coordinator and one half-time Water Conservation Technician. The District has also partnered with Sonoma County Water Agency through the Sonoma-Marin Saving Water Partnership to implement some of the District Water Conservation Programs including the WSHS program.

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## MEMORANDUM

To: Board of Directors

Date: February 16, 2018

From: Rocky Vogler, Chief Engineer *RV*

Subject: FY17-18 Mid-Year Progress Report – Engineering Department

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The purpose of this memo is to provide a mid-year status report to the Board on the District's performance in completing budgeted FY17-18 Capital Improvement Projects (CIP) with a primary emphasis on planned (i.e., baseline) versus actual performance. The following information supplements the progress report summary provided to the Board each month.

SUMMARY

<u>Service Areas</u>	<u>Project Costs (\$)</u>		<u>% Complete</u>		<u>Earned Value (\$)</u>	
	Budget (\$)	Forecast (\$)	Planned	Actual	Planned	Actual
Novato Water	10,415,000	6,891,000	55	44	3,930,000	2,245,900
Novato Recycled	6,545,000	3,483,500	50	83	7,177,500	5,670,150
West Marin	885,000	460,000	49	44	387,500	186,250
TOTAL	17,845,000	10,834,500	51	57	7,565,000	5,856,400

The above table summarizes the detailed tabulation of CIPs for both Novato and West Marin (including Oceana Marin) systems provided in Attachment A. The above tabulation shows that year-end Novato CIP expenditures are forecasted to be \$3,524,000 and \$2,701,500 below the respective approved FY17-18 budgets for water and recycled water. The year-end forecast for all service areas combined above represents approximately 61% of combined budgets (versus a forecast of 54% at this time last year). For the Novato Water system, actual District performance in completing CIP projects (i.e., 44%) is below planned performance (i.e., 55%). Actual performance for the Novato Recycled Water system is above planned performance for project completion (i.e., 83% vs. 50%). With respect to West Marin (including Oceana Marin), year-end CIP expenditures of \$460,000 are forecast to be below (i.e., 52%) the approved FY17-18 budget value (versus a forecast of 40% at this time last year). Planned performance through mid-year for West Marin was projected to be 49% and actual completion performance is at 44%. Overall, for the Novato Water, Novato Recycled Water and West Marin water systems, combined actual performance is above (i.e. 57%) planned performance (i.e. 51%).

Performance Status for Improvement Projects

A detailed milestone schedule update is provided in Attachment B. As shown on the following table (Page 3), a total of 35 projects (versus 35 in FY16-17) were originally budgeted in FY 17-18 for the Novato, West Marin and Oceana Marin service areas. Nine new projects have been added, one project has been carried over from FY16-17 and four projects have been deferred/deleted resulting in a new total of 41 projects. Of the 41 Capital Improvement Projects

budgeted, 24 (versus 18 in FY16-17) are under the lead responsibility of the Engineering Department for completion (20 in Novato and 4 in West Marin). The remaining 17 (versus 19 in FY16-17) CIP projects are under the responsibility of the other departments (i.e., 5 – Maintenance, 11 – Operations and 1 - Admin) (Refer to the tabulation in Attachment A for a complete line item listing).

#### Novato Service Area Project Variances

As shown in Attachment A, all but four of the projects listed in the FY17-18 Novato CIP are currently projected to be completed at or below original budget.

Two projects have been added (Crest Rd Main Replacement and Watershed Erosion Control), and two deferred/dropped (Electronic Document Management System, Office/Yard Building Renovation) during the second quarter.

#### Novato Recycled Water Service Area Project Variances

No recycled water projects have been added or deferred/dropped during the second quarter.

#### West Marin Service Area (including Oceana Marin) Project Costs Variances

As shown in Attachment A, all of the FY17-18 West Marin CIP expenditures are currently projected to be completed within the original budget. Two West Marin projects have been added (New Gallagher Well No. 2 and PRTP Solids Handling), and none deferred/dropped during the second quarter.

#### Engineering Department Labor Hours

The Engineering Department provides a multitude of functions supporting overall operation, maintenance and expansion of water facilities. The major work classifications are: (1) General Engineering, (2) Developer Projects and (3) District (i.e., CIP) Projects. Out of the approximately 14,900 engineering labor hours available annually (less Conservation), the FY17-18 labor budget for Developer Projects and District Projects is 1,414 (10% of total) and 4,000 (27% of total), respectively. A chart of actual hours expended versus budgeted hours for both Developer and District projects during FY17-18 is provided in Attachment C. At the end of the second quarter, actual engineering labor hours expended for Developer work was 17% (247 hours) versus 50% (707 hours) budgeted. With respect to District Projects, 1,586 engineering labor hours (40% of budget) have been expended on Capital Improvement Projects versus 50% (2,000 hours) budgeted.

FY 17-18  
CAPITAL IMPROVEMENTS PROJECTS

	NOVATO SERVICE AREA	WEST MARIN/ OCEANA MARIN	TOTAL
PROJECTS BUDGETED			
Original Budget	27	8	35
Added	4	5	9
FY 16-17 Carryover	1	0	1
Deferred/Dropped	3	1	4
Adjusted Budget	29	12	41

**FY16-17 CARRYOVER**

**Date Brought to Board**

Novato  
Country Lane Pipeline Replacement

First Quarter Report

West Marin  
None

**DEFERRED/DROPPED**

Novato  
Coat Concrete Clearwells  
Electronic Document Management System  
Office/Yard Building Renovation

First Quarter Report  
Second Quarter Report  
Second Quarter Report

West Marin  
Design/Install 8<sup>th</sup> Disposal Trench (300')

First Quarter Report

**PROJECTS ADDED**

Novato  
Grant Ave Bridge Pipe Replacement  
Stafford Spillway Repairs  
Crest Rd Main Replacement  
Watershed Erosion Control

First Quarter Report  
First Quarter Report  
Second Quarter Report  
Second Quarter Report

West Marin  
Gallagher Well Motor Operated Valve  
OM Treatment and Storage Pond Repair – FEMA  
OM Treatment Pond Rehab (Storm Recovery)  
New Gallagher Well No. 2  
PRTP Solids Handling

First Quarter Report  
First Quarter Report  
First Quarter Report  
Second Quarter Report  
Second Quarter Report

FY 17-18  
 CAPITAL IMPROVEMENTS PROJECTS

	NOVATO SERVICE AREA	WEST MARIN/ OCEANA MARIN	TOTAL
PROJECTS BUDGETED			
Original Budget	27	8	35
Added	4	5	9
FY 16-17 Carryover	1	0	1
Deferred/Dropped	3	1	4
Adjusted Budget	29	12	41

**FY16-17 CARRYOVER**

**Date Brought to Board**

Novato  
 Country Lane Pipeline Replacement

First Quarter Report

West Marin  
 None

**DEFERRED/DROPPED**

Novato  
 Coat Concrete Clearwells  
 Electronic Document Management System  
 Office/Yard Building Renovation

First Quarter Report  
 Second Quarter Report  
 Second Quarter Report

West Marin  
 Design/Install 8<sup>th</sup> Disposal Trench (300')

First Quarter Report

**PROJECTS ADDED**

Novato  
 Grant Ave Bridge Pipe Replacement  
 Stafford Spillway Repairs  
 Crest Rd Main Replacement  
 Watershed Erosion Control

First Quarter Report  
 First Quarter Report  
 Second Quarter Report  
 Second Quarter Report

West Marin  
 Gallagher Well Motor Operated Valve  
 OM Treatment and Storage Pond Repair – FEMA  
 OM Treatment Pond Rehab (Storm Recovery)  
 New Gallagher Well No. 2  
 PRTP Solids Handling

First Quarter Report  
 First Quarter Report  
 First Quarter Report  
 Second Quarter Report  
 Second Quarter Report

NOVATO SYSTEM CAPITAL IMPROVEMENT PROJECTS SUMMARY FY17-18										
AS OF DECEMBER 31, 2017										
STATUS	DEPT	ITEM #	PROJECT NO.	DESCRIPTION	PROJECT COSTS		% COMPLETE		EARNED VALUE	
					Budget	Forecast	Baseline	Actual	Planned	Actual
				1. PIPELINE REPLACEMENTS/ADDITIONS						
PC	Eng	1	1.a.1	Ridge Rd 6" ACP (8" @ 1,400')	\$325,000	\$400,000	20	5	\$65,000	\$20,000
C	Eng	2	1.a.2	Center Rd 6" CIP (8' @ 1,200')	\$275,000	\$545,000	50	100	\$137,500	\$545,000
PC	Eng	3	1.b.1	San Mateo 24" Inlet/Outlet Pipe	\$50,000	\$40,000	50	50	\$25,000	\$20,000
	Eng	4	1.c.1	Repl PB in Sync w/City Paving	\$70,000	\$70,000	20	0		\$0
PC	Eng	5	1.c.2	PB Repl: Margaret/Arlene/Susan/Hector/Laguna Vista (18)	\$180,000	\$80,000	25	3	\$45,000	\$2,400
C	Eng	6	1.c.4	Grant Ave Bridge Main Replacement	\$0	\$158,500	100	100	\$0	\$158,500
C	Eng	7	1.c.5	Crest Rd Main Replacement	\$0	\$69,000	100	100	\$0	\$69,000
	Eng	8	1.d.1	Other Relocations	\$80,000	\$0				\$0
				SubTotal	\$980,000	\$1,362,500				
				2. SYSTEM IMPROVEMENTS						
PC	Eng	9	2.a	Flushing Taps at Dead-Ends	\$50,000	\$25,000	50	0	\$25,000	\$0
PC	Eng	10	2.b	DCDA Repair/Replace	\$190,000	\$190,000	50	25	\$95,000	\$47,500
PC	Eng	11	2.c	Anode Installations	\$30,000	\$0	50	50	\$15,000	\$0
PC	Maint	12	2.d	Radio Telemetry	\$25,000	\$25,000	50	50	\$12,500	\$12,500
PC	Eng	13	2.e	Automate Zone Valve (Slowdown Ct)	\$100,000	\$0	50	5	\$50,000	\$0
PC	Admin	14	2.f	AMI Retrofit	\$4,700,000	\$2,600,000	50	0	\$2,350,000	\$0
				SubTotal	\$5,095,000	\$2,840,000				
				3. BUILDINGS, YARD, & S.T.P. IMPROVEMENTS						
	Admin		3.a.1	Electronic Document Management System DEFERRED	\$150,000	\$0			\$0	\$0
	Admin		3.a.2	Office/Yard Building Renovation DEFERRED	\$1,500,000	\$0			\$0	\$0
	Maint	15	3.b.1	Other Yard Improvements	\$30,000	\$0				
C	Eng	16	3.c.1	Dam Concrete Repair (Apron)	\$50,000	\$54,000	100	100	\$50,000	\$54,000
			3.c.2	Coat Concrete Clearwells - DEFERRED	\$490,000	\$0				
PC	Ops	17	3.c.3	Watershed Erosion Control	\$0	\$3,500			\$0	\$0
C	Eng	18	3.c.5	Stafford Spillway Repairs	\$0	\$81,000	100	100	\$0	\$81,000
				SubTotal	\$2,220,000	\$138,500				
				4. STORAGE TANKS & PUMP STATIONS						
PC	Eng	19	4.a	San Mateo Recoat (1st year)	\$1,900,000	\$2,400,000	50	50	\$950,000	\$1,200,000
PC	Ops	20	4.b	Hydropneumatic Tank Repairs	\$30,000	\$30,000	50	25	\$15,000	\$7,500
PC	Maint	21	4.c	Lynwood PS Motor Control Center	\$100,000	\$30,000	50	10	\$50,000	\$3,000
PC	Ops	22	4.d	Lynwood PS Can Rehab	\$15,000	\$15,000	50	50	\$7,500	\$7,500
C	Ops	23	4.e	San Marin PS Can Rehab	\$15,000	\$15,000	50	100	\$7,500	\$15,000
PC	Eng	24	4.f	Crest PS (design/const)/Reloc School Rd PS	\$60,000	\$60,000	50	5	\$30,000	\$3,000
				SubTotal	\$2,120,000	\$2,550,000				
				Novato Water Total	10,415,000	\$6,891,000	55	44	\$3,930,000	\$2,245,900
				5. RECYCLED WATER FACILITY						
PC	Eng	25	5.a	NBWRA Grant Program Administration	\$80,000	\$18,500	50	50	\$40,000	\$9,250
PC	Eng	26	5.b-j	Recycled Water Central Service Area	\$6,365,000	\$3,365,000	50	100	\$3,182,500	\$3,365,000
PC	Maint	27	5.k	Upgrade Auto-Fill Valve at Reservoir Tank	\$50,000	\$50,000	50	100	\$25,000	\$50,000
	Eng	28	5.l	Other Recycled Water Expenditures	\$50,000	\$50,000				
				Novato Recycled Total	\$6,545,000	\$3,483,500	50	83	\$3,247,500	\$3,424,250
				Total Novato	\$16,960,000	\$10,374,500	55	49	\$7,177,500	\$5,670,150
C - Completed				PROJECT FORECAST REVISED						
PC - Partially completed				Baseline projects with revised forecast budget increases (indicated by shaded box)						
				Baselined projects to be deferred (indicated in strikeout)						
				New projects added (indicated in bold)						
				Prior year projects carried over indicated in italics and brackets <->						

WEST MARIN CAPITAL IMPROVEMENT PROJECT SUMMARY FY17-18 AS OF DECEMBER 31, 2017										
STATUS	DEPT	ITEM #	PROJECT NO.	DESCRIPTION	PROJECT COSTS		% COMPLETE		EARNED VALUE	
					Budget	Forecast	Baseline	Actual	Planned	Actual
			6. West Marin Water System System Improvements							
PC	Eng	29	6.a	Replace PRE Tank #4A	\$550,000	\$150,000	50	50	\$275,000	\$75,000
C	Ops	30	6.b	Green Sand Filter Media Replace	\$75,000	\$25,000	50	100	\$37,500	\$25,000
	Eng	31		New Gallagher Well No. 2	\$0	\$10,000				
	Eng		6.c	PB Replace in Sync w/County Paving DEFER	\$50,000	\$0	0	0		
	Eng	32	6.d	TP Solids Handling	\$0	\$50,000	10	0	\$0	\$0
C	Ops	33	6.e	Gallagher Well Motor Operated Valve	\$0	\$15,000	50	100	\$0	\$15,000
					\$675,000	\$250,000				
			7. Oceana Marin Sewer System							
	Ops	34	7.a	Infiltration Repair	\$40,000	\$0	50	0	\$20,000	\$0
			7.b	Design/Install 8th Disposal Trench (300') - DELETED	\$80,000	\$0			\$0	\$0
C	Maint	35	7.c	Tahiti Way Lift Pumps Rebuild	\$20,000	\$0	100	100	\$20,000	\$0
	Ops	36	7.d	Tahiti Way Power Relocation	\$20,000	\$0	50	0	\$10,000	\$0
PC	Ops	37	7.e	Pond Dredging & Relining	\$50,000	\$50,000	50	10	\$25,000	\$5,000
C	Ops	38	7.f	OM Treatment Pond Rehab (Storm Recovery)	\$0	\$125,000	25	25	\$0	\$31,250
C	Ops	39	7.g	OM Treatment and Storage Pond Repair - FEMA (404)	\$0	\$35,000	100	100	\$0	\$35,000
				SubTotal	\$210,000	\$210,000				
				Total West Marin	\$885,000	\$460,000	49	44	\$387,500	\$186,250
				FY17-18 TOTAL	\$17,845,000	\$10,834,500	51	57	\$7,565,000	\$5,856,400
<sup>1</sup> C - Completed				PROJECT FORECAST REVISED						
PC - Partially completed				Baseline projects with revised forecast budget increases (indicated by shaded box)						
				Baselined projects to be deferred (indicated in strikeout)						
				New projects added (indicated in bold)						
				Prior year projects carried over indicated in italics						

# FY17\_18 CAPITAL IMPROVEMENT PROJECTS

ID	Task Name	Start	Finish	% Complete	Resp	Qtr 1, 2018			Qtr 2, 2018			Qtr 3, 2018			Qtr 4, 2018		
						Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
1	<b>1A PIPELINE REPLACEMENTS/ADDITIONS</b>	Sat 7/1/17	Sat 7/1/17														
2	1A1 Ridge Rd 6" ACP (8"@1,400') - Design	Sat 7/1/17	Sat 6/30/18	5%	ENG / CC												
3	1A2 Center Rd 6" CIP (8" @1,300') (NEW)	Sat 7/1/17	Sat 6/30/18	100%	ENG / DJ												
4	<b>1B MAIN/PIPELINE ADDITIONS</b>	Sat 7/1/17	Sat 6/30/18														
5	1B1 San Mateo 24" Inlet/Outlet	Sat 7/1/17	Sat 6/30/18	50%	ENG / DJ												
6	<b>2 SYSTEM IMPROVEMENTS</b>	Sat 7/1/17	Sat 6/30/18														
7	2A Flushing Taps at Dead-Ends	Sat 7/1/17	Sat 6/30/18	0%	ENG / CC												
8	2B DCA Repair/Replace	Sat 7/1/17	Sat 6/30/18	25%	ENG / DJ												
9	2C Anode Installations	Sat 7/1/17	Sat 6/30/18	50%	ENG / CC												
10	2D Radio Telemetry	Sat 7/1/17	Sat 6/30/18	50%	MAINT/RC												
11	2E Automate Zone Valve (Slowdown Ct)	Sat 7/1/17	Sat 6/30/18	5%	ENG / DJ												
12	2F AMI Retrofit (Pilot Study/Install)	Sat 7/1/17	Sat 6/30/18	0%	ADMIN / DB												
13	<b>3 BUILDING, YARD, STP IMPROVEMENTS</b>	Sat 7/1/17	Sat 6/30/18														
14	<b>3A ADMIN BUILDING</b>	Sat 7/1/17	Sat 6/30/18														
15	3A1 Electronic Document Management System DEFERRED	Sat 7/1/17	Sat 6/30/18	0%	ADMIN												
16	3AS Office/Yard Building Refurbish Design DEFERRED	Sat 7/1/17	Sat 6/30/18	0%	ADMIN / DM												
17	<b>3C STAFFORD TREATMENT PLANT</b>	Sat 7/1/17	Sat 6/30/18														
18	3C1 Dam Concrete Repair (Apron)	Sat 7/1/17	Fri 12/8/17	100%	ENG / RV												
19	3C2 Coat Concrete Clearwells DEFERRED	Sat 7/1/17	Sat 6/30/18	0%	OPS / RC												
20	3C3 Stafford Spillway Repairs	Sat 7/1/17	Sat 6/30/18	100%													
21	<b>4 STORAGE TANKS/PUMP STATIONS</b>	Sat 7/1/17	Sat 6/30/18														



Current  Baseline  Progress

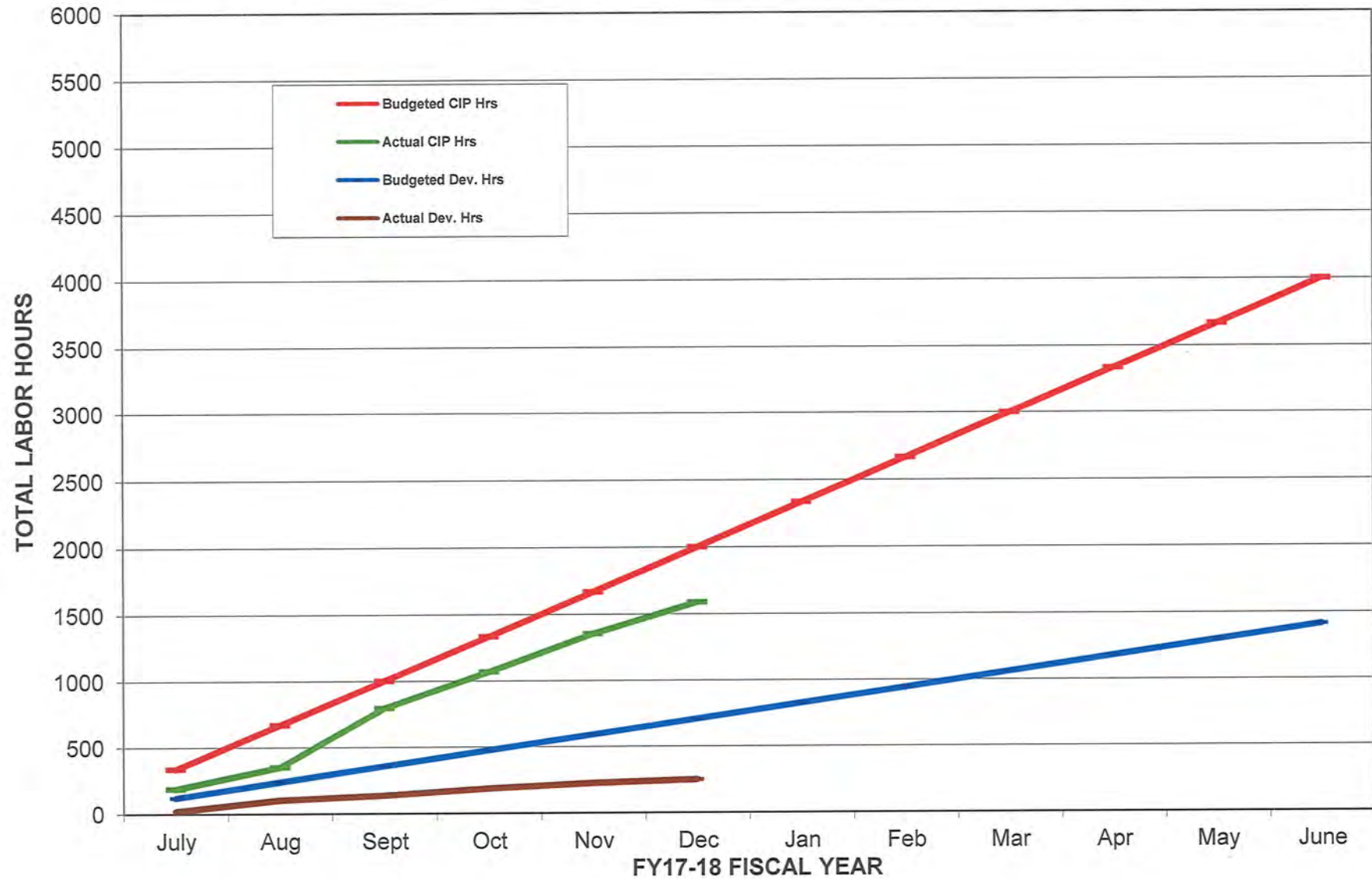
# FY17\_18 CAPITAL IMPROVEMENT PROJECTS

ID	Task Name	Start	Finish	% Complete	Resp	Qtr 1, 2018			Qtr 2, 2018			Qtr 3, 2018			Qtr 4, 2018		
						Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
22	4B1 San Mateo Tank Recoat	Sat 7/1/17	Sat 6/30/18	50%	ENG / CC												
23	4B2 Hydropneumatic Tank Repairs	Sat 7/1/17	Sat 6/30/18	25%	OPS / RC												
24	4C Lynwood Pump Station Motor Control Center	Sat 7/1/17	Sat 6/30/18	10%	MAINT/RC												
25	4D Lynwood PS Can Rehab - Design	Sat 7/1/17	Sat 6/30/18	50%	ENG / DJ												
26	4E San Marin PS Can Rehab	Sat 7/1/17	Sat 6/30/18	100%	ENG / DJ												
27	4F Crest PS (Design/Const)/Reloc School Rd PS - Design	Sat 7/1/17	Sat 6/30/18	5%	ENG / DJ												
28	<b>5 RECYCLED WATER</b>	Sat 7/1/17	Sat 6/30/18														
29	5A NBWRA Grant Program Admin	Sat 7/1/17	Sat 6/30/18	50%	ENG / DM												
30	5B RW Central	Sat 7/1/17	Sat 6/30/18	100%	ENG /CC/DJ												
31	5C Upgrade Auto-Fill Valve at Reservoir Tank	Sat 7/1/17	Fri 9/1/17	100%	MAINT / RC												
32	<b>6 WEST MARIN WATER SYSTEM IMPROVEMENTS</b>	Sat 7/1/17	Sat 6/30/18														
33	6A Replace PRE Tank #4A - Design	Sat 7/1/17	Sat 6/30/18	50%	ENG / CC												
34	6B Green Sand Filter Media Replace	Sat 7/1/17	Fri 12/1/17	100%	OPS / RC												
35	6D PRTP Solids Handling	Sat 7/1/17	Sat 6/30/18	0%	ENG / DJ												
36	6E Gallagher Well Motor Operated Valve	Sat 7/1/17	Sat 6/30/18	100%	OPS / RC												
37	<b>7 OCEANA MARIN SEWER SYSTEM</b>	Sat 7/1/17	Sat 6/30/18														
38	7A Infiltration Repair	Thu 3/1/18	Sat 6/30/18	0%	OPS / RC												
39	7B Design/Install 8th Disposal Trench (300') DELETED	Sat 7/1/17	Sat 6/30/18	0%	ENG / RV												
40	7C Tahiti Way Lift Pumps Rebuild	Sat 7/1/17	Sat 6/30/18	100%	MAINT/RC												
41	7D Tahiti Way Power Relocation	Thu 2/1/18	Sat 6/30/18	0%	OPS / RC												
42	7E Pond Dredging & Relining	Sat 7/1/17	Sat 6/30/18	10%	OPS / RC												
43	7F OM Treatment Plond Rehab (Storm Recovery	Fri 6/29/18	Sat 6/30/18	25%	OPS / RC												
44	7G OM Treatment and Storage Pond Repair - FEMA (404)	Sat 7/1/17	Sat 6/30/18	100%	OPS / RC												



Current  Baseline  Progress

## ENGR. DEPT DEVELOPER & DISTRICT CAPITAL IMPROVEMENT PROJECTS (CIPs)



13

**DISBURSEMENTS - DATED FEBRUARY 8, 2018**

Date Prepared 2/6/18


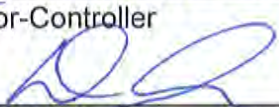
The following demands made against the District are listed for approval and authorization for payment in accordance with Section 31302 of the California Water Code, being a part of the California Water District Law:

<u>Seq</u>	<u>Payable To</u>	<u>For</u>	<u>Amount</u>
EFT*	CalPERS	February Health Insurance Premium (Employees \$47,041, Retirees \$11,232 & Employee Contribution \$8,036)	\$66,309.60
1	Athens Administrators	January Replenish Workers' Comp Checks Written	\$2,654.51
2	Bearings & Hydraulics	Outlet Tower Hydraulic Hoses (6)	1,490.24
3	Bentley, David	Exp Reimb: Novato Chamber Honors Dinner (\$90) & January Mileage	204.45
4	Chang, Gary	Novato "Toilet Rebate" Program	100.00
5	Clark, Robert	Exp Reimb: Course Registration for 3/7/18 Sanitary System Management Planning in Hayward	395.00
6	Covello Group	Progress Pymt#16: Nov-Dec 2017 RW Exp Project Central Service Area (Balance Remaining on Contract \$42,006)	77,269.27
7	CWEA	Certification Renewal Lab Analyst Grade 1 (Bena) (Budget \$90) (4/18-3/19)	85.00
8	Fager Geller, Sandra	Novato "Toilet Rebate" Program	200.00
9	Golden Gate Petroleum	Lubrication Oil for Various Motors @ STP (5 gal)	443.74
10	Grainger	Chemical Sign (STP), Hanna Ranch Sump Pump (\$240), Check Valve, Hydraulic Oil for Outlet Tower (5 gals) (\$253) & Self-Adhesive Danger Sign	542.04
11	Green, Hilary	Refund Overpayment on Open Account	73.46
12	Hach	pH Tester (STP)	156.67
13	Hooper, Keith	Novato "Washer Rebate" Program	50.00

<u>Seq</u>	<u>Payable To</u>	<u>For</u>	<u>Amount</u>
14	Idexx Laboratories	Colilert Media for RW Testing Colilert Media for RW Testing (Lab)	3,384.37
15	InfoSend	December Monthly Support & Processing Fee for Water Bill Printing & Mailing (\$1,039) & Postage (\$2,850)	4,623.50
16	Jones, Nancy	Novato "Water Smart Landscape Efficiency Program" Rebate	100.00
17	Kaiser	DMV/DOT Physical (Barrilleaux)	115.00
18		Vision & Cafeteria Plan: Uninsured Medical Reimbursement	282.00
19	Laidley, John	Novato "Toilet Rebate" Program	100.00
20	Lincoln Life	Deferred Compensation PPE 1/31/18	12,250.65
21	Lucchesi, Sarah	Cafeteria Plan Reimbursement	416.66
22	Maltby Electric	Electrical Outlets, Switches & Cover Plates for Stock	169.28
23		Cafeteria Plan: Uninsured Medical Reimbursement	183.49
24	Marin County Ford	Starter Motor ('99 F350)	225.02
25	Nationwide Retirement Solution	Deferred Compensation PPE 1/31/18	2,150.00
26	Neopost USA	February Postal Meter Rental	108.20
27	Novato, City of	Street Excavation Moratorium Fee (33 Knolltop)	500.00
28	Novato Sanitary District	October (\$9,441) & November 2017 RW Operating Expense	13,567.05
29	Office Depot	Laminator (\$81), Sign Holders (2) & Hot Cups (600) (Less Credit of \$91 for Returned Cups)	46.04
30	Pace Supply	Hex Nuts (1,193) (\$474), Concrete Box w/Bolt Down Lid for Amaroli Tank Signal Wires, & Gaskets (20) (\$239)	760.03
31	Parkinson Accounting Systems	December Accounting Software Support	487.50
32	NMWD Petty Cash	Petty Cash Reimbursement	69.92

Seq	Payable To	For	Amount
33	Piazza Construction	Prog Pymt#7: RW Exp Central Service Area (Balance Remaining on Contract \$7,952)	132,469.43
34	Piazza Construction Escrow Account	5% Retainer: Piazza Construction-RW Central Norman Tank Project	6,972.07
35	Recology Sonoma Marin	February Trash Removal	465.08
36	Redwood Empire Chapter of Maintenance Superintendents Association	Annual Membership & Meeting for MSA on March 7, 2018 (New Membership, No Budget)	65.00
37	Reliable Hardware & Steel	Flat Stock for Tool Tray Dividers	45.36
38	Sack, John	Novato "Toilet Rebate" Program	100.00
39	Soiland	Asphalt Recycling (5 tons)	15.00
40	S-Scapes	Annual Backflow Testing Services for Customer Owned RP Devices (38)	2,340.00
41	Streakwave Wireless	SCADA Radios (3)	263.09
42	Thomas Scientific	Sulfate Standard (Lab)	53.75
43	Verizon Wireless	Cellular Charges: Data (\$294) & Airtime (\$100) (20)	394.08
44	Volvo Construction Equipment	Oil & Air Compressor Filters (2 of ea)	514.18
		<b>TOTAL DISBURSEMENTS</b>	<b><u>\$266,900.13</u></b>

The foregoing payroll and accounts payable vouchers totaling \$266,900.13 are hereby approved and authorized for payment.

	<u>2/5/18</u>
Auditor-Controller	Date
	<u>2/5/18</u>
General Manager	Date

# **DISBURSEMENTS - DATED FEBRUARY 15, 2018**

Date Prepared 2/13/18

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
P/R*	Employees	Net Payroll PPE 1/31/18	\$135,607.88
EFT*	US Bank	Federal & FICA Taxes PPE 1/31/18	54,850.19
EFT*	State of California	State Taxes & SDI PPE 1/31/18	10,908.73
EFT*	Employment Development Department	Unemployment Claims Period Ending 12/31/17 (McDonough & Leonard)	779.00
EFT*	CalPERS	Pension Contribution PPE 1/31/18	34,017.73
1	Able Tire & Brake	Tires (4) ('07 Trailmax Trailer)	980.53
2	Alpha Analytical Labs	Lab Testing	2,125.00
3	BlackPoint Tree Service	Fire Control Trimming Along Vineyard Road	3,600.00
4	Buck's Saw Service	Chainsaw Air Filters (3) & Primer Bulb	66.98
5	Cilia, Joseph	Retiree Exp Reimb (Feb Health Ins)	343.66
6	DeGabriele, Chris	Retiree Exp Reimb (Feb Health Ins)	1,006.54
7	Diggs, James	Retiree Exp Reimb (Feb Health Ins)	342.23
8	Enthalpy Analytical	Sludge Testing for OM Pond Dredge Project	258.00
9	Environmental Express	Break Caps for Vials for IC Instrument (1,000) (Lab)	128.77
10	Friedman's Home Improvement	Conduit Couplings (4)	4.71
11	Golden Gate Petroleum	Gas (\$2.70/gal) & Diesel (\$3.09/gal)	2,028.33
12	Grainger	Broom Handles (10), Insulated Electrical Gloves (\$78), Engine Block Heater for OM Generator (\$153), Loppers (2), Welding Hose, Spare Parts & Valves @ STP, Replacement Push-Button Spigot for Water Coolers (2) & Replacement Smoke Detectors (3) (\$114) (Lab)	525.30
13	Hardy Diagnostics	Media (Lab)	261.23

Seq	Payable To	For	Amount
14	International Fire	Annual Fire Extinguisher Inspections (49) & Replacement Extinguishers (7) (\$405)	1,287.40
15	Latanyshyn, Roman	Retiree Exp Reimb (Feb Health Ins)	343.66
16	Lomason, Kathy	Novato "Toilet Rebate" Program	100.00
17	Maltby Electric	Circuit Breakers for O.M. Generators & Pump Motor Splices (3), 3/4" Conduit (150') (\$335) & Electrical Enclosures	484.32
18	Manzoni, Kyle	Novato "Cash for Grass Rebate" Program	400.00
19	Marin County Recorder	Replenish Draw-Down Account for Official Record Copies	200.00
20	Marin Reprographics	Bond Paper (234-22" x 34" & 4-36X150)	302.57
21	McMaster-Carr Supply	Access Hatch Limit Switches (2) & Safety Storage Cabinet for Auto Shop (\$1,106)	1,230.28
22	Minuteman Press	5" x 12" x 3" Signs "Irrigated with Recycled Water" (200)	1,998.15
23	Moore, Doug	Retiree Exp Reimb (Feb Health Ins)	1,006.54
24	New Pig	Absorbent Mat Pads (\$291) (600) & All-Purpose Wipes (830)	427.73
25	Pace Supply	Sump Pump Check Valves (4), Flanges (2) (\$116), Bushings (3), Couplings (15), Hydrants (2) (\$2,222), 1" Pipe (84'), Reducers (14), Ball Valve & Brush	2,876.38
26	Andy Poncia Fertilizer	Remove Sludge & Filter Material @ STP	15,000.00
27	Quincy Compressor	Rotary Air Compressors (2) & Integrated Air Dryers (2) (\$17,430) & Drain for Air Compressors (2) (STP)	17,660.79
28	Red Wing Shoe Store	Safety Boots (Kristofors, Roberto & Foster)	556.41
29	Schwaab	"Not Approved" & "Regulatory" Stamps for Lab	64.56
30	Scott Technology Group	Quarterly Maintenance on Engineering Copier	676.07
31	Sequoia Safety Supply	Overalls (3) (\$117), Jackets (2) (\$127) & Safety Glasses (24)	321.09
32	Sjoblom, Jeff	Exp Reimb: Safety Boots	200.00

Seq	Payable To	For	Amount
33	Soiland	Asphalt Recycling (3 tons)	15.00
34	Stafford, Vernon	Retiree Exp Reimb (Feb Health Ins)	343.66
35	Synectic Technologies	Quarterly Phone System Maintenance	446.70
36	TPx Communications	January Telephone Charges	463.51
37	The Transmitter Shop	Recondition & Calibration Tank Level Transmitters (Atherton & Pacheco Tanks)	889.00
38	United Rentals	Water Tank Lid	110.24
39	USA BlueBook	Valve, Curb Key Kits (2) & Safety Gloves (2,000) (STP)	666.14
40	Verizon Wireless	AMI Gateways (26), O.M. SCADA, Novato SCADA (2) & CIMIS Station	638.32
41	VWR International	Endo Broth (Lab)	75.60
42	White Cap Construction	Injection Gel (4 gal)	367.82
<b>TOTAL DISBURSEMENTS</b>			<b><u>\$296,986.75</u></b>

The foregoing payroll and accounts payable vouchers totaling \$296,986.75 are hereby approved and authorized for payment.

  
Auditor-Controller

2/13/18  
Date

  
General Manager

2/12/18  
Date



**NORTH MARIN WATER DISTRICT**  
**Director's Compensation Request**  
**for Attendance at Meetings Other than District Board Meetings**

RECEIVED  
JAN 22 2018  
North Marin Water District

BOARD MEMBER: RICK FRAITES

50 Forrest Road  
Novato, CA 94947

DATE 01/22/18  
(TODAY'S DATE)

I attended the

North Bay Watershed Association

(NAME OF MEETING OR WORKSHOP)

on 01/05/18

(DATE OF MEETING)

and wish to be compensated as provided under the Board Compensation Policy.

DIRECTOR SIGNATURE

**FOR ACCOUNTING USE ONLY**

OB 2/14/18  
APPROVED TO PAY BY DATE

CHARGE TO: 56001-01-11

AMOUNT: \$ \_\_\_\_\_  
(filled in by Accounting)

PAID PAY PERIOD ENDING \_\_\_\_/\_\_\_\_/\_\_\_\_



**NORTH MARIN WATER DISTRICT**  
**Director's Compensation Request**  
**for Attendance at Meetings Other than District Board Meetings**

BOARD MEMBER: JOHN BAKER

425 Corte Norte  
Novato, CA 94949

DATE

1,24,18  
(TODAY'S DATE)

I attended the "NORTH BAY WATER" Mtg on 1,22,18  
(NAME OF MEETING OR WORKSHOP) (DATE OF MEETING)

and wish to be compensated as provided under the Board Compensation Policy.

  
DIRECTOR SIGNATURE

**FOR ACCOUNTING USE ONLY**

  
APPROVED TO PAY BY

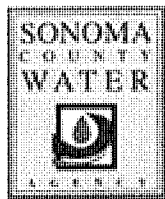
2/14/18  
DATE

CHARGE TO: 56001-01-11

AMOUNT:\$  
(filled in by Accounting)

PAID PAY PERIOD ENDING \_\_\_\_ / \_\_\_\_ / \_\_\_\_

RECEIVED  
JAN 24 2018  
North Marin Water District



## PRESS RELEASE

**For Immediate Release**  
**February 16, 2018**

**CONTACT:**

Ann DuBay  
707.524.8378  
707.322.8185  
[Ann.DuBay@scwa.ca.gov](mailto:Ann.DuBay@scwa.ca.gov)

### **Public Meeting on Local Fish Habitat Restoration Projects**

**Santa Rosa, CA** – On Thursday, Feb. 22 the Public Policy Facilitating Committee (PPFC) will hold its annual meeting to review projects that are helping to restore endangered and threatened fish to the Russian River watershed while maintaining the region's primary water supply. This year's meeting will include a walking tour of a habitat enhancement project on Dry Creek.

"It's been nearly 10 years since the release of this 15-year plan to help Russian River coho, Chinook salmon and steelhead. We hope people can join us as we review accomplishments and hear what's next," said Sonoma County Water Agency Board Chairman James Gore, who also chairs the PPFC. "We'll also be having some fun, and taking a walking tour of a Dry Creek habitat enhancement site."

The meeting and tour will take place from 10 a.m. to 12 p.m. at the Lake Sonoma Visitors Center, 333 Skaggs Springs Road, Geyserville. The nearly one-mile walking tour of a habitat enhancement site will take place off-site, following the meeting. Sturdy shoes are strongly recommended for the tour. Please email [ann.dubay@scwa.ca.gov](mailto:ann.dubay@scwa.ca.gov) if you are interested in the tour, to ensure adequate parking and supplies.

The Biological Opinion was released by National Marine Fisheries Service (NMFS) in September 2008. This 15-year plan requires the Sonoma County Water Agency (Water Agency) and the U.S. Army Corps of Engineers (USACE) to modify Russian River water supply and flood control operations to prevent harm to endangered coho salmon and threatened steelhead trout. The PPFC – comprised of elected and appointed officials from public agencies throughout the region – meets annually to review implementation of the Russian River Biological opinion.

The Biological Opinion requirements include reducing minimum summertime flows in the Russian River and Dry Creek; changing the way the sandbar is managed at the estuary between May 15 and October 15; enhancing habitat in Dry Creek; and fish monitoring.

Presentations on Feb. 22 will include video footage from a new drone that is being used to streamline monitoring of the Dry Creek Habitat Enhancement Project. The public will have an opportunity to comment.

### **Meeting Details**

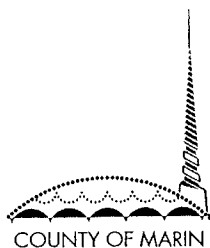
- DATE: Thursday, Feb. 22, 2018
- TIME: 10:00 a.m. – 12:00 noon
- LOCATION: Lake Sonoma Visitors Center, 3333 Skaggs Springs Rd., Geyserville

The meeting agenda is available at [www.sonomacountywater.org/rrifr](http://www.sonomacountywater.org/rrifr). For additional information, please contact Ann DuBay at [Ann.DuBay@scwa.ca.gov](mailto:Ann.DuBay@scwa.ca.gov) or 707.524.8378.

###

*The Sonoma County Water Agency is working to secure our future by investing in our water resources, community and environment. The Water Agency provides water supply, flood protection and sanitation services for portions of Sonoma and Marin counties. Visit us on the Web at [www.sonomacountywater.org](http://www.sonomacountywater.org).*

Ann DuBay  
Sonoma County Water Agency  
Community & Government Affairs Manager  
(707) 524-8378 (office)  
(707) 322-8185 (cell)



## BOARD OF SUPERVISORS

PRESIDENT  
Damon Connolly  
1<sup>ST</sup> DISTRICT

January 31, 2018

VICE PRESIDENT  
Kathrin Sears  
3<sup>RD</sup> DISTRICT

Mr. Drew McIntyre  
58 Shields Lane  
Novato, CA 94947

2<sup>ND</sup> VICE PRESIDENT  
Katie Rice  
2<sup>ND</sup> DISTRICT

Dear Mr. McIntyre:

Dennis Rodoni  
4<sup>TH</sup> DISTRICT

I am pleased to inform you of your reappointment to the Flood Control Zone #1 (Novato) Advisory Board. Your appointment was made by unanimous vote of the Board of Supervisors at their meeting on January 30, 2018. Your term is for four years and will expire on November 30, 2021 (four years from your original term expiration date 11/30/17).

Judy Arnold  
5<sup>TH</sup> DISTRICT

You will need to be sworn in for your new term before you can vote on matters presented to the Board. Please check with the staff person, who will arrange for you to take your Oath of Office before your next meeting.

Matthew H. Hymel  
COUNTY ADMINISTRATOR  
CLERK OF THE BOARD

Your interest in continuing to serve on this important Board is very much appreciated.

Sincerely,

A handwritten signature in black ink, which appears to read "Shelagh Stewart-Chung".

Shelagh Stewart-Chung  
Deputy Clerk of the Board

Marin County Civic Center  
3501 Civic Center Drive  
Suite 329  
San Rafael, CA 94903  
415 473 7331 T  
415 473 3645 F  
415 473 6172 TTY  
[www.marincounty.org/bos](http://www.marincounty.org/bos)

cc: Joanna Dixon

**Edwin Victor Grundstrom(1926 - 2018)**

Edwin Victor Grundstrom was a man who brings to mind thoughts of community, family, legal practice based in integrity, laughter, and of course fishing. On February 7, 2018, the North Bay communities of Marin and Sonoma lost a dear friend. After ninety-one years, Ed, who lived robustly, was driven by passion and governed through justice and love, left us gracefully to fish with the angels and tend to the vineyards of heaven. Born on November 29, 1926 in the city of Petaluma to Jennie and Edwin Grundstrom, Ed was educated in Petaluma public schools before taking flight into his adult life. He grew up with his brother Floyd and sister Edie, raised in a simpler time, filled with afternoons in his parents' music store, weekend fishing trips, and summers working the fields of

Petaluma. Life moved quickly for a small town boy who held big dreams in his heart. Before long, Ed was a graduate of Santa Rosa Junior College, U.S.C., and finally Stanford Law in 1956. Ed proudly served in the military from 1944-1953, tasked at one point with assisting the establishment of the Thule Air Force base in Greenland. After being honorably discharged, finishing law school and being the proud husband and father of a budding family, it was time to dive into adulthood with both feet. Ed began his career in law in 1956 as a partner to Clark Palmer. Soon they expanded to Palmer, Grundstrom, and Duckworth and ultimately, Ed went on his own as Edwin Grundstrom, Esq., practicing civil law in downtown Novato. While Ed's law career flourished, so did his private life. He fathered three daughters with his wife Genevieve: Jan, Jill, and Deidre. All three girls grew up in Novato, attending the local schools before embarking out in the world to follow their own dreams. Jan is the mother of four (Jessica, John, Joshua, and Cassie), Jill is the mother of two girls (Katie and Elsa) and Deidre is the mother of two girls (Rachel and Jennie). The families thrive and their homes are filled with laughter and remnants of Ed's presence. As time passed and the winds changed, Ed found himself married to his second wife Renate and took on the role of stepfather to her daughters Ina (mother to Kyle) and Katerina. At the end of the day, when Ed closed those sparkling eyes for the last time he was surrounded by the love of his wife, ex-wife, his sister, five daughters, nine grandchildren, five great-grandchildren and the sympathetic eyes of his hound Prince Valentine. Throughout his lifetime, Edwin Grundstrom was not only a pillar for his community, but an innovator. He received a state of California award for his work developing Pioneer Park in Novato, as well as founding and organizing the conversion project of Novato General hospital, creating the non-profit Novato Community hospital. Ed was a founding member of the Novato Kiwanis club, along with being president. A special pride for him was his involvement in the birthing of the American Indian Museum in Novato. He not only was integral in the opening, but in maintaining the integrity of the museum by remaining on the board for many years. Along with these community contributions, Ed actively participated in developing real estate in Novato. He was a co-developer of Industrial Park in Ignacio with Soiland Company Inc., and also developed the Redwood Center (with Al Belucci and Carl Jacobsen), which now houses the Marin Community Clinics. When he wasn't developing, founding, practicing, raising children (or a glass of wine), laughing, arguing, or causing an amiable ruckus there were moments you might find Ed quietly fishing, smiling up at the sun as his expertly tied fly bounced downstream. I imagine that is where he is today, looking at a lifetime of well procured accomplishments with that sparkle in his eye and a hearty laugh of love. Funeral to be held at Parent-Sorensen Mortuary & Crematory in Petaluma on February 16, 2018 at 2 p.m. and a memorial will be held on March 24, 2018 (for details, please contact us at 4edgrundstrom@gmail.com) Donations can be made to Hospice by the Bay or Stanford Law School.

**Funeral Home****Parent-Sorensen Mortuary and Crematory - Petaluma**

850 Keokuk Street Petaluma, CA 94952

(707) 763-4131

**Published in Marin Independent Journal on Feb. 14, 2018**

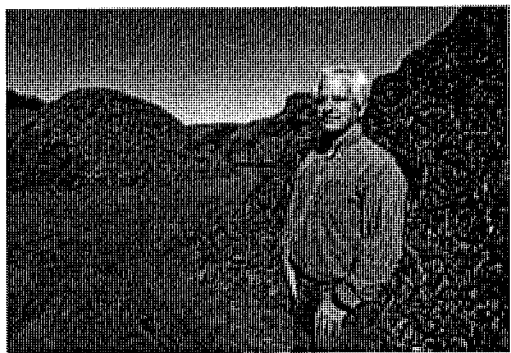
Marin Independent Journal (<http://www.marinij.com>)

## West Marin ranch gets grant to reduce greenhouse gas

### Nicasio composter gets state grant for cleaner manure process

*By Adrian Rodriguez, Marin Independent Journal*

Monday, February 12, 2018



An organic dairy farm in Nicasio is changing its manure management practice in a step toward reducing greenhouse gases thanks to a \$744,000 state grant.

The grant from the California Department of Food and Agriculture will fuel a project at the Lafranchi Ranch to build a dry scrape manure management system, rather than a flush system, to collect livestock manures that are processed into compost.

Lafranchi Ranch is 1,150 acres with more than 400 dairy cows and 3,000 free range chickens. The ranch is was one of 17 projects

awarded statewide. The grant was announced Monday.

With the flush system, the water leeches all of the nutrients out of the manure and washes the solid and liquid waste into a nearby manure lagoon where it is contained. And methane, a greenhouse gas 25 times more powerful than carbon dioxide, is released into the air.

“Now all of those nutrients will be going into our compost and not into the air creating greenhouse gases,” said Kevin Lunny, owner of West Marin Compost and former owner of the now defunct Drakes Bay Oyster Co. “It creates a much better compost.”

The West Marin Compost operation uses the manure collected from the dairy to process a variety of mulches and soils. It gets its green waste from landscapers, tree service crews and other locals, and it also collects local equestrian waste.

### BUSINESS IN MARIN > MORE COVERAGE

A dropoff site to dump green waste is at 5575 Nicasio Valley Road. The compost is processed at the Lafranchi Ranch up the road.

West Marin Compost is a private-public operation that stemmed from a coalition formed in 1998 that saw that there was a need to alleviate the dairy waste, equestrian waste and green waste in the West Marin community. The business is privately owned and operated, but was jump-started with the help of the Marin County Conservation District, the county Board of Supervisors and the U.S. Department of Agriculture.

“It’s a success story about the community coming together and creating what’s needed for the community,” Lunny said.

It is about a \$500,000 annual business with three full-time employees producing about 20,000 cubic yards of compost yearly. Each year, “we’ve been in the red,” Lunny said, as the business is struggling to break even.

But he said when West Marin Compost opened for business in 2005, it was on the promise that the business would be viable, and that it could self-sustain as a private entity.

Lunny said the business would have to make about \$50,000 annually more to be in a comfortable position.

To do that, tipping fees for chipped green waste have increased from \$5 per cubic yard to \$20. The price changed about three weeks ago after the operators realized that chipped wood is a condensed material and they've been undercharging.

Nancy Scolari, executive director of the Marin Resources Conservation District, said that without the compost site, all of the dairy ranchers, horse boarders and other livestock and green waste producers would have to either have to internally compost or haul their waste to landfills.

"I hate to imagine that," she said. "West Marin Compost contributes to the overall watershed health in Marin County."

Lagunitas resident Gina Smith is a customer of West Marin Compost, and her husband Jeff, owner of Evergreen Tree Service, takes cut trees and trimmings to the dropoff site.

"They make really beautiful compost," Gina Smith said. "It just feels clean, like we're closing the loop."

Will Bakx, owner and manager of the Sonoma Compost, has been working with Lunny and Lafranchi Ranch as a consultant and helped apply for the grant. He hopes that the construction of the dry-scrape system will be completed by fall 2019.

At that time, the ranchers hope to be much more efficient, said Randy Lafranchi, a partner and manager of the Lafranchi Ranch.

"Mainly it's going to benefit the environment," he said.

The funds come from the Alternative Manure Management Program and are administered through the Greenhouse Gas Reduction Fund.

Assemblyman Marc Levine, D-San Rafael, said, "The Lafranchis deserve recognition for their technological innovations in ranching and farming. Their project highlights their commitment to reducing greenhouse gas emissions and improving the agricultural sector's practices."

The Alternative Manure Management Program aims to reduce methane emissions and limit the effects of climate change. The program provides financial incentives to implement such practices.

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URL: <http://www.marinij.com/business/20180212/west-marin-ranch-gets-grant-to-reduce-greenhouse-gas>

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TUESDAY, FEBRUARY 13, 2018

## CALIFORNIA

# Dam inspection legislation shipped to governor's desk

**By Don Thompson***The Associated Press*

**SACRAMENTO »** California would beef up dam inspections under legislation sent to Gov. Jerry Brown Monday, a year after a near disaster prompted the evacuation of nearly 200,000 residents living downstream from the tallest U.S. dam.

The Assembly unanimously gave final approval to the bill requiring annual inspections for dams deemed to be high hazards.

The measure also sets standards for inspections, requires inspectors to consult with independent experts to update dam safety measures every 10 years and requires that inspection reports be available to the public with certain sensitive information withheld if it creates a security risk.

Republican Assemblyman James Gallagher was among those who evacuated when officials feared the collapse of both the main and emergency spillways before they were deemed safe days later.

"We left not knowing if we would even have a home to return to. But we came back vowing 'Never again,'" said Gallagher, who sponsored the bill. "This disaster jeopardized lives, property and California's water supply."

The bill implements several subsequent experts'



RICH PEDRONCELLI — THE ASSOCIATED PRESS

Water gushes through break in the wall of the Oroville Dam spillway on Feb. 9, 2017. Pending state legislation seeks to beef up inspection standards.

recommendations, including requiring that inspectors no longer simply accept the safety presumed in original design and construction materials, said Democratic Assemblywoman Susan Talamantes Eggman of Stockton.

The annual inspections would be required for dams classified as being significant, high or extremely high hazards, and every two years for dams classified as low hazard. Critical spillway control features would have to be tested each year and witnessed by state inspectors at least every three years.

The federal rankings are based on factors including the size of the dam and its degree of risk to people downstream, not the dam's current condition.

A separate new law requires California dam inspectors to also consider the dam's condition. California has 678 dams deemed high hazard, 271 deemed significant hazard and 289 low hazard under the federal guidelines.

Officials and residents of communities downstream from Oroville Dam, many wearing black "We Give A Dam" t-shirts, later called for the state to pay more than \$1 billion in damages claims in pending lawsuits, and for the federal government to include community representatives in dam relicensing discussions.

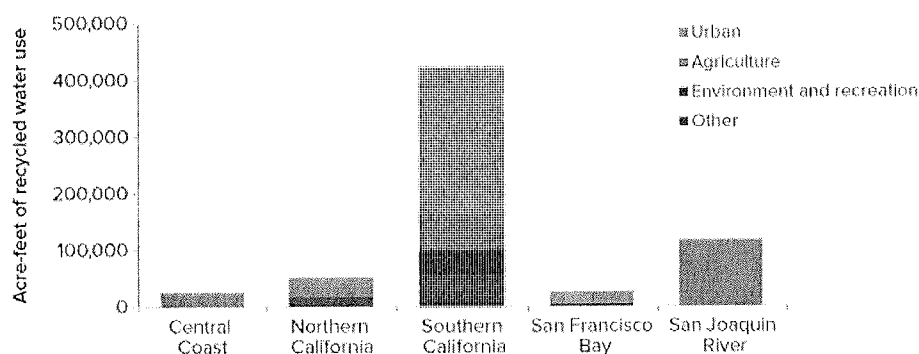
"We shouldn't have to host this bathtub without being made whole," Butte County Supervisor Bill Connelly said at a Capitol news conference.

# Alternative Water Supplies

**Alternative supplies are a small but important part of the state's water portfolio.**

Alternative water sources—recycled wastewater, urban stormwater, and desalinated seawater and brackish water—now provide 2–3% of the state's urban and farm water supply, and they are growing rapidly. Recycled water use has more than doubled since the late 1980s to 700,000 acre-feet annually. Desalination capacity grew more than fourfold since 2006 to nearly 200,000 acre-feet in 2016. Much of this growth is due to investments by urban water agencies, particularly in Southern California. This trend is expected to continue.

**Southern California communities have invested heavily in recycled water**



SOURCE: State Water Resources Control Board. Municipal Wastewater Recycling Survey, 2017.

NOTES: The figure shows municipal recycled water use in 2015. Southern California includes the South Coast, Colorado River, and South Lahontan hydrologic regions. Northern California includes the North Coast, Sacramento River, and North Lahontan hydrologic regions. Urban includes groundwater recharge, landscape irrigation, commercial use, and golf courses. Other includes water used for geothermal production, preventing seawater intrusion, and other uses.

**Having a mix of water sources improves drought resilience.**

Water managers traditionally rely on a mix of surface water and groundwater to meet water supply needs. But increasingly they're looking to alternative sources to augment supplies and buffer against drought. On-site water reuse—whether in buildings, homes, or on farms—can also reduce demand for existing supplies. Previous droughts have prompted many water managers to supplement their supply portfolios with one or more of these alternative supplies. Many utilities plan to build alternative supply projects over the next decade.

**Some alternative water sources are particularly drought resistant.**

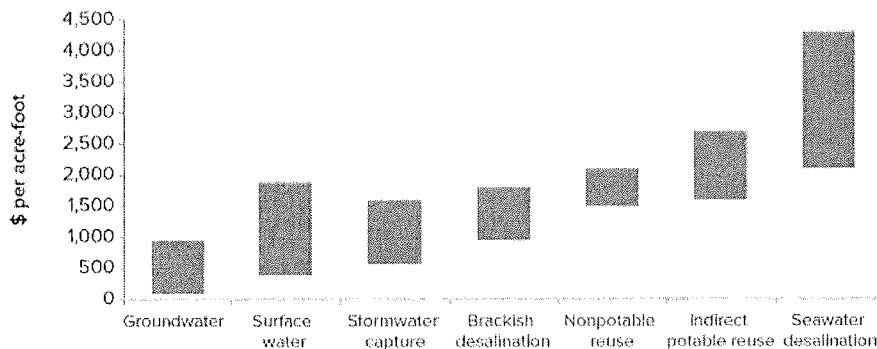
Since recycled and desalinated water are not directly linked to weather conditions, they increase reliability when traditional supplies are constrained by drought. However, a number of

factors can affect the reliability or limit the use of alternative sources. For example, the amount of municipal wastewater for recycling can be limited by indoor water conservation. Stormwater captured by retention basins, permeable pavement, or roof-top collection requires adequate rain and accessible above- or below-ground storage. Geography is also a constraint. Desalination of seawater is extremely reliable but is limited to coastal communities. Brackish water desalination is also very reliable but requires a source of saline groundwater or surface water.

### **In general, alternative water supplies are more expensive.**

While developing alternative supplies may be cheaper in some cases than investing in new surface or groundwater sources, they are often more expensive per unit of water produced than traditional supplies. Along with the initial cost of construction, recycling and desalination processes can have significant ongoing energy costs. Yet utilities may be willing to pay a premium for new alternative sources that boost reliability. Even seawater desalination—one of the most costly sources—is a viable option in some coastal communities where other supplies are not adequate to meet demands during droughts. Demand management approaches, such as water use efficiency and water trading, can make water available more cheaply than investments in new supplies. Decisions to invest in alternative supplies are complex and based on local circumstances. What works in coastal cities might not work in inland areas, and what works in Southern California might not work in Northern California.

### **Alternative supplies generally cost more than new surface and groundwater sources**



SOURCES: Groundwater costs: Perrone, D. and M. Rohde, "Benefits and Economic Costs of Managed Aquifer Recharge in California," 2016. Surface water costs: calculated by the authors using data from the Water Storage Investment Program of the California Water Commission. All other costs: Cooley, H. and R. Phurisamban, "The Cost of Alternative Water Supply and Efficiency Options in California," Pacific Institute, 2016.

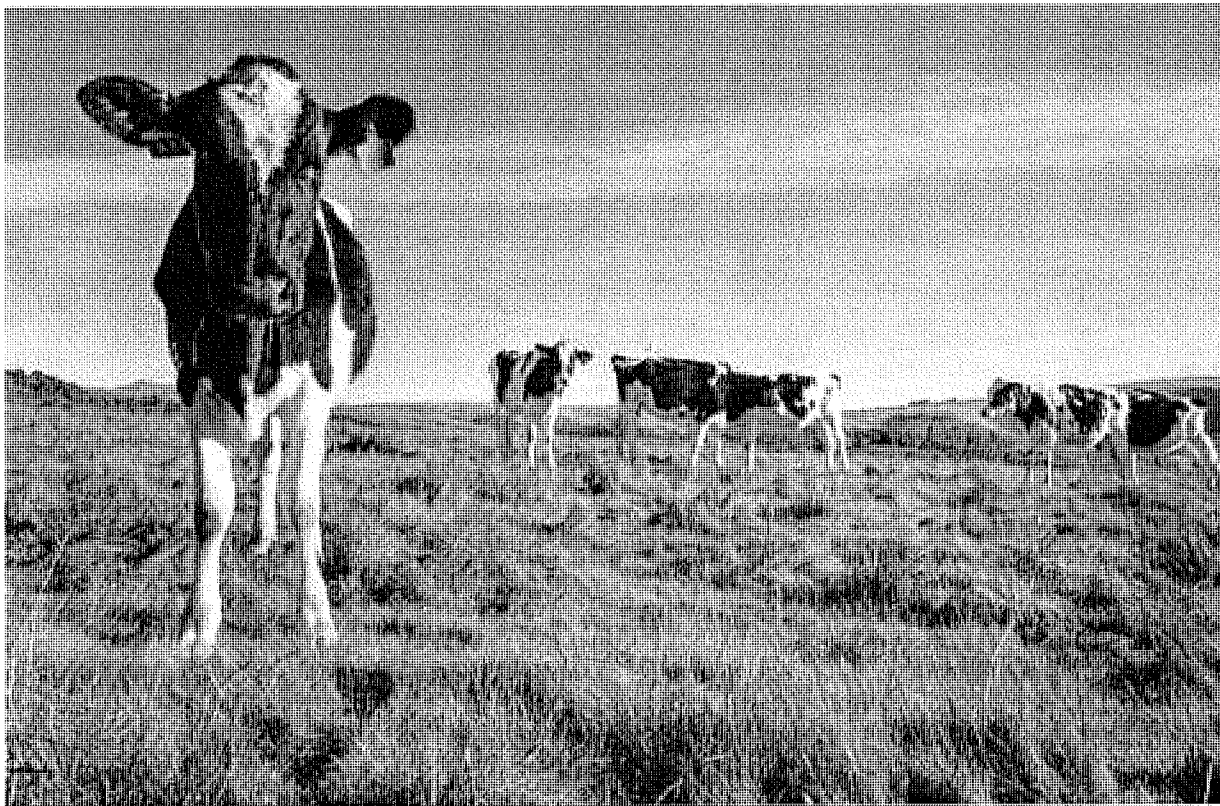
NOTES: All cost estimates include annualized capital and operations and maintenance costs. Nonpotable reuse involves the use of treated municipal wastewater for irrigating landscapes or agriculture, restoring habitat, or incorporating into industrial processes. Indirect potable reuse is the storage of treated municipal wastewater in groundwater or surface storage before it is distributed as drinking water. New surface water costs were calculated based on the cost and estimated yield of five proposed storage projects. Chart shows 2015 dollars.

## **Alternative water supplies face regulatory hurdles.**

The state is developing regulations to enable the expansion of alternative sources while addressing public health and environmental risks. Storing recycled water in groundwater basins is already authorized, and it will soon be possible to store recycled water in surface reservoirs. The state is also working on regulations for integrating recycled water directly into drinking water systems—a method that will require additional safeguards to protect public health. Regulation of on-site wastewater or stormwater reuse is challenging, as public health managers must oversee many individual and decentralized sites. The evolving statewide policy framework for on-site reuse is being informed by lessons from pioneering local efforts, such as the San Francisco Public Utility Commission's nonpotable water program. The state's new policy for seawater desalination plants is designed to minimize harm to marine life.

Sources: For desalination capacity: California Water Plan Update 2013, Volume 3, Chapter 10: Desalination (Department of Water Resources, 2014). For recycled water use: Municipal Wastewater Recycling Survey (State Water Resources Control Board, 2017). For overall water use: Mount, J. and E. Hanak, "Water Use in California" (PPIC, 2016).

# Editorial: Marin's support pays off for MALT's mission



Marin Agricultural Land Trust will protect the Taylor Ranch, formerly known as Bianchini Ranch, in Point Reyes Station, a 705-acre ranch overlooking Tomales Bay that is home to Bivalve Dairy. (Photo by Paige Green, courtesy of MALT)

POSTED: 02/01/18, 11:34 AM PST | UPDATED: 8 HRS AGO 3 COMMENTS

The preservation of farmland in West Marin was a centerpiece of the 2012 campaign for Measure A, a countywide quarter-cent sales tax for the protection of parklands, park maintenance and improvements and saving open space.

More than 74 percent of voters endorsed the measure.

ADVERTISING

Over the past year, Marin's initiative to preserve and protect its farmland — and agricultural base — has grown, thanks in large part to Measure A, the leadership of the Marin Agricultural Land Trust and Marin taxpayers' support.

Since January 2017, MALT has secured easements to preserve five more Marin ranches covering 3,238 acres, bringing the nonprofit's total holdings to more than 50,000 acres.

From an idea acted upon by West Marin rancher Ellen Straus and Mill Valley biologist Phyllis Faber as a way to protect and support Marin's ranchlands from the economic pressures of development, MALT's protection covers a large share of Marin's agricultural lands.

Straus and Faber saw "For Sale" signs popping up along West Marin byways as a call for action and in 1980 started MALT, which today is a model for agricultural land trusts across the nation.

Its success was a big selling point for Measure A.

MALT easements protect ranchlands from development by buying those rights, keeping ranchlands free of subdivisions while enabling Marin ranchers and farmers to keep their lands in agricultural production. In some cases, the payments enable ranchers to make ranch repairs and improvements, expand their land holdings or settle estates.

This month, MALT announced the acquisition of an agricultural conservation easement for the 705-acre Taylor Ranch, just north of Point Reyes. The dairy is now run by John and Karen Taylor.

Measure A is picking up just about half of the cost of the easement — \$3.6 million.

For the Taylors — and Marin — the MALT easement is a way to keep the property as open ranchland in perpetuity. For other West Marin ranchers, keeping the land in active agriculture strengthens the economic sustainability of ranching and farming in West Marin.

In October, for example, MALT acquired easement across the 998-acre Evans Nicasio Ranch.

County supervisors' recent decision to tap Measure A open space funds for the controversial acquisition and closure of the San Geronimo Golf Course has generated a fair share of complaints.

For some, it is difficult to embrace use of Measure A taxes to buy and close a public golf course they had loved to play so it can be turned into parkland and open space.

But Measure A, which faces renewal in 2022, has done a lot of good.

In MALT's case, it has sustained its record of acquisitions, which helps it muster private donations, ongoing membership support and attract grants to continue to build on its record of success — a success that benefits Marin residents, today and in the future.

## Can New California Water Storage Projects Win State Funding?

An initial review by the California Water Commission slashed the 'public benefits' claimed by project applicants, prompting outrage in some quarters. Others say the process is working exactly as voters intended.

WRITTEN BY Matt Weiser

PUBLISHED ON Feb. 12, 2018



The Bear River in Northern California's Sierra Nevada foothills, shown here, is the site for the Centennial Dam project proposed by the Nevada Irrigation District. Image courtesy Nevada Irrigation District

**IF CALIFORNIA TAXPAYERS** are going to spend \$2.7 billion on new water storage projects, the projects had better come with many more environmental benefits.

That was the message sent by the California Water Commission, which on February 2 released its first analysis of 11 projects vying for a share of the riches. The money will come from Proposition 1, a ballot measure approved by voters in 2014, which empowered the state to issue nearly \$2.7 billion in bonds for water storage, whether new reservoirs, groundwater recharge or some form of hybrid.

But according to Prop. 1, the money can only pay for "public benefits" associated with the projects, not just the cost of storing water. This includes environmental enhancements like improving streamflow for fish, the capacity to capture or convey floodwaters, recreational amenities and emergency response capabilities.

The State Water Commission is charged with vetting the public benefit claims. This is a weighty undertaking, because such a thing has never been done before.

In its initial review of the projects, the commission found that none would deliver all the public benefits claimed in their applications. Some were very far off the mark, the commission found, especially concerning environmental benefits. In a few cases, the commission actually zeroed-out the claimed benefits.

This triggered a swift backlash from the water industry and some conservative politicians in the state, who criticized the commission for setting the bar too high.

A cosponsor of the original Prop. 1 legislation, state senator Scott Wilk, R-Antelope Valley, urged the commission in a letter to revamp its application process, claiming “dereliction of the duties bestowed upon the Water Commission and its staff.”

The Association of California Water Agencies called the low rankings “deeply concerning.” State senator Jim Nielsen, R-Tehama, told the Sacramento Bee he felt “visceral anger” at the news and suggested the commission was thwarting the will of the voters.

But others said the commission is doing exactly what the voters wanted: Holding water storage projects to a higher standard, and rigorously vetting the claims they make.

“In quite a number of cases they said, ‘Well, these numbers just look too high.’ I thought it was pretty brave of them,” said Jay Lund, director of the Center for Watershed Sciences at the University of California, Davis, and a professor of engineering. “This is public money. It’s going to be coming out of the state budget for decades to come. So I’m glad to see them doing a reasonable job of it.”

The projects that took the biggest hit in the Water Commission evaluations include Pure Water San Diego, which involves recycling and storing wastewater; Centennial Dam, proposed on the Bear River by the Nevada Irrigation District; and the Willow Springs groundwater banking project proposed in the San Joaquin Valley. The water commission found all of these had no public benefits to offer, or that the claimed benefits could not be verified.

Two others were reduced to near zero, including Temperance Flat Reservoir, a new dam proposed on the San Joaquin River, which has been heavily criticized by environmental groups; and a Tulare Lake groundwater storage project in the San Joaquin Valley, which is opposed by some neighboring water users.

The best-performing projects are a proposal by the Sacramento Regional County Sanitation District to use recycled wastewater for farm irrigation, helping to recharge groundwater; and a proposal by the Inland Empire Utilities Agency to recycle water for groundwater recharge, easing pressure on Feather River diversions. The commission reduced their public benefits by less than one-third.



Mary Wells, a cattle rancher in California's Sites Valley in Colusa County, looks over the area that would be inundated by the proposed Sites Reservoir, one of 11 projects seeking state money for construction. (Gary Reed, Sacramento Bee)

Others fall somewhere in between these extremes. One is the Sites Reservoir project in Colusa County, which proposes to divert Sacramento River water into a new 1.8 million acre-foot off-stream reservoir. The commission rated its ecosystem benefits at only 13 percent of what the backers claimed, and its overall public benefit at 40 percent.

The biggest setback for the Sites project involved the claim that its stored water could be used at critical times to improve flows for salmon migration, and that this would ease pressure on other reservoirs to provide fishery flows, thereby stretching regional water supplies. These benefits either didn't measure up as claimed, or could not be fully verified.

Yet Jim Watson, general manager of the Sites Joint Powers Authority, said he wasn't entirely surprised by the scrutiny.

"We figured that with the size of the project, and some of the bold concepts that we put into our proposal, that we would have to clarify some of them," Watson said. "We were very disappointed we were not able to be scored on environmental benefits in terms of water for salmon."

This isn't the end for these projects. The water commission is urging the applicants to amend their proposals, and it has set up an appeal process, with revised applications due by February 23. After that, it will conduct another review, with preliminary funding decisions expected in July.

"The commission has every confidence the information received in the coming weeks will help us fund eligible projects and the public benefits they provide," Armando Quintero, the commission's chair, said in a statement.

In a few cases, the shortcomings found by the commission appear to be more technical than substantive. One example is the proposal to expand the existing Los Vaqueros Reservoir, located south of Antioch and operated by Contra Costa Water District.

The project has become something of a favorite among environmental groups, because some of the additional water it proposes to store would be dedicated to wildlife refuge areas in the San Joaquin Valley. This would help hundreds of migratory bird species, as well as many other kinds of wildlife, that have been shortchanged on water deliveries for decades.

Los Vaqueros had its public benefits slashed by the commission partly because its backers used a modified computer model that was not familiar to the reviewers.

"I'm confident it can overcome the analytical problems with its application," Rachel Zwillinger, a water policy adviser at Defenders of Wildlife, said of the Los Vaqueros project. "It's heartening to see the commission is taking their review seriously and are trying to make sure we select projects that provide

real environmental benefits. I expect to see a lot of new analysis come in as a result of this appeal process.”

Some projects will probably have to make major changes to continue through the application process. This could include revising operations to produce more public benefits, or requesting less money to bring the project into alignment with the benefits it offers.

Some proponents may decide to pull their projects from the process and proceed without state funding.

The Sites Reservoir proposal, for example, already has enough funding commitments from interested water agencies. Yet Watson says he is committed to the process.

“I know the commissioners will make investment decisions in projects,” said Watson. “The fact that our biggest selling point (water for salmon) wasn’t recognized is the part that we’re working on.”

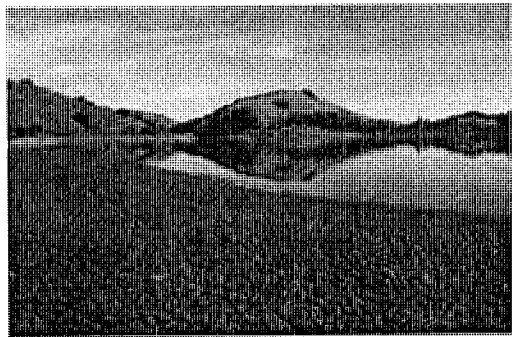
Marin Independent Journal (<http://www.marinij.com>)

## California could face first dry February in 150 years

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*By Mark Gomez, Bay Area News Group*

Tuesday, February 13, 2018



The Bay Area has experienced February dry spells before, including twice from 2013 to 2016 during California's historic drought when rainfall totals were drastically below average.

But this February could close with a distinction most in the Bay Area would like to avoid. This could become the first February in more than 150 years with no rainfall.

The only major Bay Area city to go the entire month of February without rain is San Francisco in 1864. San Francisco has the longest set of weather data in the Bay Area, going back to 1850.

"Lincoln was president the last time San Francisco had an 0 for February," said Jan Null, a meteorologist with Golden Gate Weather Services in Saratoga.

And there's not so much as a sprinkle in sight. Both the short-term and long-range forecasts suggest no major storms on the horizon.

"It's looking like through the end of the month, we may stay in a dry pattern," said Roger Gass, a meteorologist with the National Weather Service in Monterey. "Even if we did receive any rainfall, all indications are it would be minimal at best."

Null agreed with the forecast, though added that extended forecast computer models are hinting at a chance of rain in the next 10 to 14 days.

"But we've seen that the last few weeks," Null said. "It's possible we could end up with nothing more in the month. I don't see any major systems. If we get anything for February, it's going to end up being pretty small."

### Warm start

February opened with a stretch of record-high daily temperatures, resulting in San Francisco, San Jose and Santa Rosa to observe the warmest start to the year on record, according to the weather service.

With no rainfall so far this month and one of the driest Decembers on record, the entire state remains in a precipitation deficit.

Rainfall in Marin for the season since July 1 is at 19.64 inches, below the average of 33.97 inches. Reservoir storage level is at 59,508 acre feet, below the average of 67,748

While March could deliver some much-needed rainfall, it won't likely make up for the large deficits brought on by an extremely dry December and February.

“The saving grace is we had such a great year last year,” said Null, referring to a water season that was one of the wettest on record. “In California, the first dry year is the wake-up call to watch out for that second dry year, when we see significant impacts.”

### **SoCal dry**

Southern California remains in the grip of unprecedented dry and hot conditions, despite a weak storm that moved in Monday.

“While many places may see some light, showery precipitation this week, it does not appear that this event will bring the kind of widespread significant rain and snow that is currently needed,” said UCLA climate scientist Daniel Swain. At this rate, by Feb. 19, L.A. is on track to have a full year with only one day of significant rain — the day that brought deadly mudslides to Montecito in Santa Barbara County.

Downtown L.A. has seen only 1.96 inches since July 1, less than one-quarter the historical average for this time of year, which is 8.54 inches. The last time Los Angeles broke the record for the driest year was when 3.21 inches of rain fell for the rain year that ended June 30, 2007.

This time last year on the Sierra Nevada’s Donner Pass — amid the wettest year on record in the northern Sierra — heavy snows pushed cabins from their foundations, and buried cars within 20-foot snowbanks, only to be uncovered and sliced by snowplows struggling to keep access to the packed resorts open.

The picture this year is equally telling — bare ground and mountains with broken snow on one flank, raw granite on the other.

On Monday, the remnants of an overnight dusting had already vanished. A few skiers came off slopes where machines spewed flumes of the snow to half-empty parking lots.

### **Snow lacking**

Before this week’s storm, temperatures around Truckee, near Lake Tahoe, hit the mid- to upper 50s — way above normal for this time of year and more of what’s expected in April.

Royal Gorge, Tahoe Donner, TahoeXC and other Nordic trails were closed to skiers, in hibernation until the next storm. Fat tire biking instead was in order.

“Think snowy thoughts,” said the recorded line at Royal Gorge.

The only significant snowstorm of the season was an “atmospheric river” event before Thanksgiving. But the skies haven’t been kind since then, leaving statewide snowpack accumulations at 21% of average for this time of year.

There have been so many clear days with bright sun that the rays have melted snow off the south slopes, leaving them rocky and brown. Researchers at the Central Sierra Snow Lab in Soda Springs reported the lowest water equivalent yet recorded for a Feb. 11, below even the drought years of 2012 through 2015.

A year ago, the Sierra snowpack was 182% of the historical average, and residents complained they had run out of room to put the snow they were clearing from their decks and driveways.

### **High pressure**

UC Berkeley researcher Randall Osterhuber at the snow lab in Soda Springs has been measuring the frozen water bank on which California’s summer supplies so keenly depend on: just 13 inches Monday morning. Last year at this time, there were 128 inches, or nearly 11 feet of snow.

The persistent mass of high pressure hanging around California doesn't seem to be going anywhere. It has budged slightly, enough to allow this week's storm to get through — but it's moving in a way that results in a pretty dry system.

The ridge of high pressure has pushed the track of storms from the Pacific Ocean first north into Alaska before making a hairpin loop down from British Columbia and into California. That takes it through an overland route that keeps the storm relatively dry, said meteorologist David Sweet of the National Weather Service's Oxnard office.

Only a few hundredths of an inch of rain are expected to hit the lower elevations of L.A. County. "It's not much," Sweet said. "There might be a little bit of snow on the Grapevine."

"To get that really beneficial rainfall and Sierra snowfall, we need these 'atmospheric river' type storms, where the moisture is coming off the Pacific Ocean," said meteorologist Tony Fuentes of the weather service's Reno office. But the track of atmospheric river storms, which California benefited from last year, has been blocked by the high pressure sitting around the state.

If February joins December and January into record-setting dryness, "then California is marching into unprecedented territory, which has never been seen before in the recorded climate history," Steve Johnson, long-range forecaster with Atmospherics Group International, said in an email. "Unless March and/or April bring abundant rains ... this rainfall season could end up being one of, or possibly the driest in our climate history."

*The Los Angeles Times contributed to this report.*

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