Posting Date: 12-09-2022

NOTICE OF BOARD OF DIRECTORS' REGULAR BI-MONTHLY MEETING

MEETING DATE: 12-13-2022

TIME: 7:30 p.m.

LOCATION: This meeting will be held virtually, pursuant to Assembly Bill (AB) 361.

To participate online, go to https://us06web.zoom.us/j/88134852296. You can also participate by phone by calling **1-669-900-6833 or 1-669-444-9171** and entering the **webinar ID#: 881 3485 2296**.

PARTICIPATION DURING MEETINGS**:** During the public comment periods, the public may comment by clicking the "raise hand" button on the bottom of the Zoom screen; if you are joining by phone and would like to comment, press *9 and we will call on you as appropriate.

EMAILED PUBLIC COMMENTS: You may submit your comments in advance of the meeting by emailing them to BoardComment@MarinWater.org. All emailed comments received by 3 p.m. on the day of the meeting will be provided to the Board of Directors prior to the meeting. All emails will be posted on our website. (**Please do not include personal information in your comment that you do not want published on our website such as phone numbers and home addresses.)**

AGENDA ITEMS	RECOMMENDATIONS
Call to Order and Roll Call* at 7:30 p.m.	
Adoption of Agenda	*Approve*
Public Comment - Items Not on the Agenda Members of the public may comment on any items not listed on the agenda during this time. Comments will be limited to three (3) minutes per speaker, and time limits may be reduced by the board president to accommodate the number of speakers and ensure that the meeting is conducted in an efficient manner.	
Directors' and General Manager's Announcements & Committee Reports *(7:40 p.m. – Time Approximate)*	

*Marin Water Board of Directors' Order of Roll Call Vote: Ranjiv Khush, Matthew Samson, Monty Schmitt, Jed Smith, and Larry Russell

AGENDA ITEMS	RECOMMENDATIONS
Consent Calendar *(7:45 p.m. – Time Approximate)* All matters listed on the consent calendar are considered to be routine and will be enacted by a single action of the Board, unless specific items are removed from the consent calendar by the Board during adoption of the agenda for separate discussion and action.	
1. Minutes of the Board of Directors' Regular Bi-Monthly Meeting of November 15, 2022	*Approve*
2. Resolution to Continue Board and Committee Virtual Meetings Pursuant to Assembly Bill (AB) 361	*Approve*
3. General Manager's Report for November 2022	*Approve*
4. Resolution Continuing Emergency Contracting Provisions for Repair of Pipe Failure on Paradise Drive in Tiburon (*Requires a 4 of 5 member vote*)	*Approve*
Regular Calendar *(7:50 p.m. – Time Approximate)*	
5. Resolution Updating the Fine Schedule for Fire-Related Offences on District Watershed *(Approximate time 15 minutes)*	*Approve*
6. Water Supply Assessment for Proposed Northgate Town Square Redevelopment *(Approximate time 15 minutes)*	*Approve*
7. Water Management Portfolios for the Strategic Water Supply Assessment *(Approximate time 45 minutes)*	*Information*
8. Future Meeting Schedule and Agenda Items *(Approximate time 5 minutes)*	*Information*
Adjournment *(9:10 p.m. – Time Approximate)*	

ADA NOTICE AND HEARING IMPAIRED PROVISIONS:
In accordance with the Americans with Disabilities Act (ADA) and California Law, it is Marin Water's policy to offer its public programs, services, and meetings in a manner that is readily accessible to everyone, including those with disabilities. If you are an individual with a disability and require a copy of a public hearing notice, an agenda, and/or agenda packet in an appropriate alternative format, or if you require other accommodations, please contact Board Secretary Terrie Gillen at 415.945.1448, at least two days in advance of the meeting. Advance notification will enable Marin Water to make reasonable arrangements to ensure accessibility.

INFORMATION AGENDAS ARE AVAILABLE FOR REVIEW AT THE CIVIC CENTER LIBRARY, CORTE MADERA LIBRARY, FAIRFAX LIBRARY, MILL VALLEY LIBRARY, MARIN WATER OFFICE, AND ON THE MARIN WATER WEBSITE (MARINWATER.ORG)

FUTURE BOARD MEETINGS:

- Thursday, December 15, 2022
  Watershed Committee/Board of Directors (Watershed) Meeting
  1:30 p.m.

- Friday, December 16, 2022
  Operations Committee/Board of Directors (Operations) Meeting
  9:30 a.m.

- Thursday, December 22, 2022
  Finance & Administration Committee/Board of Directors (Finance & Administration) Meeting
  9:30 a.m.

- Tuesday, January 3, 2023
  Board of Directors' Regular Bi-Monthly Meeting
  7:00 p.m. – Closed Session and 7:30 p.m. – Open Session

- January 2023
  Board of Directors' Retreat
  (Date and Time TBD)

Terrie Gillen
Board Secretary

Item Number: 01
Meeting Date: 12-13-2022
Meeting: Board of Directors

Approval Item

TITLE
Minutes of the Board of Directors' Regular Bi-Monthly Meeting of November 15, 2022

RECOMMENDATION
Approve the minutes of the November 15, 2022 board meeting

SUMMARY
On November 15, 2022, the Board of Directors held its regular bi-monthly meeting. The minutes of that meeting are attached.

New directors may vote on approval of the minutes. An affirmative vote to approve the minutes merely expresses support for making the minutes an official record of the District. Corrections, if any, may still be submitted and considered by the board.

DISCUSSION
None

FISCAL IMPACT
None

ATTACHMENT(S)
1. Minutes of the Board of Directors' Regular Bi-Monthly Meeting of November 15, 2022

DEPARTMENT OR DIVISION	DIVISION MANAGER	APPROVED
Communications & Public Affairs Department	Terrie Gillen Board Secretary	Ben Horenstein General Manager

Item Number: 01
Attachment: 01

MARIN MUNICIPAL WATER DISTRICT
BOARD OF DIRECTORS

MEETING MINUTES

Tuesday, November 15, 2022

Via teleconference
(In accordance with Assembly Bill 361)

DIRECTORS PRESENT: Larry Bragman, Jack Gibson, Cynthia Koehler, Monty Schmitt, and Larry Russell *(Director Gibson arrived during Public Comment.)*

DIRECTORS ABSENT: None

CALL TO ORDER AND ROLL CALL

President Russell called the meeting to order at 7:30 p.m.

ADOPTION OF AGENDA

On motion made by Director Bragman and seconded by Vice President Schmitt, the board adopted the agenda.

Ayes: Directors Schmitt, Bragman, Koehler, and Russell
Noes: None
Absent: Gibson

There was no public comment on the adoption of the agenda.

PUBLIC COMMENT – ITEMS NOT ON THE AGENDA

There were no public comments.

DIRECTORS' AND GENERAL MANAGER'S ANNOUNCEMENTS & COMMITTEE REPORTS

President Russell and Vice President Schmitt thanked Directors Bragman, Gibson, and Koehler for their years of service at the water district. In turn, each of the outgoing directors made statements commenting on their work on the board and they thanked their families and staff.

Afterwards, the board received nine (9) public comments.

CONSENT CALENDAR (ITEMS 1-5)

Item 1 **Minutes of the Board of Directors' Regular Bi-Monthly Meeting of November 1, 2022**

Item 2 **General Manager's Report October 2022**

Item 3 **Amendment #3 to Miscellaneous Agreement (MA) 5891 with AECOM Technology Services for Phase II Spillway Assessment Engineering Support Services**

Item 4 **Request to Fill Distribution System Operator in the Operations Division**

Item 5 **Request to Fill Field Supervisor in the Operations Division**

There were no public comments.

On motion made by Director Bragman and seconded by Vice President Schmitt, the board adopted the Consent Calendar.

Ayes: Directors Schmitt, Bragman, Gibson, and Koehler, Russell
Noes: None

REGULAR CALENDAR (ITEMS 6-11)

Item 6 **Resolutions to Secure an Exception the 180-Day Wait Period, as Provided For by CalPERS, for the District to Hire Two Retired Annuitants to Provide Part-Time, Extra Help in the Operations Division (Resolution Nos. 8722 and 8723)**

Human Resources Manager Vikkie Garay presented this item and identified a correction of the start date for Gary Andersen changing the prospective start date from December 19, 2022 to January 2, 2023. Discussion ensued.

There were no public comments.

On motion made by Director Bragman and seconded by Vice President Schmitt, the board approved the resolutions with the correction identified by Ms. Garay.

Ayes: Directors Schmitt, Bragman, Gibson, and Koehler, Russell
Noes: None

Item 7 **Amendment to Professional Services Agreement MA-6074 with Jacobs Engineering Group for Engineering Services in support of the Strategic Water Supply Assessment Project**

Water Resources Division Manager Paul Sellier presented this item.

There were five (5) public comments.

On motion made by Director Bragman and seconded by Vice President Schmitt, the board approved the amendment of the professional services agreement with Jacobs Engineering Group.

Ayes: Directors Schmitt, Bragman, Gibson, and Koehler, Russell
Noes: None

Item 8 Water Supply Update

Division Manager Sellier also presented this item. There were no comments from the board.

There were two (2) public comments.

This was an information item. The board did not take any formal action.

Item 9 Review of Demand Management for the Strategic Water Supply Assessment

The board received an extensive presentation from Maddaus Water Management, Inc., which included consultants Michelle Maddaus and Lisa Maddaus providing their assessment of the District's conservation incentive program and conservation measures. There was discussion between the board, consultants, and staff throughout the presentation.

There were eight (8) public comments.

This was an information item. The board did not take any formal action.

Item 10 Resolution to Continue Virtual Board and Committee Meetings Pursuant to Assembly Bill (AB) 361 (Resolution No. 8724)

General Counsel Molly MacLean presented to the board the options for the board to adopt the proposed resolution, resume in-person meetings, or both. Discussion ensued.

There were three (3) public comments.

On motion made by Director Bragman and seconded by Vice President Schmitt, the board approved the resolution to preserve the virtual meeting option, but directed that in-person meetings begin November 18.

Ayes: Directors Schmitt, Bragman, Gibson, and Koehler, Russell
Noes: None

After this item, Director Koehler left the meeting.

Item 11 Future Meeting Schedule and Agenda Items

The board secretary reported on the upcoming internal and external meetings for November and part of December.

There was no public comment.

This was an informational item. The board did not take any formal action.

CLOSED SESSION

The board adjourned to Closed Session at 10:48 p.m.

There were no public comments regarding the closed session item.

CLOSED SESSION ITEM

Item 12 Conference with Real Property Negotiators
(Government Code §54956.9)

Property: West Point Inn (100 Old Railroad Grade, Mill Valley, CA 94941)

Agency Negotiator: Ben Horenstein, General Manager

Negotiating Parties: West Point Inn Association, a California nonprofit corporation; Donald Keely, Mark Northcross, Terrel Mason

Under Negotiation: Price and Terms

CONVENE TO OPEN SESSION AND CLOSED SESSION REPORT OUT

President Russell reported that the closed session adjourned at 10:50 p.m. with no reportable action or direction to staff.

ADJOURNMENT
There being no further business, the regular Board of Directors' meeting of November 15, 2022, adjourned at 10:51 p.m.

_____
Board Secretary

Item Number: 02
Meeting Date: 12-13-2022
Meeting: Board of Directors

Approval Item

TITLE
Allow Continuation of Virtual Board and Committee Meetings Pursuant to Assembly Bill (AB) 361

RECOMMENDATION
Approve a Resolution for the Marin Municipal Water District to allow continued virtual Board and Committee meetings as appropriate due to public health and safety concerns in accordance with AB 361

SUMMARY
On September 17, 2021, the Governor signed Assembly Bill (AB) 361, which codifies certain changes to the Brown Act allowing teleconference (or virtual) meetings to continue during a health emergency. The Board has taken action to allow virtual meetings to continue in accordance with AB 361 based on health and safety concerns due to COVID-19.

DISCUSSION
AB 361 authorizes local agencies to continue holding their public meetings virtually during a proclaimed state of emergency under section 8625 of the Government Code (i.e., the California Emergency Services Act), under any of the following circumstances:

- State or local officials have imposed or recommended measures to promote social distancing.
- The meeting is being held for the purposes of determining, by majority vote, whether as a result of the emergency, meeting in person would present imminent risks to the health or safety of attendees.
- The legislative body has determined that as a result of the emergency, meeting in person would present imminent risks to the health or safety of attendees.

AB 361 requires the Board to reconsider the emergency circumstances every 30 days.

On June 17, 2022, Governor Newsom issued Executive Order N-11-22, which eliminated certain of the COVID-19 emergency provisions put in place in previous orders, but left in place other measures and the overall emergency proclamation. The Director of Health & Human Services for the County of Marin also continues to recommend employment of social distancing to enhance public safety at public meetings; in particular, where indoor settings may exceed room capacity and not provide the ability to socially distance. Further, the District has experienced an increase in positive cases since the Thanksgiving holiday and the COVID19 levels for Marin and Sonoma County were upgraded from low to medium on December 2nd, indicating that there may be an ongoing need to fall back to virtual meetings in the coming weeks. Adding to this, the District's boardroom may not be able to accommodate a full return to in-person meetings consistent with recommended social distancing. Therefore, staff is recommending

that the Board adopt a resolution continuing to allow virtual meetings for Board and Committee meetings. The proposed resolution will require a majority vote of the Board for adoption.

The adoption of a resolution to allow the continuation of virtual meetings in accordance with AB 361 while the state proclamation of emergency remains in place and will not preclude the District from holding in person or hybrid meetings where appropriate. The Governor has recently announced that he will end the COVID-19 emergency as of February 28, 2023, which would eliminate the use of virtual meetings pursuant to AB 361. The Brown Act will continue to allow virtual participation by Board members under those rules in place prior to the COVID-19 emergency, to include posting of the Board members location. Changes to the Brown Act adopted this year and effective as of January 1, 2023, will allow Board members to attend meetings virtually under limited circumstances without posting their location.

FISCAL IMPACT
There is no fiscal impact associated with this item.

ATTACHMENT(S)
1. Proposed Resolution

DEPARTMENT OR DIVISION	DIVISION MANAGER	APPROVED
General Counsel's Office	**Molly MacLean** **General Counsel**	**Ben Horenstein** **General Manager**

MARIN MUNICIPAL WATER DISTRICT

RESOLUTION NO.

A RESOLUTION OF THE MARIN MUNICIPAL WATER DISTRICT BOARD OF DIRECTORS TO ALLOW VIRTUAL BOARD AND COMMITTEE MEETINGS PURSUANT TO AB 361

WHEREAS, Assembly Bill (AB) 361 was adopted by the California State legislature as an urgency item and was signed into law on September 16, 2021, which allows the Board of Directors to consider whether to continue virtual meetings during a proclamation of emergency under section 8625 of the Government Code (i.e., the California Emergency Services Act); and

WHEREAS, The Governor's March 4, 2020 Proclamation of Emergency pursuant to the California Emergency Services Act, California Government Code Section 8625, addressing the COVID-19 pandemic is still in effect and continues to remain in effect; and

WHEREAS, the California Department of Public Health continues to recommend caution in crowded indoor settings where social distancing is not possible and the Marin County Director of Health & Human Services continues to recommend social distancing where possible in order to minimize the potential spread of COVID-19 during indoor, public meetings due to the continued transmission of new variants; and

WHEREAS, a recent uptick in cases among District staff and the limited size of the District's boardroom indicate there may be a need to hold meetings virtually to protect the health and safety of District staff and members of the public; and

WHEREAS, the Board seeks to maintain the ability to continue virtual meetings as necessary to assure public safety.

NOW THEREFORE, BE IT RESOLVED THAT:

1. The Board has reconsidered the circumstances of the COVID-19 state of emergency since the Board Meeting of November 15, 2022.

2. There remains an ongoing proclaimed state of emergency relating to the novel coronavirus causing the disease known as COVID-19.

3. The state of emergency continues to directly impact the ability of the Board to meet safely in person in particular in its boardroom, which lacks the capacity to accommodate social distancing with more than a small number in attendance.

4. Local officials continue to recommend, pursuant to Government Code Section 54953(e)(1), measures to promote social distancing, and, a result of that emergency, meeting in person would present imminent risks to the health or safety of attendees at in-person meetings of this legislative body, unless special circumstances that will allow social distancing and mitigate possible transmission can be made.

PASSED AND ADOPTED this 13th day of December, 2022, by the following vote of the Board of Directors.

AYES:

NOES:

ABSENT:

_____

Larry Russell
President, Board of Directors

ATTEST:

_____

Terrie Gillen
Board Secretary

Item Number: 03
Meeting Date: 12-13-2022
Meeting: Board of Directors

Approval Item

TITLE
General Manager's Report November 2022

RECOMMENDATION
Approve Report

SUMMARY

A. HIGHLIGHTS:

- A grant proposal for $6.5 million was submitted to the Bay Area Integrated Regional Water Management Coordinating Committee for inclusion in the regional Prop 1 Round 2 application to the Department of Water Resources. The proposed project would replace aging water supply infrastructure in San Rafael and Marin City. The District has been notified that the full grant proposal will be awarded.
- Responded and mitigated an emergency water main break that occurred on Paradise Drive in unincorporated Tiburon. The operations team worked quickly to expose and repair the main break, and the engineering team executed an emergency contract to stabilize the slope at a nearby retaining wall.
- Crews repaired 12" cast iron water main break at Granada Drive in Corte Madera. District crews installed 17' 5" C-900 PVC to repair damaged pipeline. The water from the break flooded houses, driveways, front yards and clogged storm drains with debris. District crews worked with an outside contractor clearing out the storm drains and participated in extensive cleanup efforts over a couple of days.
- The daily average net production for the month of November, 2022 was 16.51 MGD compared to 14.09 MGD for the month of November, 2021. Typical usage for November is 20.1 MGD.
- The daily average flow from Sonoma County Water Agency for the month of November, 2022 was 4.91 MGD compared to 10 MGD for the month of November, 2021
- The WQ lab ensured that the water supplied met or surpassed water quality regulations by collecting and analyzing over 2,194 analyses on lakes, treatment plants, and distribution system samples.
- The District's Recycled Water Fill Station in San Rafael closed for the winter on November 4th.

- Staff continues work on the Biodiversity, Fires, and Fuels Integrated Plan to improve watershed resiliency. Contract crews have completed 29 acres of Douglas Fir Thinning work in the Above Filter Plant & Pilot Knob Projects.
- District continues to work in coordination with Marin County Fire on the development of a prescribed burn plan for the Rock Springs Area of the watershed as part of the Biodiversity Fires, and Fuels Integrated Plan. Contractors completed hazardous tree removal along the perimeter of the burn unit to support a future prescribed burn operations.
- The District continued work on the Watershed Recreation Management Planning process to identify strategies for balancing the goals of various Mount Tamalpais Watershed visitors with protection of the watershed's unique biodiversity, habitat, and water resources. Staff hosted an Azalea Hill Trail field trip on November 9th that was attended by over 60 community members.
- Fisheries Staff began annual adult salmon monitoring surveys throughout the Lagunitas Creek watershed and have observed a relatively high number of Chinook Salmon thus far, despite the lack of rain.

DISCUSSION

B. SUMMARY:

AF = Acre Feet

Mg/L = milligrams per liter

MPN = most probable number

MPY = mils per year

MG = million gallons

NTU = nephelometric turbidity units

1. Water Production:

	FY 2022/23		FY 2021/22	
	(million gallons)	(acre-feet)	(million gallons)	(acre-feet)
Potable				
Total production this FY	3285	10,080	3,025	9,283
Monthly production, November	495	1,520	423	1,297
Daily average, November	16.51	50.68	14.09	43.25
Recycled				
Total production this FY	129.49	397.39	110.75	339.88
Monthly production, November	10.17	31.21	6.19	19.00
Daily average, November	0.34	1.04	0.21	0.63
Raw Water				
Total production this FY	42.81	131.38	26.94	82.68
Monthly production, November	2.32	7.12	5.26	16.14
Daily average, November	0.08	0.24	0.18	0.54
Imported Water				
Total imported this FY	559	1,716	824	2,527
Monthly imported, November	147	452	307	942
Reservoir Storage				
Total storage, November	17,514	53,750	14,939	45,847
Storage change during November	-681	-2,089	1,641	5,035
Stream Releases				
Total releases this FY	1,185	3,636	755	2,317
Monthly releases, November	366	1,122	136	417

2. Precipitation:

	FY 2022/23 (in.)	FY 2021/22 (in.)
Alpine	2.82	26.40
Bon Tempe	2.74	20.50
Kent	2.72	22.10
Lagunitas *	4.06	22.85
Nicasio	2.54	13.72
Phoenix	3.58	23.32
Soulajule	2.15	15.20

* Average to date = 9.67 inches

3. Water Quality:

Laboratory:	FY 2022/23	FY 2021/22
Water Quality Complaints:		
Month of Record	16	11
Fiscal Year to Date	83	69
Water Quality Information Phone Calls:		
Month of Record	8	14
Fiscal Year to Date	39	53

The WQ lab ensured that the water supplied met or surpassed water quality regulations by collecting and analyzing 2,194 analyses on lakes, treatment plants and distribution system samples.

Complaint Flushing: No flushing events were performed for this month on record.

Tank Survey Program: 17 water storage tank sanitary surveys were performed during the month. 75.97 % planned survey program has been completed for calendar year 2022.

Disinfection Program: No new pipelines were disinfected during the month of November. Performed chlorination on 31 water storage tanks to ensure compliance with bacteriological water quality regulations.

Tank Water Quality Monitoring Program: Performed 51 water quality-monitoring events on storage tanks for various water quality parameters this month to help ensure compliance with bacteriological water quality regulations.

Summary:

The lab performed 17 sanitary tank surveys, treated 31 tanks for low chlorine, and checked a total of 51 tanks for low chlorine residual in November 2022.

4. Water Treatment:

	San Geronimo		Bon Tempe		Ignacio	
Treatment Results	Average	Monthly Goal	Average	Monthly Goal	Average	Monthly Goal
Turbidity (NTU)	0.07	≤ 0.10	0.05	≤ 0.10	0.04	≤ 0.10
Chlorine residual (mg/L)	2.78	2.75 *	2.76	2.75 *	2.81	2.75 *
Color (units)	1.1	≤ 15	0.3	≤ 15	0.1	≤ 15
pH (units)	7.7	7.8*	7.8	7.8*	8.0	8.1**

* Set monthly by Water Quality Lab

** pH to Ignacio is controlled by SCWA

5. Capital Improvement:

a. San Geronimo Treatment Plant Permanent Emergency Generator Project (D19027)
Summary: This project involves the installation of emergency generators, electrical equipment, fuel storage tanks and site grading all within the community of Woodacre.

- Project Budget: $5,375,600
- Monthly Activities: The system is ready to provide emergency backup power to the treatment plant in manual mode. Completion of a facility maintenance switch and automatic transfer system remain due to extended equipment procurement lead times associated with these items. The project is estimated to be completed Spring 2023.

b. Treehaven Pipeline Replacement Project (F21003): This project is a component of the District's Fire Flow Improvement Program, and will replace nearly 8,000 linear feet of undersized fire flow deficient pipe as old as 95-years with 8-inch and 6-inch welded steel pipe.
   - Project Budget: $3,654,990
   - Monthly Activities: The project is delayed and the completion date is estimated Summer 2023.

c. Courtright System Improvements Project (D22009): This project is a component of the District's Capital Improvement Program and will install 520 linear feet of 8-inch pipe along with a new pressure regulator valve to permanently decommission and remove the 49-year-old leak-prone 50,000-gallon redwood water tank located in the City of San Rafael.
   - Project Budget: $458,315
   - Monthly Activities: Construction is complete and the project is in the closeout stage.

6. Other:

Pipeline Installation	FY2022/23	FY2021/22
Pipe installed during November (feet)	681	450
Total pipe installed this fiscal year (feet)	4,716	9,822
Total miles of pipeline within the District	908*	908*

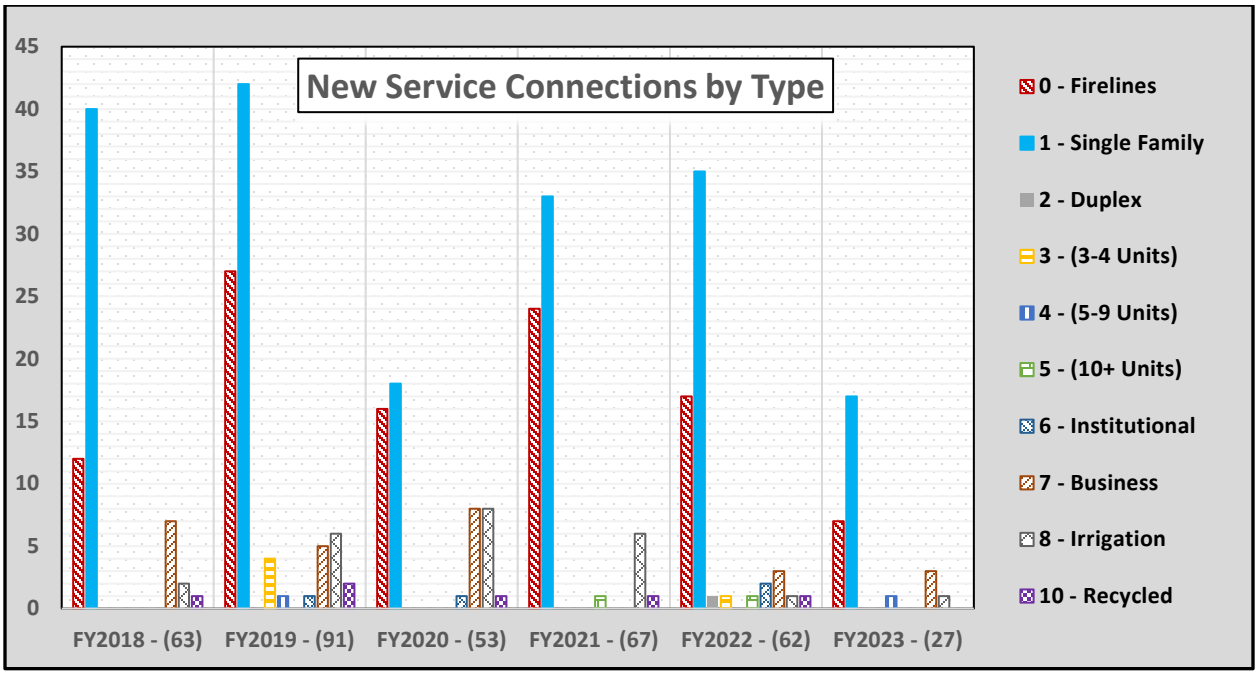
** Reflects adjustment for abandoned pipelines*

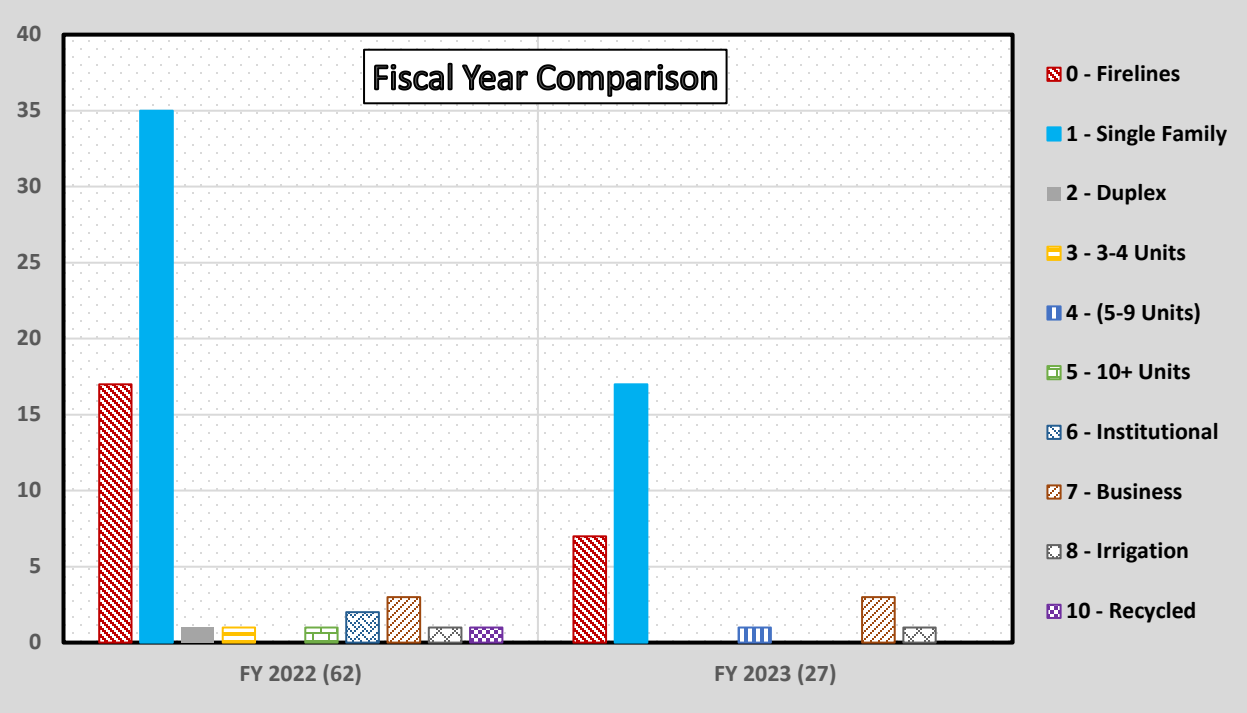
Pipe Locates (972 Responses)	FY2022/23	FY2021/22
Month of November (feet)	24,049	33,402
Total this fiscal year (feet)	131,203	231,758

Main Line Leaks Repaired:	FY2022/23	FY2021/22
Month of November	36	17
Total this fiscal year	84	85

Services:	FY2022/23	FY2021/22
Service upgrades during November	14	18
Total service upgrades this FY	75	68
Service connections installed during November	3	0

Total active services as of December 1, 2022	60,494	60,456




Fiscal Year Comparison
40
35
30
25
20
15
10
5
0
FY 2022 (62)
FY 2023 (27)
0 - Firelines
1 - Single Family
2 - Duplex
3 - 3-4 Units
4 - (5-9 Units)
5 - 10+ Units
6 - Institutional
7 - Business
8 - Irrigation
10 - Recycled

7. Demand Management:

	Nov-22	FY 22/23 TOTAL	FY 21/22 TOTAL	FY 20/21 TOTAL
WATER-EFFICIENCY PROGRAMS				
Water-Use Site Surveys				
Conservation Assistance Program (CAP) Consultations				
Residential properties resi 1-2 (single-family)	21	196	731	117
Residential properties resi 3-5 (multi-family units)	0	0	7	5
Non-residential properties resi 6-7 (commercial)	0	0	1	5
Dedicated irrigation accounts resi 8-10 (large landscape)	0	0	3	6
Marin Master Gardeners' Marin-Friendly Garden Walks				0
Residential garden walks	6	47	100	129
Public Outreach and Education, Customer Service				0
Public outreach events (number of people attending)	0	225	1602	0
Public education events (number of participants)	0	186	536	398
Customer calls/emails admin staff	200	2002	9508	5738
School Education				0
School assemblies				0
Number of activities	0	0	0	0
Number of students reached	0	0	0	0
Field trips				0
Number of activities	3	4	0	0
Number of students reached	57	78	0	0
Classroom presentations				0
Number of activities	2	5	0	1
Number of students reached	64	135	0	22
Other (e.g. booth events, school gardens)				0
Number of activities	0	0	0	0
Number of students reached	0	0	0	0
Incentives				0
Number of HECWs approved	5	29	190	163
Number of Rain Barrel/Cisterns approved	0	4	76	19
"Landscape Your Lawn" Turf Replacments approved	12	64	402	6
Number of Laundry-to-Landscape Systems approved	0	0	27	0
Hot water recirculating system rebates	2	14	122	0
Pool Cover rebates	0	12	298	0
HET rebates	3	6	92	0
Number of Smart Controllers rebates approved	1	19	69	85
Number of Smart Home Water Monitor "Flume Direct Distribution" redeemed	20	139	1568	1140
Number of Smart Controllers "Rachio Direct Distribution" approved	7	32	178	233
Advanced Metering Infrastructure (AMI)				0
AMI leak letters sent to customers (>200 GPD)	128	541	1050	1601
ORDINANCES				
Water Waste Prevention				
No. of properties reporting activity	18	264	4451	589
Landscape Plan Review				
Plans submitted	4	23	77	94
Plans exempt	0	0	1	4
Plans completed	0	9	17	19
Plans in workflow (pass & fail)	15	63	123	154
Tier 4 Exemption				0
Inspections that resulted in a pass	0	0	1	1
Graywater Compliance Form				0
Applications Received *(as of Dec 2019)*	3	45	57	106
Systems installed	2	9	13	7

8. Watershed Protection:

Stranded Hiker Rescued

On Saturday November 26, 2022 after sunset, a Senior Ranger was dispatched by the Sheriff's Office to a report of a stranded hiker. The hiker had gotten off trail near Temelpa Trail and due to darkness and lack of a light could not safely get out. Given the steep bushy terrain the hiker was stranded, Ranger's requested assistance from the Marin Search and Rescue (SAR) Team. It took over two hours to reach the hiker and another hour to safely hike them out. The hiker was grateful for the assistance with safely getting out a hazardous situation.

Medical Aid Calls in November

There were five medical aid calls on the watershed in November. The calls included two mountain bike crashes with injuries, one hikers who fell and was injured, a hiker with shortness of breath, an equestrian thrown from a mule and stepped on, and an MMWD contractor who passed out and fell. One of the injured mountain bikers suffered broken femur and was airlifted by CHP helicopter to a trauma center due to their significant injury. The hikers, the equestrian, and the contractor were transport by ground ambulances to the local hospitals.

CHP Helicopter H32 at the junction of Hoo-Koo-e-Koo and Blithedale Ridge Roads waiting to load a mountain biker with a broken femur.

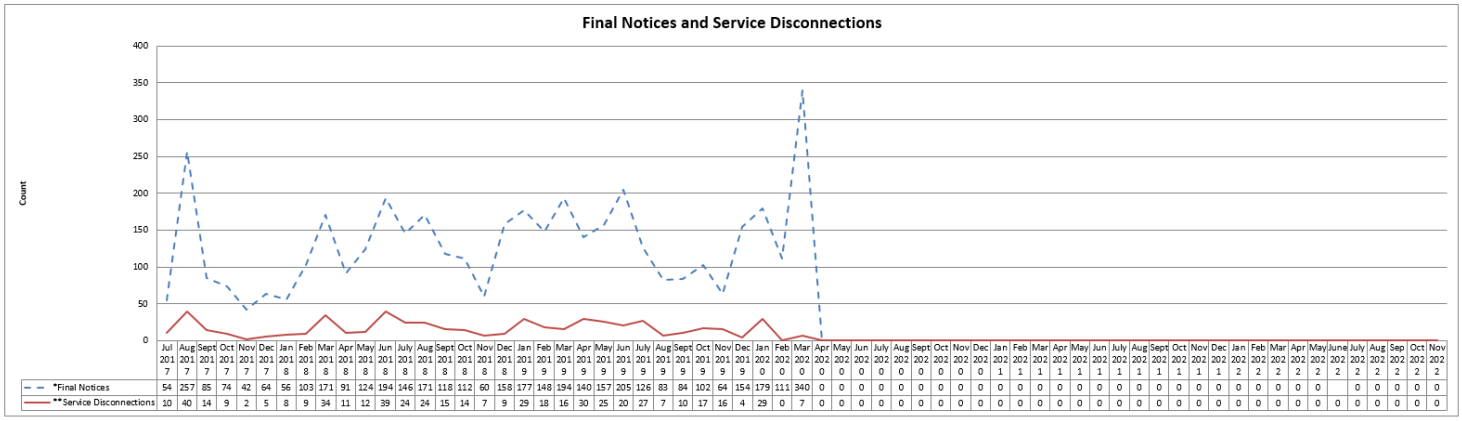
Incidents and Events	570
Visitor Assists	193
Warnings	158
Assist Watershed Maintenance	60
Citations	48
Dam Check	32
Vandalism	26
Misc Law Enforcement Calls	19
Medical Aid	6
Preventative Search and Rescue (PSAR)	5
Illegal Trail Work	4
Search and Rescue (SAR)	3
Citizen Complaint: Bike Speed	3
Suspicious Circumstance	2
Alarm Sounding	2
Theft	2
Fire Service	2
Assist Fire/EMS	1
Public Outreach/Interp	1
Illegal Fire/BBQ	1
Citizen Complaint: Illegal Bike Use	1
Ranger Call-out	1

Citations	48
Non-Payment of Parking Fees	40
No Parking	4
Bike on Trail	2
Possession of Drug Paraphernalia	1
Dog off Leash	1

9. Shutoff Notices and Disconnections:

Month	November 2022
Final Notices	0
Service Disconnections	0

* Includes 5 day, 10 day and final notices
**3/13/20 Suspended termination of water service for non-payment due to COVID- 19
*3/24/20 Suspended Late Fees and Final Notices



	Jul 2017	Aug 2017	Sept 2017	Oct 2017	Nov 2017	Dec 2017	Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018	Jun 2018	July 2018	Aug 2018	Sept 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	Jun 2019	July 2019	Aug 2019	Sept 2019	Oct 2019	Nov 2019	Dec 2019	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	Jun 2020	July 2020	Aug 2020	Sept 2020	Oct 2020	Nov 2020	Dec 2020	Jan 2021	Feb 2021	Mar 2021	Apr 2021	May 2021	Jun 2021	July 2021	Aug 2021	Sept 2021	Oct 2021	Nov 2021	Dec 2021	Jan 2022	Feb 2022	Mar 2022	Apr 2022	May 2022	June 2022	July 2022	Aug 2022	Sep 2022	Oct 2022	Nov 2022
*Final Notices	54	257	85	74	42	64	56	103	171	91	124	194	146	171	118	112	60	158	177	148	194	140	157	205	126	83	84	102	64	154	179	111	340	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
**Service Disconnections	10	40	14	9	2	5	8	9	34	11	12	39	24	24	15	14	7	9	29	18	16	30	25	20	27	7	10	17	16	4	29	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

FISCAL IMPACT
None

ATTACHMENT(S)
None

DEPARTMENT OR DIVISION	DIVISION MANAGER	APPROVED
Office of the General Manager	_____	
	Ben Horenstein General Manager	**Ben Horenstein General Manager**

Item Number: 04
Meeting Date: 12-13-2022
Meeting: Board of Directors

Approval Item

TITLE
Continuation of Emergency Contracting Provisions for Repair of Pipe Failure on Paradise Drive, Tiburon

RECOMMENDATION
Approve a resolution to continue the invocation of the District's emergency contracting provisions for Contract No. 1990 with Maggiora & Ghilotti, Inc., without advertisement, to ensure prompt repair of the pipe failure damage under the Paradise Drive Emergency Repair Project (D23015)

SUMMARY
On November 14, 2022, a main break occurred near 4755 Paradise Drive causing damage to the retaining wall embankment and undermining the roadway, which caused risk of roadway failure. On November 18, 2022, the board adopted Resolution No. 8728 invoking the District's emergency contracting procedures and acknowledging the General Manager's award of Contract No. 1990 with Maggiora & Ghilotti Inc., without advertisement, to ensure prompt repair of the retaining wall embankment and roadway damage caused by the main break under the Paradise Drive Emergency Repair Project (D23015). District Code Section 2.90.055(c) requires the Board to review the emergency action and determine by a four-fifths vote whether there is a need to continue the emergency action at each subsequent regularly scheduled Board meeting until the emergency is terminated.

DISCUSSION
This District installed a 6-inch cast iron water main along Paradise Drive in 1939 (83 years ago) to convey water into the Town of Tiburon and adjacent homeowners along the way. On November 14, 2022, District staff responded to a main break across from the address at 4755 Paradise Drive and discovered that the 6-inch cast iron main had failed causing water to flow beneath the adjacent retaining wall, saturating the retaining wall embankment, undermining the roadway and damaging a portion of the road. The saturated embankment failed and slipped out downhill, exposing the retaining wall concrete foundation piers.

District crews repaired the main break, but were unable to backfill the road section due to the large void that was left when the retaining wall embankment slipped out downhill. District engineering staff arrived to evaluate the damage to the embankment and roadway and then notified senior staff that the water main damage required immediate attention to prevent failure of the retaining wall and further damage to the roadway. Maggiora & Ghilotti Inc., was

contacted by District staff for construction availability and they were immediately available to assist the District with the emergency repairs.

On November 18, 2022, District staff presented this emergency item at the Operations Committee for urgent approval and the board approved Resolution No. 8728 invoking the District's emergency contracting provisions and acknowledging the General Manager's execution of Contract No. 1990 with Maggiora & Ghilotti Inc., without advertisement, to ensure prompt repair of the retaining wall embankment and roadway damage caused by the main break under the Paradise Drive Emergency Repair Project (D23015). In accordance with District Code Section 2.90.055 (c), which is consistent with California Public Contracts Code section 22050, the Board must determine, by a four-fifths vote, the need to continue the emergency action at every regularly scheduled meeting thereafter until the action is terminated. The emergency conditions with the Paradise Drive repair remain, and will continue to remain until the retaining wall embankment and damaged road section are repaired. While work has commenced on the Paradise Drive repair, the work is not yet complete and emergency circumstances persist. Therefore, District staff recommends that the board continue the invocation of the District's emergency contracting provisions to ensure repair of the retaining wall embankment and roadway on Paradise Drive under the Paradise Drive Emergency Repair Project (D23015), which is necessary for public and first responder access as well as the ongoing stability of the District's water main.

FISCAL IMPACT
None

ATTACHMENT(S)
1. Proposed Resolution

DEPARTMENT OR DIVISION	DIVISION MANAGER	APPROVED
Engineering	**Crystal Yezman** **Director of Engineering**	**Ben Horenstein** **General Manager**

MARIN MUNICIPAL WATER DISTRICT

RESOLUTION NO.

A RESOLUTION OF THE BOARD OF THE MARIN MUNICIPAL WATER DISTRICT CONTINUING THE EMERGENCY CONTRACTING PROVISIONS FOR THE PARADISE DRIVE EMERGENCY REPAIR PROJECT

WHEREAS, the Marin Municipal Water District, a special purpose municipal corporation, is authorized by District Code Section 2.90.055, consistent with California Public Contracts Code section 22050, to award construction contracts without advertisement in certain emergency situations; and

WHEREAS, on November 18, 2022, the Marin Municipal Water District Board of Directors unanimously adopted Resolution 8728 acknowledging the General Manager's execution of Contract No. 1990 with Maggiora & Ghilotti Inc., for the Paradise Drive Emergency Repair Project (Project), without advertisement, for the retaining wall embankment and roadway repair and continuing the District's emergency contracting provisions ; and

WHEREAS, the main break on the pipeline in Paradise Drive caused the retaining wall embankment to fail and slide downhill exposing the foundation piers and causing damage to the roadway and is a significant emergency in that it presents a risk to the retaining wall and section of Paradise Drive and if not promptly repaired, which roadway failure would impact the public roadway to one lane of traffic on Paradise Drive and risk further slide and damage to the District's water main; and

WHEREAS, the District proposes to complete repair of the retaining wall embankment and roadway section to ensure the retaining wall continues to function properly and restore the damaged road surface for vehicle and cyclist travel along Paradise Drive under the Project, thus ensuring safe public access to the roadway and stability for the District's water main; and

WHEREAS, the Board of Directors finds that a local emergency situation continues to exist since the embankment and roadway repairs are still not complete and given the work to complete the repair is ongoing; and

WHEREAS, the Board of Directors finds this continued emergency action to ensure repair of the Paradise Drive retaining wall embankment and roadway is necessary to respond to the current emergency situation.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS, pursuant to District Code Section 2.90.055, hereby continue the emergency contracting provisions

due to the pipe failure on Paradise Drive retaining wall embankment and roadway damage, finding that the emergency will not permit delay from a competitive solicitation for bids for the services described herein, and this action is necessary in this situation to preserve public health and safety and allow the District to continue to provide water service and emergency response access to its customers and the public at large .

PASSED AND ADOPTED this 13th day of December, 2022, by the following vote of the Board of Directors.

AYES:

NOES:

ABSENT:

_____
Larry L. Russell
President, Board of Directors

ATTEST:

_____
Terrie Gillen
Board Secretary

Item Number: 05
Meeting Date: 12-13-2022
Meeting: Board of Directors

Approval Item

TITLE
Update to the Fine Schedule for Fire-Related Offences on District Watershed

RECOMMENDATION
Approve a resolution to update the fine schedule for fire related offences on the Marin Municipal Water District (District) watershed

SUMMARY
Due to elevated risks of wildfire and recent incidents of concern on the District watershed, the Board has requested that staff review fines associated with fire hazards. From this review, staff is recommending an increase to the fines schedule for District code violations related to fire hazards, including smoking, starting a fire or using fireworks on the watershed. Staff is requesting that the Board of Directors adopt a resolution increasing the base fines for fire related violations, which would also increase the applicable penalties, bail and court administrative fees charged as part of the Marin County Bail schedule.

DISCUSSION
Each year, the Marin County Superior Court requests local agencies review the Marin County Superior Court Bail Schedule for updates, corrections and changes to their base fines. The Board last reviewed this schedule in 2017, and pursuant to Board Resolution No. 8428 adopted the Marin County Superior Court schedule for the majority of watershed offenses. In addition to the base fine, the Court adds mandated penalties and charges, which increases the overall total of the bail. In an effort to protect the watershed, water quality, visitors, and surrounding communities, staff is recommending that the Board consider increase fines for fire related offenses on the watershed, specifically those violations found in District Code sections 9.07.01 (prohibiting fires), 9.07.02 (prohibiting fireworks) and 9.07.03 (prohibiting smoking). This recommendation is in response to a recent incident on the watershed that resulted in a vegetation fire near Bon Tempe Lake as well as an awareness of the increased risks of wildfires on the watershed and California generally.

The current base fine for smoking, an infraction, is $35. After additional penalties and court fees, the total fine amount for smoking on the watershed is $233. The base fines for use of fireworks or fires, each a misdemeanor, is $185, which after adding additional penalties and court fees is $843.

Table 1: Current Bail Schedule

Marin County Muni Ordinances Bail Schedule							
Water District Codes Listed			County Default Bails		Court Assessments		
Regulation	Type	Description	Base Fine	Penalties	Court Security	Conviction Fee	Total
9.07.01	M	Fires	$185	$588	$40	$30	$843
9.07.02	M	Fireworks	$185	$588	$40	$30	$843
9.07.03	I	Smoking	$35	$123	$ 40	$ 35	$233

Table 2: Proposed Bail Schedule

Marin County Muni Ordinances Bail Schedule							
Water District Codes Listed			County Default Bails		Court Assessments		
Regulation	Type	Description	Base Fine	Penalties	Court Security	Conviction Fee	Total
9.07.01	M	Fires	$500	$588	$40	$30	$1,158
9.07.02	M	Fireworks	$500	$588	$40	$30	$1,158
9.07.03	I	Smoking (1st Offense)	$75	$123	$ 40	$ 35	$273
9.07.03	I	Smoking (2nd Offense)	$250	$620	$ 40	$ 35	$945

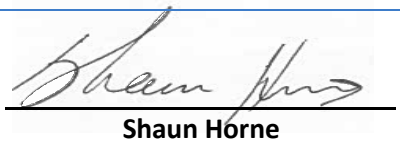
Staff is recommending that the base fine for violation of District Code section 9.07.03 be increased with a two-tiered fine structure. For the first smoking offense, the base fine would be set at $75 with a total fine $273. Subsequent smoking offenses would result in a base fine of $250 with a total fine of $945. Staff is further recommending that the base fines for violation of District Code sections 9.07.01 (prohibiting fires) and 9.07.02 (prohibiting fireworks) be increased to a base fine of $500 with a total fine of $1,158.

Staff is requesting that the Board of Directors adopt a resolution to increases the base bail fine for fire related offenses.

FISCAL IMPACT
None

ATTACHMENT(S)
1. Resolution

Item Number: 05
Meeting Date: 12-13-2022

DEPARTMENT OR DIVISION	DIVISION MANAGER	APPROVED
Watershed		
	Shaun Horne **Watershed Resource Manager**	**Ben Horenstein** **General Manager**

MARIN MUNICIPAL WATER DISTRICT

RESOLUTION NO.

RESOLUTION OF THE BOARD OF THE MARIN MUNICIPAL WATER DISTRICT AUTHORIZING UPDATES TO WATERSHED FINE SCHEDULE

WHEREAS, each year, the Marin County Superior Court requests local agencies review the Marin County Superior Court Bail Schedule (bail schedule) in accordance with the provisions of Penal Code § 1269b(c) and Rule 4.102 of the California Rules of Court for updates, corrections and changes to their base fines and an annual review of the current bail schedule was performed by Watershed Protection staff; and

WHEREAS, the Board last considered the bail schedule in 2017 and adopted the Marin County Uniform Bail Schedule corrections and increases for violations of the Marin Municipal Water District Code, Title 9, Land Use Regulations for use of the Marin Municipal Water District Lands; and

WHEREAS, based on direction from the Board given the extreme fire hazards that exist on the watershed during fire season and the recent drought, staff recommended base fine increases to the fire related violations.

NOW, THEREFORE, BE IT RESOLVED, that the Board hereby:

1. Authorizes base fine increases for violations of District Code section 9.07.03 with a two-tiered fine structure to include the fine for the first smoking offense at $75 with a total fine of $273 including other fees and charges under the bail schedule, and a base fine for subsequent smoking offenses at $250 with a total fine of $945 including other fees and charges on the bail schedule, and

2. Authorizes base fine increases for violations of District Code sections 9.07.01 (prohibiting fires) and 9.07.02 (prohibiting fireworks) at a base fine of $500 with a total fine of $1,158, including other fees and charges on the bail schedule.

PASSED AND ADOPTED this 13th day of December, 2022, by the following vote of the Board of Directors.

AYES:

NOES:

ABSENT:

_____

President, Board of Directors

ATTEST:

_____

Board Secretary

Item Number: 06
Meeting Date: 12-13-2022
Meeting: Board of Directors

Approval Item

TITLE
Water Supply Assessment for Proposed Northgate Town Square Redevelopment

RECOMMENDATION
Approve the Northgate Town Square Redevelopment Water Supply Assessment

SUMMARY
A proposed redevelopment of Northgate Shopping Center in the City of San Rafael will create up to 1,422 residential units, along with a variety of mixed-use spaces. A project of this magnitude triggers California Water Code requirements for supplying water authorities to produce a Water Supply Assessment (WSA) for evaluation of water supply and demand impacts.

Based on currently available information and conservative estimates of projected demand, the District expects to be able to meet all future demands within its existing service area, inclusive of the proposed Project in normal, dry, and multiple dry historical hydrologic years. While shortfalls are projected during an extreme drought scenario, they are not materially different from the shortfalls that would be experienced without the proposed project.

The Operations Committee reviewed and referred this item to the Board for approval at the November 18, 2022 meeting. Staff is requesting the Board to approve the Northgate Town Square Redevelopment Water Supply Assessment to allow the CEQA process to progress.

DISCUSSION
In January 2022, the City of San Rafael, as the lead agency under CEQA, held a scoping meeting in connection with its Notice of Preparation for an Environmental Impact Report (EIR) for the proposed redevelopment of the Northgate Shopping Center. The Northgate Town Square redevelopment project (Project) proposes a reduction in commercial retail space from 775,677 square-feet to 246,677, and construction of six (6), five-story high-density multi-family residential buildings with a combined total of up to 1,422 living units in a 2-phase approach, with Phase 1 completed in 2025 and full buildout in 2040.

The City of San Rafael determined that, pursuant to California Water Code Section 10910(a), 10912(a)(1), and 10912(a)(3), the proposed project triggers the requirement for a Water Supply Assessment and requested that the District, as the water supplier for this property, prepare a Water Supply Assessment for the proposed project. A three-party agreement was subsequently prepared between the City of San Rafael, the developer, Merlone Geier Management, LLC, and the District for preparation of the water supply assessment, including reimbursement of the District's costs.

EKI Environment & Water, Inc. was selected by the District to assist in this effort, given their involvement with the District's 2020 Urban Water Management Plan, and their positive track-record producing similar documents for neighboring agencies. California Water Code Section 10910(g)1) provides that the District shall submit a Board approved water supply assessment (WSA) to the City within 90 days from which the request was received. A 30 day extension has been filed, in accordance with Section 10910(g)(2) of the Water Code. Once the WSA is submitted, the City may include an evaluation of the information provided in the WSA in the proposed project EIR, and, in accordance with Water Code section 10911(c), the City shall determine, based on the entire record, whether projected water supplies will be sufficient to satisfy the demands of the proposed project, in addition to existing and planned future uses.

Currently, the Northgate Shopping Center has both potable and recycled water connections. In line with California Water Code and District Code section 11.32.120, the Project will continue to be dual-plumbed at all available facilities.

The WSA analyzed both potable and recycled water demands for both phases of the proposed Project. Once identified, these values were combined with current and future projected demands developed in the District's 2020 Urban Water Management Plan. The combined demand was evaluated under four supply scenarios; *Normal*, *Single Dry Year, Multiple Dry Years* and *Extreme Drought* conditions, consistent with the District's 2020 UWMP and the requirements of Water Code section 10910(c)(4), which requires evaluation based on historical *Normal, Single Dry Year and Multiple Dry Years,* and Water Code section 10635(b)(4), which allows urban water management plans to consider plausible changes in projected supplies under climate change conditions, i.e. an *Extreme Drought*.

The District's potable demand, inclusive of the proposed Project, will be met in the *normal*, *single dry year* and *multiple dry year* historical hydrologic supply scenarios. Under an *Extreme Drought* scenario, which has not occurred in the past, supply shortages are expected beginning in the third year, and compound into the fourth and fifth year with a maximum expected shortfall of 65%. These projected shortfalls are not materially different from the shortfalls that would be experienced without the proposed project and would be addressed through planned implementation of the District's Water Shortage Contingency Plan. In addition, the WSA explains that the District' s Strategic Water Supply Assessment is underway to identify ways in which the existing supply portfolio can be augmented to serve all users, including the proposed project, in an extreme drought scenario.

Under all scenarios, no recycled water supply shortfall is anticipated.

Staff has reviewed the analysis and agree with the findings. Staff also sent a copy the WSA to the City for review with no comments received.

The Operations Committee reviewed and referred this item to the Board for approval at the November 18, 2022 meeting. Staff is requesting the Board to approve the Northgate Town Square Redevelopment Water Supply Assessment to allow the CEQA process to progress.

FISCAL IMPACT
None

ATTACHMENT(S)
1. Water Supply Assessment for Northgate Town Square Redevelopment

DEPARTMENT OR DIVISION	DIVISION MANAGER	APPROVED
Engineering	**Crystal Yezman** **Director of Engineering**	**Ben Horenstein** **General Manager**

Water Supply Assessment for Northgate Town Square

Marin Municipal Water District

November 2022
EKI C20143.00

PREPARED BY
EKI ENVIRONMENT & WATER, INC.

www.ekiconsult.com
2001 Junipero Serra Blvd, Suite 300 • Daly City, CA 94014

Water Supply Assessment

Northgate Town Square
Marin Municipal Water District

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

1 INTRODUCTION

The Water Supply Assessment law (§10910-10915 of the California Water Code [CWC or Water Code]) requires urban water supplies to prepare a Water Supply Assessment (WSA) to the city or county that has jurisdiction to approve the environmental documentation for certain qualifying projects as defined in Water Code §10912(a). This WSA was prepared for the proposed Northgate Town Center development (Project). The proposed Project meets the definition of "project" as defined in Water Code §10912(a)(e) because it is a proposed mixed-use residential and commercial development including more than 500 residential units and approximately 225,100 square feet (sq ft) of commercial space (Merlone Geier Partners, 2022). Marin Municipal Water District (MMWD or District) will be the water service provider for the proposed Project.

The information provided in this WSA is consistent with Water Code §10910-10912 requirements and the California Department of Water Resources' (DWR's) *Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001: To Assist Water Suppliers, Cities, and Counties in Integrating Water and Land Use Planning*, dated 8 October 2003.

The purpose of this WSA is to evaluate whether the District has sufficient water supply to meet the current and planned water demands within its service area, including the demands associated with the proposed Project, during normal and dry hydrologic years over a 20-year time horizon, as well as during an extreme drought scenario. More specifically, this WSA includes:

- A summary of the WSA requirements articulated in Water Code §10910-10912 and a description of how they apply to the proposed Project (Sections 2 and 3);
- A description and analysis of the current and projected future water demands of the proposed Project through the year 2045 (Section 4);
- A description and analysis of the historical and current water demands for the District, and projected future water demands for its service area through the year 2045 (Section 5);
- A description and analysis of the current and projected future water supplies for the District's service area through the year 2045 (Section 6); and
- A comparison of the water supplies and demands for the District's service area, including the projected water demands associated with the proposed Project (Section 7).

The information contained in this WSA is based primarily on the District's 2020 Urban Water Management Plan (UWMP), except where updated with relevant water demand and supply reliability and other information provided by the District.

Based on currently available information and conservative estimates of projected demand, the District expects to be able to meet all future demands within its existing service area, inclusive of the proposed Project in normal, dry, and multiple dry hydrologic years. The shortfalls that are currently projected during an extreme drought scenario are not materially different from the shortfalls that would be experienced without the proposed Project and would be addressed

through planned implementation of the District's Water Shortage Contingency Plan (WSCP). In addition, as described herein, the District is currently preparing a Strategic Water Supply Assessment that will identify ways in which its existing supply portfolio can be augmented to serve all users, including the proposed Project, in an extreme drought scenario.

2 GENERAL REQUIREMENTS FOR A WATER SUPPLY ASSESSMENT

The purpose of this section is to outline the types of projects that require the preparation of a WSA, who is responsible for preparation, and the necessary components of a WSA.

2.1 Applicability of California Water Code to the Project

☑ ***CWC § 10910 (a)***

Any city or county that determines that a project, as defined in Section 10912, is subject to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) under Section 21080 of the Public Resources Code shall comply with this part.

☑ ***CWC § 10912***

For the purposes of this part, the following terms have the following meanings:

(a) "Project" means any of the following:

(1) A proposed residential development of more than 500 dwelling units.

(2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.

(3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.

(4) A proposed hotel or motel, or both, having more than 500 rooms.

(5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.

(6) A mixed-use project that includes one or more of the projects specified in this subdivision.

(7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

(b) If a public water system has fewer than 5,000 service connections, then "project" means any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of the public water system's existing service connections, or a mixed-use project that would demand an amount of water equivalent to, or greater than, the amount of water required by residential development that would represent an increase of 10 percent or more in the number of the public water system's existing service connections.

The proposed Project will consist of approximately 225,100 sq ft of commercial area, 1,422 residential units[1] (for a total of 1,593,815 sq ft in six residential buildings), six parking structures (one for each residential building, with a total of 1,009,415 sq ft), and 338,640 sq ft of irrigated landscaping. The commercial buildings will be a mix of retail and food services. Five of the residential buildings will be apartment-style and the remaining residential building will be made up of townhomes, with each residential building having its own parking garage (Merlone Geier

[1] Up to 1,422 residential units are assumed, even though the total number of units by full buildout is only 1,320 units. The higher number of units is assumed for purposes of CEQA analysis to address the possibility of future development of more units in the same residential square footage.

Partners, 2022). The proposed Project exceeds the threshold for a "project" requiring a WSA pursuant to Water Code §10910(a), 10912(a)(1), and 10912(a)(3).

2.2 Responsibility for Preparation of the Water Supply Assessment

☑ ***CWC § 10910 (b)***

The city or county, at the time that it determines whether an environmental impact report, a negative declaration, or a mitigated negative declaration is required for any project subject to the California Environmental Quality Act pursuant to Section 21080.1 of the Public Resources Code, shall identify any water system that is, or may become as a result of supplying water to the project identified pursuant to this subdivision, a public water system, as defined in Section 10912, that may supply water for the project. If the city or county is not able to identify any public water system that may supply water for the project, the city or county shall prepare the water assessment required by this part after consulting with any entity serving domestic water supplies whose service area includes the project site, the local agency formation commission, and any public water system adjacent to the project site.

The proposed Project is located within the District's service area and the water for the proposed Project will be supplied by the District. Therefore, in accordance with Water Code §10910(b), the District is the entity responsible for preparation and adoption of a WSA for the proposed Project.

2.3 Purpose of a Water Supply Assessment

☑ ***CWC § 10910 (c) (4)***

If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.

☑ ***CWC § 10911***

(b) The city or county shall include the water supply assessment provided pursuant to Section 10910, and any information provided pursuant to subdivision (a), in any environmental document prepared for the project pursuant to Division 13 (commencing with Section 21000) of the Public Resources Code.

(c) The city or county may include in any environmental document an evaluation of any information included in that environmental document provided pursuant to subdivision (b). The city or county shall determine, based on the entire record, whether projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses. If the city or county determines that water supplies will not be sufficient, the city or county shall include that determination in its findings for the project.

Per Water Code §10910(c)(4), the primary purpose of a WSA is to evaluate whether sufficient water supply is available to meet all future demands within the water supplier's service area, including those associated with the proposed Project, during normal and dry hydrologic years for a 20-year planning horizon.

3 PROJECT DESCRIPTION

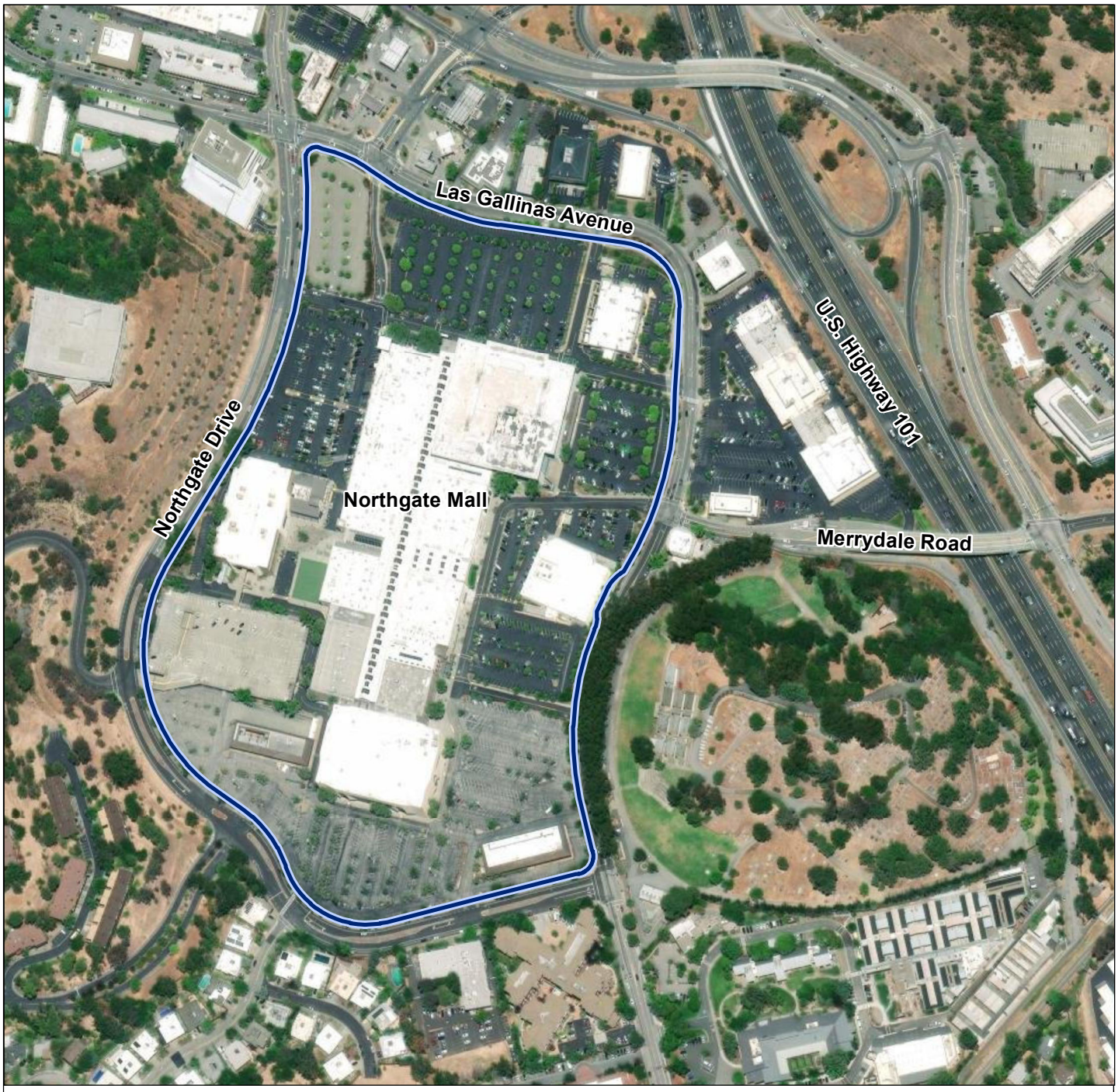
The proposed Project is located on assessor's parcel numbers (APN) 175-060-12, -40, -59, -61, 66, and -67, which are located west of U.S. Highway 101 and bordered by Northgate Drive and Las Gallinas Avenue (**Figure 1**). The approximately 44.8-acre proposed Project site is currently developed as the Northgate Mall, which is located within the San Rafael Town Center. The proposed Project will result in the redevelopment of the existing mall through demolition, renovation, and new construction.

The proposed Project will be developed in two phases, with full buildout expected to be completed in 2040. Phase 1, also referred to as the "2025 Master Plan", will include the construction of approximately 44,100 sq ft of new commercial space and 907 residential units, and is anticipated to finish in 2025. Phase 2, also known as the "2040 Vision Plan", will include the addition of 66,300 sq ft of new commercial space and 413 residential units. By full buildout, there will be approximately 225,100 sq ft of commercial space, 1,422 residential units[2] (for a total of 1,593,815 sq ft in six residential buildings), six parking structures (one for each residential building, with a total of 1,009,415 sq ft), and 338,640 sq ft of landscaped area (**Appendix A**; Merlone Geier Partners, 2022).

As shown on **Figure 1**, the proposed Project site is currently occupied by the Northgate Mall. Historical potable water use at the site ranged between 17 to 32 acre-feet per year (AFY) between 2017 and 2021, and historical recycled water use ranged between 9.7 and 17 AFY[3] (MMWD, 2022). The proposed Project is located within the District's service area and potable and recycled water service will be provided by the District (**Figure 2**).

[2] Up to 1,422 residential units are assumed, even though the combined number of units from Phase 1 and Phase 2 is only 1,320 units. The higher number of units is assumed for purposes of CEQA analysis to address the possibility of future development of more units in the same residential square footage.

[3] The recycled water plant was taken offline in 2019 and 2020 to allow for upgrades, and all recycled water demands were met by potable water during this time.



Legend

Project Boundary

DRAFT

N

0 400 800

Feet

Project Location

Notes

1. All locations are approximate.

Sources

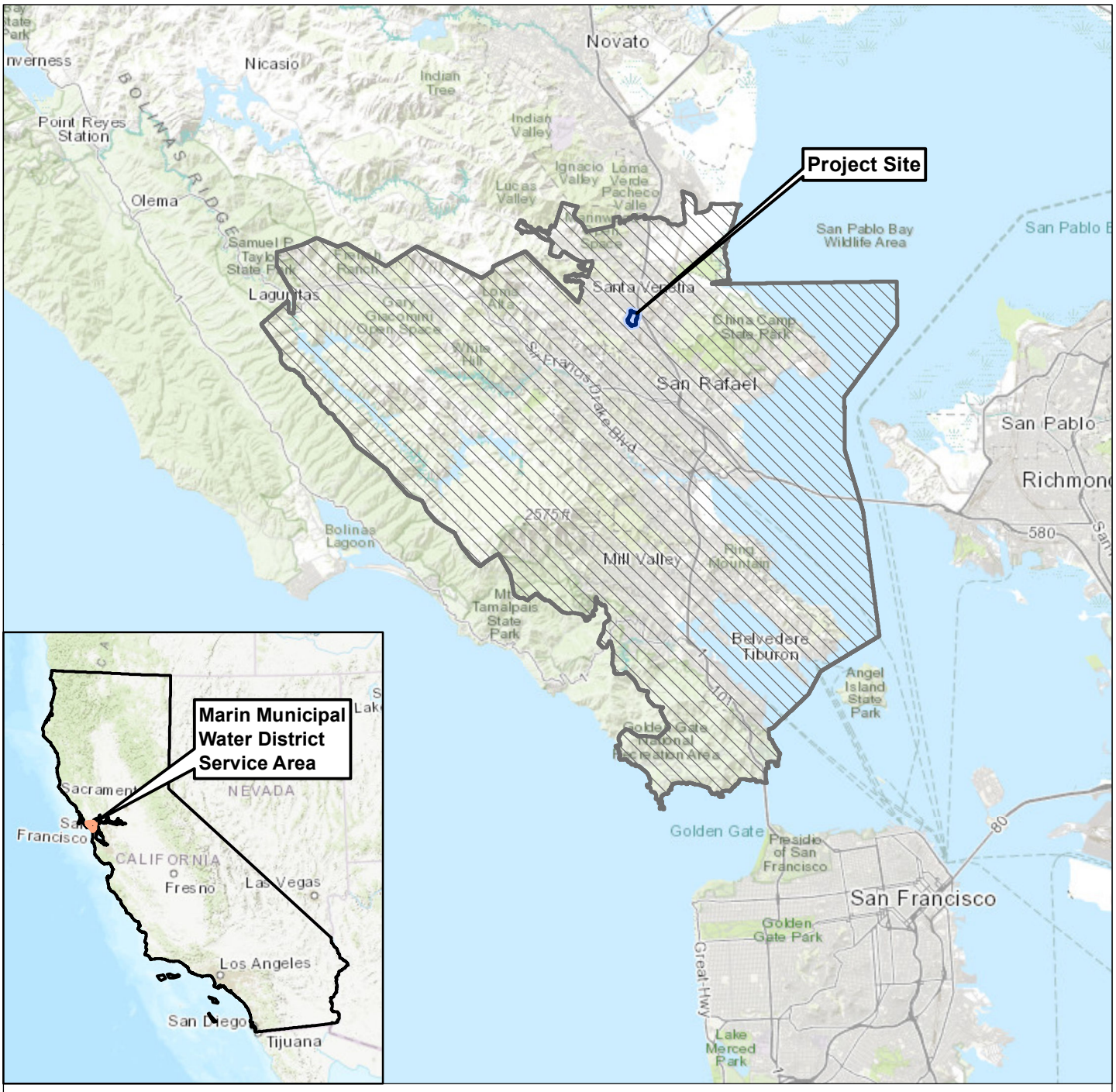
1. Basemap provided by ESRI.

Northgate Town Square
San Rafael, CA
November 2022
EKI C20143.00

Figure 1

eki environment & water

Path: X:\C20143.00\Maps\2022\11\Fig1_Project Location.mxd



Legend

Project Boundary

Marin Municipal Water District Service Area

DRAFT

N

0 4 8

Miles

Notes

1. All locations are approximate.

Sources

1. Service area boundary provided by Marin Municipal Water District.
2. Basemap provided by ESRI.

Marin Municipal Water District Service Area and Project Location

Northgate Town Square
San Rafael, CA
November 2022
EKI C20143.00

Figure 2

eki environment & water

Path: X:\C20143.00\Maps\2022\11\Fig2_ServiceArea.mxd

4 PROJECT WATER DEMAND

The City of San Rafael has adopted green building standards and water efficient landscaping ordinances consistent with previous versions of the CalGreen building standards and the California Model Water Efficient Landscape Ordinance (MWELO) and all new developments must comply with these efficiency standards. As such, the proposed Project development is expected to include a number of water-efficient features, including, but not limited to:

- Use of low-flow lavatory faucets, kitchen faucets, toilets, and urinals in accordance with CalGreen Code; and
- Inclusion of low-water use landscaping and high-efficiency irrigation systems to minimize outdoor water use in accordance with MWELO.

As described below, average annual water demand for the proposed Project was estimated based on: (1) information provided by the Project Proponent in coordination with the District (Merlone Geier Partners, 2022); and (2) water demand factors identified in the District's 2020 UWMP, literature, and other public sources for similar land uses. Total water demands include water used by the proposed Project for residential uses, food services, gym uses, retail/commercial uses, landscaping, and parking structure cleaning.

Table 1 provides a summary of the land uses, unit water demand factors, and respective water demands associated with each land use, in five-year increments through 2045. Phase 1 of project buildout will finish in 2025, and Phase 2, which coincides with the full project buildout, will be achieved by 2040 (Merlone Geier Partners, 2022).

4.1 Residential Use

Phase 1 includes the construction of 907 residential units with 85 townhouse units[4] classified as single-family residential (SFR) and 822 units classified as multi-family residential (MFR). Phase 2 will construct the remaining 413 units, all classified as MFR. At full buildout, there are projected be 1,320 units; however, 1,422 units are being assumed for CEQA analysis to address the possibility of future development of more units in the same residential square footage (Merlone Geier Partners, 2022).

According to the District's 2020 UWMP (MMWD, 2021), the average water use for SFR is 350 gallon per day dwelling unit (GPD/du) and the average water use for MFR is 152 (GPD/du). In accordance with CWC §13553, the residential units will be dual-plumbed, and recycled water will be used for domestic toilet flushing. Based on study data available from the District (Flume Data Labs, 2021), it is estimated that the average amount of water used by flushing of residential toilets is 26 GPD/du. Based on this amount of recycled water use, water demand factors of 324 GPD/du and 126 GPD/du (average water use minus water use associated with toilet flushing) are used to calculate the potable water demand for SFR and MFR units, respectively.

[4] According to California Civil Code §1351, townhomes meet the definition of a condominium and thus under CWC §13553 recycled water may be used in townhomes units for urinal and toilet flushing.

By the end of Phase 1 in 2025, the potable water demand associated with the residential portion of the proposed Project is estimated to be 147 AFY and by full buildout in 2040 will be 220 AFY. The residential recycled water demand of the proposed Project will be 26 AFY by 2025 and 41 AFY by full buildout in 2040.

4.2 Amenities Use

The proposed Project would include approximately 42,206 sq ft of gym uses by Phase 1 and 71,010 sq ft of restaurant and food services by full buildout (Merlone Geier Partners, 2022). Water use factors for food services and gym uses are 0.075 GPD/sq ft and 0.21 GPD/sq ft, respectively. The water use factor for the food services is from the US Energy Information Administration Commercial Buildings Energy Consumption Survey (CBECS, 2012) while the gym water use factor is from the 2020 City of Ventura Water Demand Factor Study (City of Ventura, 2020). The resultant water demand associated with the amenities portion of the proposed Project is estimated to be 15 AFY in 2025 and 6.0 AFY by full buildout in 2040[5].

4.3 Retail/Commercial Use

Based on information provided by the Project Proponent, retail/commercial development for the Project will include 397,725 sq ft in Phase 1 and 154,090 sq ft by full buildout[6] (Merlone Geier Partners, 2022). The water use factor for the retail/commercial uses is 0.032 GPD/sq ft (CBECS, 2012), and the resultant total retail/commercial water use is expected to be 14 AFY by 2025 and 5.5 AFY by full buildout in 2040.

4.4 Garage Structure Use

The proposed Project includes six parking structures, one for each residential building, that totals approximately 1,009,415 sq ft (Merlone Geier Partners, 2022). Water use associated with this space is anticipated to be minimal, limited to cleaning of the facility. For purposes of this WSA, it is assumed that the garage will be cleaned 12 times per year and that 0.02 gallons per sq ft will be used per each cleaning event (City of Los Angeles Bureau of Engineering, 2012). As part of Phase 1 of the Project, 692,106 sq ft of parking structure will be built by 2025, and an estimated 0.51 AFY of potable water[7] will be used for purposes of cleaning the structure. By the end of Phase 2 in 2040, an additional 317,309 sq ft of parking structures will be built and combined with the existing parking square footage from Phase 1, so an estimated 0.74 AFY will be used to clean the total 1,009,415 sq ft of parking structure.

---

[5] The water demand decreases from 2025 to full buildout due to the lack of gym tenant in Phase 2. It is assumed that the square footage associated with the gym use in 2025 will be empty in 2040 as no tenant is projected to use the space as of writing of this WSA

[6] The decrease in square footage from Phase 1 and full buildout is due to demolition of existing retail/commercial buildings and construction of new residential buildings and associated parking in its place.

[7] Although there is a potential for recycled water to be used for cleaning, this analysis conservatively assumes that potable water will be used.

4.5 Landscaping Use

Per Merlone Geier Partners, the proposed Project will include 313,597 sq ft of landscaped area in Phase 1 and an additional 25,043 sq ft in Phase 2, resulting in a total of 338,640 sq ft of landscaped area by full buildout (**Appendix A**). As shown in **Table 2**, irrigated landscape water use was calculated based on the Maximum Applied Water Allowance (MAWA; DWR, 2015). The MWELO requires that the annual estimated total water use for landscape irrigation not exceed the MAWA (DWR, 2015). Water use for the proposed Project landscaping irrigation has been conservatively assumed to be equal to the MAWA, which is the upper limit of annual applied water for established landscaped areas.

For this Project, recycled water will be used to irrigate all landscaped areas on site (Merlone Geier Partners, 2022). According to the MWELO definitions, landscaped areas irrigated with recycled water are classified as "Special Landscaped Areas" for purposes of the MAWA calculations[8]. Based on this methodology, it is estimated that the total irrigated landscape recycled water use for the Proposed Project will be 21 AFY by 2025 and 23 AFY by 2040[9].

The Proposed Project also includes several residential community pools and spas, and a water feature in the Town Square that can be considered "special landscaped areas" under the MWELO. The potable water use associated with these water features planned as part of the Proposed Project is estimated to be 0.19 AFY by 2025 and 0.37 AFY by 2040, as calculated in **Table 2**.

4.6 Distribution System Losses

Water distribution systems experience a degree of water loss over the course of transmission from the source to the customer. Although distribution system losses from the newly constructed portion of the system's infrastructure associated with the proposed Project would initially be expected to be minimal, it is conservatively assumed that distribution system losses associated with delivering water for the proposed Project will ultimately be consistent with the proportion of non-revenue water loss per the 2021 validated water loss audit submitted to DWR for the District (i.e., 8.6%; DWR 2022). **Table 1** shows the distribution system losses for potable water for the proposed Project, estimated at a total of 17 AFY by the end of Phase 1, and 22 AFY by full buildout in 2040[10].

[8] Special landscaped areas may also include landscaping dedicated solely to edible plants, recreational areas, areas irrigated with recycled water, or water features using recycled water.

[9] MAWA demands were calculated by multiplying the Reference Evapotranspiration rate of 35.8 inches per year for San Rafael, an Evapotranspiration Adjustment Factor of 1 for special landscaped areas, a conversion factor of 0.62, and the total project square footage, for a total of 21 AFY and 23 AFY for Phase 1 and Phase 2 buildout, respectively.

[10] The total Project water demand without water loss (177 AFY in 2025 and 232 AFY in 2045) and the 2021 DWR Water Audit Report non-revenue water percent loss (8.6%) were used to back-calculate the total water demand inclusive of distribution system losses (194 AFY in 2025 and 254 AFY in 2045). These values were then multiplied by 8.6% to get the distribution system water loss. Because the 2021 water loss data is the most recent available data, it was considered to be representative of future conditions.

4.7 Existing Current Water Demand on the Proposed Project Site

The proposed Project site currently consists of the retail and commercial uses located within the San Rafael Town Center (Merlone Geier Partners, 2022). Historical potable water use for the current land use at the proposed Project site over the last five years (i.e., 2017 through 2021) ranged between 17 and 32 AFY and averaged 26 AFY. Historical recycled water use over the last five years at the proposed Project site ranged between 9.7 AFY and 17 AFY[3] averaging 13 AFY (MMWD, 2022). Water demand by the new development is considered incremental to this existing demand, and thus, as shown in **Table 1**, the average of the last five years of existing site demand is subtracted from the estimated demands associated with the proposed Project.

4.8 Total Project Water Demand

Based on the above methodologies and assumptions, and adjusting for the existing water use at the site, the incremental increase in potable and recycled water demands associated with the proposed Project at full buildout and occupancy is estimated to be 228 AFY and 51 AFY, respectively, as shown in **Table 1**.

[3] The recycled water plant was taken offline in 2019 and 2020 to allow for upgrades, and all recycled water demands were met by potable water during this time.

Table 1

Summary of Estimated Incremental Annual Project Water Demand

Northgate Town Square, San Rafael, California

Water Use	Area (sq ft) (a)		Demand Factor (c)	Demand Factor Units	Total Water Demand (AFY)				
	Phase 1	Phase 2/ Full buildout (b)			2025	2030	2035	2040	2045
Potable Water									
Single-Family Residential	85 units	85 units	324	gpd/du	31	31	31	31	31
Multi-Family Residential	822 units	1,337 units	126	gpd/du	116	116	116	189	189
Food Services	58,730	71,010	0.075	gpd/sq ft	5.0	5.0	5.0	6.0	6.0
Gym	42,206	0	0.21	gpd/sq ft	10	10	10	0.0	0.0
Retail/Commercial (d)	397,725	154,090	0.032	gpd/sq ft	14	14	14	5.5	5.5
Parking Garage (e)	692,106	1,009,415	0.020	gal/sq ft/cleaning	0.51	0.51	0.51	0.74	0.74
Community pools, spas, water feature	--	--	--	--	0.19	0.19	0.19	0.37	0.37
Distribution System Losses (f)	--	--	--	--	17	17	17	22	22
Existing Site Demand (g)	--	--	--	--	-26	-26	-26	-26	-26
Net Annual Potable Water Demand (k)					**167**	**167**	**167**	**228**	**228**
Recycled Water									
Both SFR and MFR (h)	907 units	1422 units (i)	26	gpd/du	26	26	26	41	41
Irrigation (j)	313,597	338,640	--	--	21	21	21	23	23
Existing Site Demand (g)	--	--	--	--	-13	-13	-13	-13	-13
Net Annual Recycled Water Demand (k)					**34**	**34**	**34**	**51**	**51**

Abbreviations:

"AFY" = acre-feet per year
"CEQA" = California Environmental Quality Act
"CWC" = California Water Code
"du" = dwelling unit
"DWR" = California Department of Water Resources
"gal" = gallon
"gpd/sq ft" = gallons per day per square foot
"MFR" = multi-family residential
"MMWD" = Marin Municipal Water District
"MWELO" = Model Water Efficient Landscape Ordinance
"SFR" = single-family residential
"sq ft" = square feet
"WSA" = Water Supply Assessment

Notes:

(a) Land use square footage per Reference 1.
(b) Phase 1 of the buildout is expected to finish in 2025, Phase 2 will lead the project to full buildout and is expected to finish in 2040.
(c) Demand factors for residential uses per Table 4-5 in Reference 2 and Reference 9, food services and retail/commercial per Reference 3, and gym uses per Reference 4.
(d) The square footage decreases from Phase 1 to Phase 2 due to demolition and renovations of some existing buildings.
(e) Water use associated with this space is anticipated to be minimal, limited to cleaning of the facility. For purposes of this WSA, it is assumed that the garage will be cleaned twelve times per year and that 0.02 gal/sf will be used per each cleaning event, per Reference 5.
(f) Estimated distribution system water loss is calculated using the 2021 DWR Water Audit Report non-revenue water loss as a percent of volume of water supplied (i.e., 8.6% of project demands), per Reference 6 and includes both real and apparent losses.
(g) Existing site demands averaged over the years 2017-2021 per Reference 7. Existing demands are subtracted from total projected water demands to show the incremental increase in demands associated with the Project (i.e., the net increase in water demand).
(h) In accordance with CWC §13553, recycled water will be used for domestic toilet flushing.
(i) Up to 1,422 residential units are assumed, even though the combined number of units from Phase 1 and Phase 2 is 1,320 units. The higher number of units is assumed for CEQA analysis to address the possibility of future development of more units in the same residential square footage. The extra 102 units are assumed to be constructed in Phase 2.
(j) Irrigation demands are calculated using the Maximum Allowable Water Allowance, per Reference 8.
(k) Total may not sum due to rounding.

References:

1. Merlone Geier Partners, 2022. Information provided by Merlone Geier Partners, received on 7 September 2022.
2. Appendix C, 2020 Urban Water Management Plan, Marin Municipal Water District, prepared by EKI Environment & Water, Inc., dated June 2021.
3. US Energy Information Administration 2012 Commercial Buildings Energy Consumption Survey: Water Consumption in Large Buildings Summary.
4. City of Ventura, 2020. Final Water Demand Factor Study, City of Ventura, prepared by Wood Rodgers, dated 8 April 2020.
5. City of Los Angeles Bureau of Engineering, 2012. City of Los Angeles Bureau of Engineering, City of Los Angeles Bureau of Sanitation, Sewer Generation Rates Table, dated 6 April 2012.
6. MMWD 2021 Water Audit Data Report, accessed via the WUEdata - Water Audit Report Data website on 1 November 2022, (https://wuedata.water.ca.gov/awwa_plans).
7. MMWD, 2022a. Information provided by MMWD, received on 1 September 2022.
8. California Code of Regulations, Title 23, Division 2, Chapter 2.7, Model Water Efficient Landscape Ordinance, 29 September 2020.
9. Flume Data Labs, 2021. Marin Municipal Water District Residential Water Use Study Q1 2022 Dashboard, accessed via online on 18 October 2022, (https://public.tableau.com/app/profile/flumewater/viz/MarinQ12022Dashboard/Q122).

Table 2

Estimated Landscaping Water Use

Northgate Town Square, San Rafael, California

Landscaping Land Use	[A] Area of Land use (ac) (a)			[B] Annual Reference Evapotranspiration Rate (in) (b)	[C] Evapotranspiration Adjustment Factor (ETAF) (c)	[D] Maximum Applied Water Allowance (MAWA) (AF) D = A * B * C (d)			Estimated Water Use (AFY)				
	Phase 1	Phase 2	Full buildout			Phase 1	Phase 2	Full buildout	2025	2030	2035	2040	2045
Potable Water Use													
Community Pools, Spas, and Water Feature	0.063	0.063	0.13	35.8	1	0.19	0.19	0.37	**0.19**	**0.19**	**0.19**	**0.37**	**0.37**
Recycled Water Use													
Special Landscaped Area	7.2	0.57	7.8	35.8	1	21	1.7	23	**21**	**21**	**21**	**23**	**23**

Abbreviations:

"ac" = acre
"AF" = acre-feet
"AFY" = acre-feet per year
"Distrct" = Marin Municipal Water District
"ETAF" = Evapotranspiration Adjustment Factor
"in" = inches
"MAWA" = Maximum Applied Water Allowance
"PF" = Plant factor
"IE" = Irrigation efficiency

Notes:

(a) Total landscaped, pool, spa, and water feature land use area for the Project per Reference 1.
(b) Annual reference evapotranspiration rate for San Rafael region per Reference 2.
(c) The ETAF for is 1 for Special Landscaped Areas. The ETAF for communal pools, spas, and water feature is calculated based on a PF of 1 and IE of 1 as all recreational pools and spas in the District shall have covers to reduce evaporation per Reference 4.
(d) The MAWA calculations are described in Reference 3.

References:

1. Merlone Geier Partners, 2022. Information provided by Merlone Geier Partners, received on 7 September 2022.
2. California Department of Water Resources, 2012. California Irrigation Management Information System Reference Evapotranspiration Zones, January 2012.
3. California Code of Regulations, Title 23, Division 2, Chapter 2.7, Model Water Efficient Landscape Ordinance, 29 September 2020.
4. Marin Municipal Water District's Water Rules, accessed via online on 1 November 2022, (https://www.marinwater.org/waterrules).

5 MARIN MUNICIPAL WATER DISTRICT WATER DEMAND

☑ ***CWC § 10910 (c)***

(1) The city or county, at the time it makes the determination required under Section 21080.1 of the Public Resources Code, shall request each public water system identified pursuant to subdivision (b) to determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted urban water management plan adopted pursuant to Part 2.6 (commencing with Section 10610).

(2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g).

(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

Consistent with the UWMP Act (Water Code §10610-10656), the 2020 UWMP for the District presents estimates of projected future water demand for the District's service area in five-year increments, between the years 2020 and 2045 (MMWD, 2021).

5.1 Review of Project's Inclusion in 2020 UWMP Growth Projections

While the 2020 UWMP water demand projections account for growth within the District, the proposed Project is not explicitly included in these projections, and the projected demand for water use associated with the proposed Project is higher than the projected demand growth anticipated by the 2020 UWMP. Therefore, for the purposes of this WSA, it is conservatively assumed that no portion of the water demand associated with the proposed Project is included in the projected District water demands.

As of March 2021, the Regional Housing Needs Allocation (RHNA) has been updated. At the time of writing this WSA, the current General Plan does not include these updated projections, and therefore the demands for the District are based off the 2020 UWMP.

5.2 Current and Historical Water Demand Within the District's Service Area

Historical water demand within the District's service area from calendar years 2015 through 2021 is summarized in **Table 3.** Total District water demand has decreased by approximately 16% between 2015 and 2021 and averaged 35,830 AFY over the past five years, i.e., from 2017 through 2021. Water use declined from 2015 to 2016, likely influenced by drought conditions, mandatory state-wide restrictions in urban water use imposed by the State Water Resources Control Board (SWRCB), and local drought response. Total water use has remained lower than pre-drought conditions, with an increase beginning in 2017, indicating a degree of rebound

following the drought. The potable water demand is lower in 2021 compared to other years due to historic drought conditions and restrictions implemented in that year (MMWD, 2022). As seen in **Table 3**, and as further discussed in Section 6.1.4, there was no recycled water demand in 2019 and 2020 due to the Las Gallinas Valley Sanitary District (LGVSD) recycled water plant being taken offline for upgrades. All demands by the recycled water system during this period were met by potable water, and with the plant upgrades completed in April 2021, potable water is not anticipated to be needed to supplement the recycled water system going forward.

The largest proportion of water demand within the District service area is from the SFR sector, which represented 39% of the demand in the 2017-2021 period. The remainder of the demand is split between environmental releases from the Kent Lake and Soulajule Reservoir (29% of overall demand), MFR sector (8.7% of overall demand), losses (7.2% of the overall demand), commercial (7.0% of overall demand), industrial/governmental (3.8% of overall demand), dedicated landscape (3.7% of overall demand), other potable (1.0% of overall demand), and non-potable demand (0.6% of overall demand) (MMWD, 2021).

5.3 The District's Water Demand Projections

Projected water demands for the District are presented in **Table 4** in five-year increments and are based on the District's 2020 UWMP (MMWD, 2021). Taking into account historical water use, expected population increase and other growth, climatic variability, and other assumptions, the potable and raw water demand[11] within the District is projected to increase to 37,458 AFY by 2045 and the recycled water demand to increase to 750 AFY according to the District's 2020 UWMP. The 2045 projected potable and raw water demand is a 5.5% increase over the 2017-2021 average, and the 2045 recycled water demand is a 37% increase over the 2017-2021 average[12].

5.4 Total Projected District Water Demand (Inclusive of Proposed Project)

Table 4 also shows the projected water demands for the District inclusive of the estimated proposed Project water demands. By 2045, the total potable and raw demands inclusive of the proposed Project demand will be 37,686 AFY and the recycled water demand will be 801 AFY.

[11] Potable and raw water demands are grouped together because the local surface water supply data in the District's 2020 UWMP is a source for both potable and raw water demands. As described in the District's 2020 UWMP, raw water is used for environmental releases from Kent Lake and Soulajule Reservoir and is sold to the Meadow Club for irrigation purposes.

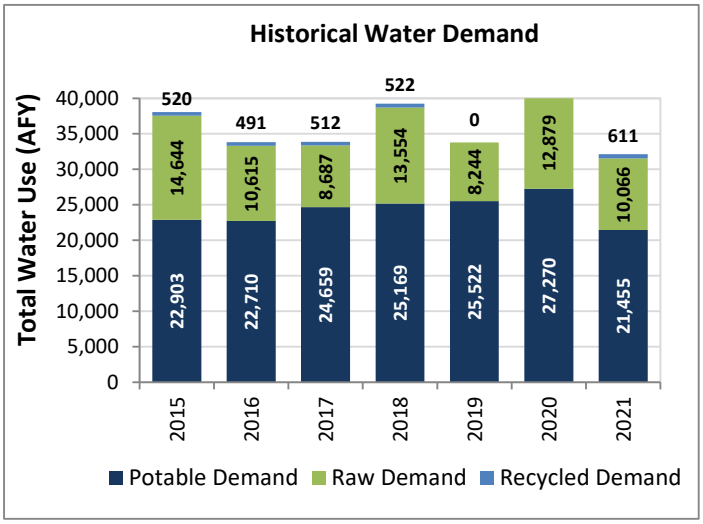
[12] The years 2019 and 2020 were excluded from the 2017-2021 average calculation since there were no recycled water demands in those years as described in more detail in Section 6.1.4.

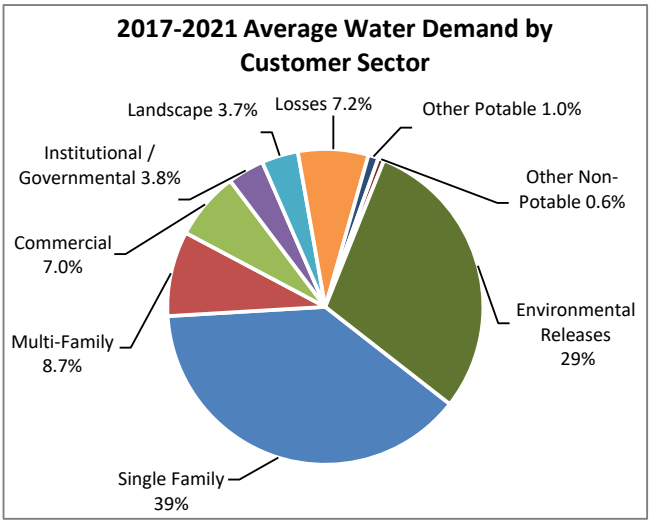
Table 3

Historical Water Demand for Marin Municipal Water District

Northgate Town Square, San Rafael, California

Category	District Annual Water Demand (AFY)						
	2015	2016	2017	2018	2019 (d)	2020	2021 (e)
Potable Water Demand (a)	22,903	22,710	24,659	25,169	25,522	27,270	21,455
Raw Water Demand (b)	14,644	10,615	8,687	13,554	8,244	12,879	10,066
Recycled Water Demand (c)	520	491	512	522	0	0	611
Total Water Demand	**38,067**	**33,816**	**33,858**	**39,245**	**33,766**	**40,149**	**32,132**





Abbreviations:

"AFY" = acre-feet per year

"District" = Marin Municipal Water District

"MMWD" = Marin Municipal Water District

Notes:

(a) Historical potable water demands from 2015 per Reference 1, 2016-2020 per Table 4-1 in Reference 2, and 2021 historical demands per Reference 5.

(b) Raw water demands include water sold to the Meadow Club and environmental releases from the Kent Lake and Soulajule Reservoir. Historical 2015-2020 demands per Reference 4 and 2021 demands per Reference 6.

(c) Historical recycled water demands for 2015-2020 per Reference 3 and 2021 per Reference 5.

(d) The recycled water plant was taken offline in 2019 and 2020 to allow for upgrades, and all recycled water demands were met by potable water during this time.

(e) Due to drought restrictions implemented in 2021, the potable water demand is lower compared to previous years.

References:

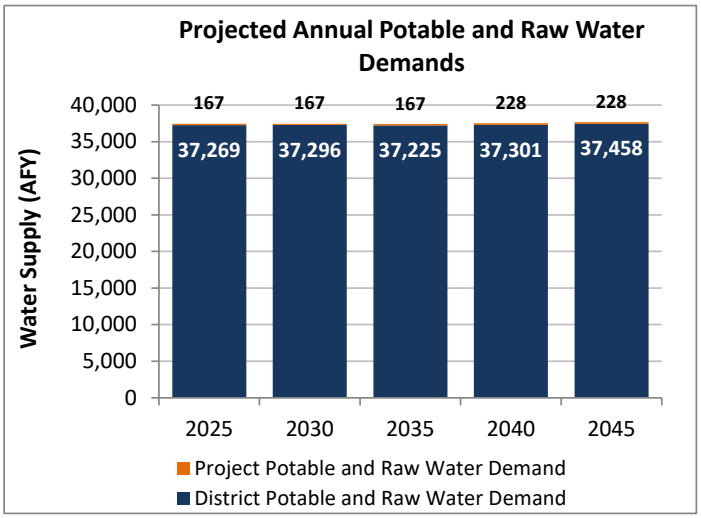
1. Appendix C, 2020 Urban Water Management Plan, Marin Municipal Water District, prepared by EKI Environment & Water, Inc., dated June 2021.
2. 2020 Urban Water Management Plan, Marin Municipal Water District, prepared by EKI Environment & Water, Inc., dated June 2021.
3. MMWD, 2020. Information provided by MMWD, received on 23 September 2020.
4. MMWD, 2021b. Information provided by MMWD, received on 23 February 2021.
5. MMWD, 2022a. Information provided by MMWD, received on 1 September 2022.
6. MMWD, 2022c. Information provided by MMWD, received on 29 September 2022.

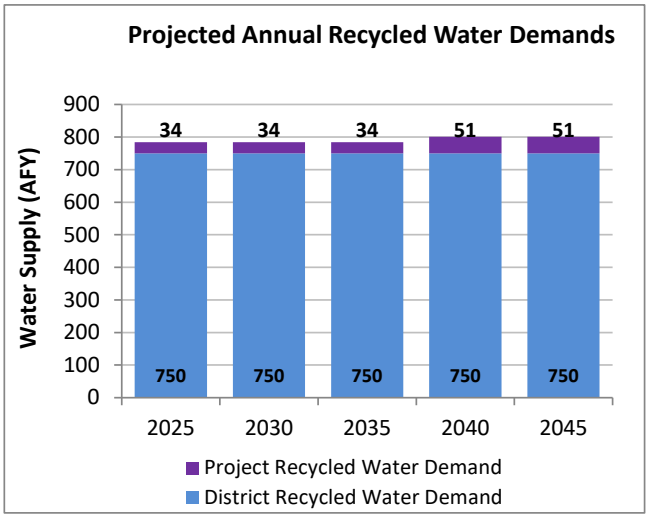
Table 4

Projected Normal Year Water Demand for Marin Municipal Water District

Northgate Town Square, San Rafael, California

Water Demand	Projected Annual Water Demand (AFY)				
	2025	2030	2035	2040	2045
Potable and Raw Water					
District Demand (a)	37,269	37,296	37,225	37,301	37,458
Proposed Project Demand	167	167	167	228	228
Total Potable and Raw Demand Inclusive of Proposed Project	**37,436**	**37,463**	**37,392**	**37,529**	**37,686**
Recycled Water					
District Demand (b)	750	750	750	750	750
Proposed Project Demand	34	34	34	51	51
Total Recycled Demand Inclusive of Proposed Project	**784**	**784**	**784**	**801**	**801**





Abbreviations:

"AFY" = acre-feet per year

"District" = Marin Municipal Water District

"MMWD" = Marin Municipal Water District

"Proposed Project" = Northgate Town Square

Notes:

(a) Projected potable and raw water demand for the District per Table 4-4 in Reference 1.

(b) Projected recycled water demand for the District per Table 6-5 in Reference 1.

References:

1. 2020 Urban Water Management Plan, Marin Municipal Water District, prepared by EKI Environment & Water, Inc., dated June 2021.

6 MARIN MUNICIPAL WATER DISTRICT'S WATER SUPPLY

This section identifies the District's water supply and discusses the vulnerability of the District's supply to drought and other factors affecting water supply reliability.

6.1 Identification of Water Supply Rights

☑ ***CWC § 10910 (d)(1)***

The assessment required by this section shall include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts.

Pursuant to Water Code §10910(d)(1), a WSA is required to include identification of all water supply entitlements, water rights, and water service contracts relevant to the identified water supply for the proposed Project. In accordance with these requirements, this WSA includes a summary of the District's supply sources and the agreements between the District and its supplemental surface water supplier, the Sonoma County Water Agency (SCWA), and other water contractors.

6.1.1 Local Surface Water Supply

The District's primary water supply is local surface water. Until 1976, all of the District's water supply was obtained solely from rainfall collected from a watershed of approximately 28 square miles of District owned lands, and 36 square miles not owned by the District. Six reservoirs in the watershed had a storage capacity of 53,100 acre-feet (AF). Through a bond issue authorized during the drought of the 1970s, a seventh reservoir was completed in 1980, the Soulajule Reservoir, which added 10,400 AF to the total storage. The District's Kent Lake facility was expanded in 1982 by raising Peters Dam 45 feet, increasing the storage capacity from 16,600 AF to 32,500 AFY. Presently, the total reservoir storage operated by the District is 79,566 AF (Permits 05633, 09390, 18546, 12800, and 16892).

On average, the District has an average annual runoff of 83,000 AF (10-year average). The range of annual runoff received into the reservoirs ranges widely from a low of 4,000 AF in 1977 to over 212,000 AF in 2017. From the reservoirs, the water is conveyed to either the Bon Tempe Treatment Plant (BTTP) near Ross or the San Geronimo Treatment Plant (SGTP) in Woodacre.

The District made an agreement with the California Department of Fish and Game in 1976, with an amendment in 1985, to release a volume of water from Soulajule Reservoir that maintains a constant streamflow in Walker Creek of 20 cfs during the winter and spring months. The amount of water released is decreased in the summer and fall months and when the reservoir level is low.

The District also releases water from Kent Lake in accordance with the 1995 SWRCB Order 95-17 to maintain the streamflow in Lagunitas Creek of 20 to 25 cfs during winter months in wet years, with decreased flows during the summer and during dry years. Increased upstream migration flows are released from Kent Lake for four three-day periods between November and February to provide for the upstream migration of anadromous fish.

6.1.2 Sonoma County Water Agency

6.1.2.1 SCWA Supply Sources and Allocation

As shown in **Table 5**, there are three main sources of water for the District, with one of them being purchased water from SCWA's Russian River Project. The Russian River flows are augmented by Pacific Gas and Electric's (PG&E's) Potter Valley Project, which diverts a portion of the Eel River flows to the East Fork of the Russian River. Water is diverted and extracted from the Russian River and percolates through sand and gravel and only needs the addition of chlorine to meet drinking water standards. Although the extracted water percolates through the ground, due to the connection to the surface water source, this diversion is considered and is permitted as a surface water supply under existing water rights to the Russian River and Dry Creek water. This water enters the District's system at the Ignacio Water Quality and Pumping Station, where water quality is monitored continuously and adjusted as needed.

The current contract between the District and SCWA is based on two documents: the 1975 Off-Peak Water Supply Agreement (Off-Peak Agreement) and its amendments, and the 1991 Agreement for the Sale of Water. In 1996, these two contracts were combined into a single new agreement called the Supplemental Water Supply Agreement (Agreement).

The Agreement states that the District can take deliveries of up to 14,300 AFY from SCWA. All of these deliveries are classified as "firm" water, meaning that the District's water deliveries would be as reliable as that provided to SCWA's other contractors. In addition to the annual delivery limit, the Agreement also places seasonal limitations on water delivery rates to the District, with deliveries limited to 23.1 million gallons per day (MGD) from December to March, 12.8 MGD from May to September, 20.1 MGD in April and November, and 17.1 MGD in October.

The Agreement expired on 30 June 2014, but a Temporary Extension extended the Off-Peak Agreement and Water Sale Agreement until 30 June 2015. A formal Agreement renewal was subsequently approved and became effective on 1 July 2015.

In 2021, the Kastania Pump Station was transferred from Sonoma Water to the District, with operational control of the Kastania Pump Station remaining with North Marin Water District (NMWD). To reflect the ownership changes, an Amended and Restated Interconnection Agreement was prepared and approved. This Amended and Restated Interconnection Agreement, dated January 2022, also extended the term of the agreement through 30 June 2040.

In addition to contractual delivery limits, Russian River water deliveries to the District are subject to available pipeline capacity in facilities owned by SCWA and North Marin Water District

(NMWD). The Amended and Restated Interconnection Agreement describes the District's rights to use the excess capacity in NMWD's facilities. The Amended and Restated Interconnection Agreement runs contiguous with the SCWA Restructured Agreement for Water Supply, which will expire on 30 June 2040 and has renewal options.

6.1.2.2 SCWA Surface Water Rights

Currently, four water rights permits (Permits 12947A, 12949, 12950, and 16596) issued by the SWRCB authorize SCWA to store up to 122,500 AFY of water in Lake Mendocino and up to 245,000 AFY of water in Lake Sonoma, and to divert or redivert up to 180 cubic feet per second (cfs) of water from the Russian River with a limit of 75,000 AFY (SCWA, 2021). The permits also establish minimum instream flow requirements for fish and wildlife protection and recreation. These minimum instream flow requirements vary based on the hydrologic classifications of normal, dry, and critical water supply conditions as defined by SCWA's water rights permits and SWRCB decision 1610, adopted in 1986.

SCWA meets the various instream flow requirements by making releases from Coyote Valley Dam and Warm Springs Dam (SCWA, 2021). The Russian River Biological Opinion requires modification of minimum instream flow requirements on the Russian River and Dry Creek to maintain the Incidental Take Statement provided by the Biological Opinion. SCWA's evaluation of future Russian River supply availability is based upon the assumption that that proposed changes to the minimum instream flow requirements under Decision 1610 set forth in the Biological Opinion are implemented.

6.1.2.3 SCWA Groundwater Supply

SCWA pumps a portion of its supply from the Santa Rosa Plain Subbasin of the Santa Rosa Valley Basin (DWR Basin 1-55.01). Groundwater is used primarily as a drought period supply, or when Russian River supplies are otherwise constrained (SCWA, 2021). In 2020, no groundwater was pumped to make up SCWA's supplies; through 2045, groundwater is projected to make up 3% or less of SCWA's supplies in normal year conditions (SCWA, 2021). It cannot be discerned what specific amount of SCWA supply provided to the District consists of groundwater; however, it is assumed to be proportionate to the overall percentage of groundwater used within SCWA's system.

6.1.3 Groundwater Supply

☑ ***CWC § 10910 (f)***

If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment:

(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.

(2)(A) A description of any groundwater basin or basins from which the proposed project will be supplied.

(B) For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree.

(C) For a basin that has not been adjudicated that is a basin designated as high- or medium-priority pursuant to Section 10722.4, information regarding the following:

(i) Whether the department has identified the basin as being subject to critical conditions of overdraft pursuant to Section 12924.

(ii) If a groundwater sustainability agency has adopted a groundwater sustainability plan or has an approved alternative, a copy of that alternative or plan.

(D) For a basin that has not been adjudicated that is a basin designated as low- or very low priority pursuant to Section 10722.4, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(5) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project. A water supply assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

The District does not pump groundwater and does not plan to use groundwater as a supply source in the future.

There are three groundwater basins identified in the California Department of Water Resources' (DWR)'s Bulletin 118 that are at least partially within the District's service area **(Figure 3).** These three basins include Ross Valley Groundwater Basin (DWR Basin 2-18), San Rafael Valley Groundwater Basin (DWR Basin 2-29), and part of the Novato Basin (DWR Basin 2-30). All three basins are categorized as low or very low priority basins (DWR, 2019). Studies that have been conducted by the District over the last 40 years have determined that groundwater within the boundaries of the District's service area is very limited as it is either found in fractures in the Franciscan Formation (bedrock) or in shallow alluvial deposits in valleys. Therefore, groundwater is not currently or planned to be used as a water supply source by the District.

Although the District does not pump groundwater directly, a small portion of the SCWA water supply (i.e., less than 3%) is comprised of groundwater from the Santa Rosa Plain Subbasin of the Santa Rosa Valley Basin (DWR Basin 1-55.01). Given this, characteristics and groundwater management of the Santa Rosa Plain Subbasin are provided below.

6.1.3.1 Basin Description and Status

The Santa Rosa Subbasin is not adjudicated, and in its recent evaluation of California groundwater basins, DWR determined that the Basin is not in a condition of critical overdraft (DWR, 2019). The Santa Rosa Plain subbasin is currently categorized by DWR as a medium priority basin (DWR, 2019).

Under DWR's prioritization process, basins are ranked on eight components, and if a basin is assigned more than 14 total points, but less than 21 total points, it is defined as "medium priority." The main factors driving the Santa Rosa Plain subbasin's designation include population density (3 out of 5 possible ranking points), population growth (3 out of 5 possible points), public supply well density (5 out of 5 possible points), total production well density (5 out of 5 possible points), groundwater reliance (5 out of 5 possible points), and groundwater reliance (3 out of 5 possible points) (DWR, 2019).

Geologically, the Santa Rosa Plain subbasin has one main water-bearing unit, the Merced Formation, and several units with lower water-bearing capacities, including the Glen Ellen Formation and the Alluvium. The shallow Alluvium consists of poorly sorted coarse sand and gravel and moderately-sorted fine sand, silt, and clay. The alluvial deposits are not perennially saturated, have low permeability, and are generally unconfined or slightly confined (DWR, 2006). The Glen Ellen Formation underlies the Alluvium and consists of partially cemented beds of poorly sorted gravel, sand, and silt, and clay that vary widely in thickness and extent, with thicknesses varying from 3,000 feet to less than 1,500 feet on the west side of the valley (DWR, 2006). Underlying the Glen Ellen Formation is the Merced Formation, which is a marine deposit of fine sand and sandstone with thin interbeds of clay and silty-clay and some lenses of gravel and localized fossils. The Merced Formation is Pliocene in age and its thickness is estimated to range from 300 feet to greater than 1,500 feet. Aquifer continuity and water quality in the Merced Formation are generally very good, with well yields from 100 to 1,500 gallons per minute (gpm; DWR, 2006).

As mentioned above, DWR has designated the Santa Rosa Plain subbasin as a medium priority basin and thus subject to the requirements of the Sustainable Groundwater Management Act (SGMA), including the requirement to be covered by one or more Groundwater Sustainability Agencies (GSAs) and to prepare and submit to DWR one or more Groundwater Sustainability Plans (GSPs) by 31 January 2022. Actions related to management of the Santa Rosa Plain subbasin both currently and under SGMA are described in the next section.

6.1.3.2 SGMA Groundwater Management

In 2014, the California State Legislature enacted the SGMA, with subsequent amendments in 2015. The SGMA requires the formation of GSAs and the development and implementation of GSPs for groundwater basins that are designated by DWR as medium or high priority. Because the Santa Rosa Plain subbasin is designated by DWR as a medium basin (DWR, 2019), the Santa Rosa Plain subbasin is subject to the requirements of SGMA, which include the formation of a one or more GSAs and the development and implementation of one or more GSPs.

The Santa Rosa Plain GSA was formed in June 2017 through a Joint Powers Agreement entered into by the SCWA, City of Cotati, City of Rohnert Park, City of Santa Rosa, City of Sebastopol, Town of Windsor, County of Sonoma, Gold Ridge Resource Conservation District, Sonoma Resource Conservation District, Branger Mutual Water Company, California American Water, Willowside Mutual Water Company, and Penngrove Water Company, and covers the entire subbasin. The Santa Rosa Plain GSA is governed by a nine-member Board of Directors, which includes a position held by SCWA. The Board of Directors is advised by an Advisory Committee that includes eighteen members appointed by the Board of Directors, representing various stakeholders. The GSP for the Santa Rosa Plain subbasin was submitted to DWR in January 2022. At the time of writing this WSA, the GSP is under review. The final draft of the GSP can be found on the Santa Rosa Plain GSA website: https://santarosaplaingroundwater.org/.

6.1.3.3 Coordination with Groundwater Supply Agencies

Because the District does not directly pump groundwater, it does not coordinate with any GSAs. However, as noted above, the SCWA is a member of Santa Rosa Plain GSA and MMWD has coordinated with SCWA on its demand projections through 2045.

6.1.3.4 Historical Pumping and Supply Sufficiency

As mentioned above, the District does not pump any groundwater. SCWA's 2020 UWMP provides historical pumping and supply sufficiency information related to their use of groundwater and has factored this into the supply reliability information provided to the District and other Water Contractors.

Legend

- Santa Rosa Plain Subbasin
- Groundwater Basins in MMWD Service Area
- Project Boundary
- MMWD Service Area

DRAFT

N

0 8 16

Miles

Abbreviations

DWR = California Department of Water Resources
MMWD = Marin Municipal Water District

Notes

1. All locations are approximate.

Sources

1. Basemap provided by ESRI.
2. DWR groundwater basins are based on the boundaries defined in California's Groundwater, Bulletin 118-2016 Update.

Regional Setting and Groundwater Basins

Northgate Town Square
San Rafael, CA
November 2022
EKI C20143.00

Figure 3

eki environment & water

Path: X:\C20143.00\Maps\2022\11\Fig3_GroundwaterBasins.mxd

6.1.4 Recycled Water Supply

The majority of recycled water used within the District's service area is distributed by the District. The Sewage Agency of Southern Marin (SASM) produces approximately 30 AFY of tertiary-treated recycled water that is used to irrigate playing fields situated adjacent to the SASM treatment plant. Recycled water production occurs at the Las Gallinas Valley Sanitary District (LGVSD) Recycled Water Treatment Facility (RWTF). The collected wastewater is treated to secondary levels at LGVSD's wastewater treatment plant and then receives further treatment at the RWTF before being distributed to customers.

In 2014 the LGVSD began supplying approximately 150 AFY of tertiary-treated recycled water produced at the newly constructed Las Gallinas Valley RWTF. In 2019, LGVSD began construction on a major expansion and upgrade to the RWTF, which expanded the facility's capacity from 1.4 MGD to over 5.0 MGD (equivalent to approximately 1,600 to 5,600 AFY). During the construction period, the plant was taken offline and all recycled water demands were met with potable water. The RWTF has been producing water since April 2021 and potable water is not anticipated to be needed to supplement the recycled water system going forward.

The District has a close working relationship with the LGVSD and prior to each irrigation season (April through October), the District provides a written estimate of the quantity of recycled water that will be needed for the season. The LGVSD attempts to provide the District with enough recycled water to meet its projected demand, and if the LGVSD is not able to meet the entire demand of the recycled water system, the system is supplemented by potable water.

Within the District's service area, there are 16 wastewater collection entities. Of the 16 wastewater collection entities, three are treatment entities that utilize secondary effluent for landscape irrigation at their wastewater treatment plant. SASM has a small tertiary treatment facility and irrigates an adjacent park; however, saltwater intrusion limits this operation to low tide cycles only. Development of more treatment facilities within Marin County is limited due to space constraints; therefore, wastewater projections are estimated to remain steady over the planning horizon.

6.2 Total Water Supply in Normal, Single Dry, and Multiple Dry Years

The projected water supply sources to the District, as described above, are the surface water purchased from the SCWA, the local surface water supply (inclusive of the environmental releases from the Kent Lake and Soulajule Reservoir), and recycled water.

Several factors pose potential constraints on the District's water supply, including limits on the amount available, water quality, climatic conditions, or a combination of these. Due to these uncertainties a worst-case "extreme" drought scenario was evaluated in the District's 2020 UWMP along with the normal, single dry, and multiple dry year conditions. Under this extreme scenario, a severe drought event was assessed where total water supplies would drop to below 14,000 AFY. Under this "extreme" scenario, the UWMP anticipated supply shortfalls that would be met by WSCP water use reduction actions.

6.2.1 Normal, Single Dry, and Multiple Dry Conditions

Table 6 shows the District's projected demand, with the inclusion of the proposed Project, and the total available normal year supply through 2045. As shown in **Table 6**, the planned future potable and raw water supply of 83,926 AFY within the District for normal hydrologic years is expected to meet all projected demands, inclusive of the proposed Project, which are estimated to be 37,686 AFY by 2045.

As shown in **Table 7**, during single dry years, the annual potable and raw water supply within the District's service area under this scenario will be reduced to 51,223 AFY by 2045. Despite this reduction, the District's potable and raw demand inclusive of the proposed Project will be met by the single dry year supply.

Table 8 shows that during multiple dry years, the District's 2020 UWMP estimates that an annual potable and raw supply within the District's service area will be reduced to 78,635 AFY in 2025 during the first year of a drought, and down to 68,402 AFY in 2045 during the fifth year of drought. Notwithstanding these supply reductions and considering the proposed Project demands, no supply shortfalls are projected for the District in the multiple dry year scenario. It should be noted that the dry year and multiple dry year scenario are based on historical water supply patterns, which may or may not be representative of future conditions due to climate change. To account for potential future conditions, an additional "worst case" scenario was evaluated in the UWMP and is considered in Section 6.2.2 below.

The District's projected recycled water demand inclusive of the Project is approximately 801 AFY by 2045. Because there is excess capacity in the recycled water system, for the normal, single dry, and multiple dry year hydrologic conditions, the currently projected recycled water supply of 750 AFY will be able to increase by 51 AFY to meet the District's demands, and therefore no recycled water supply shortfall is anticipated.

6.2.2 Extreme Drought Scenario

If the "worst-case" supply scenario is realized, in which total available supply (purchases from SCWA, local surface water, and recycled water) is reduced to below 14,000 AFY by 2025, shortfalls of up to 65% are projected (see **Table 9**). As shown in the multiple dry year extreme drought scenario in **Table 9**, there are no supply shortfalls anticipated in 2025 for the first and second year of extreme drought. However, by the third year of extreme drought a 7.5% shortfall is expected, by the fourth year of extreme drought a 36% shortfall is expected, and by the fifth year of extreme drought a 65% shortfall is expected. However, as shown in **Table 9**, these shortfalls are not materially different from the shortfalls that would be experienced without the Project according to the adopted and District-approved UWMP, which were within half a percentage point of the shortfalls listed above.

To address these shortfalls in an extreme drought scenario, the District plans to enact its WSCP, which includes Mandatory Staged Restrictions of Water Use. The WSCP systematically identifies ways in which the District can reduce water demands during dry years. The overall reduction

goals in the WSCP are established for six drought stages and address water demand reductions over 50%. The District's WSCP is currently in the process of being revised taking into consideration lessons learned from the 2021 historic drought and includes detailed information about how drought risks are evaluated by the District on an annual basis to determine the potential need for reductions. The District is also currently preparing a Strategic Water Supply Assessment, which will identify ways in which its water supply portfolio can be augmented to serve all users in such an extreme drought scenario.

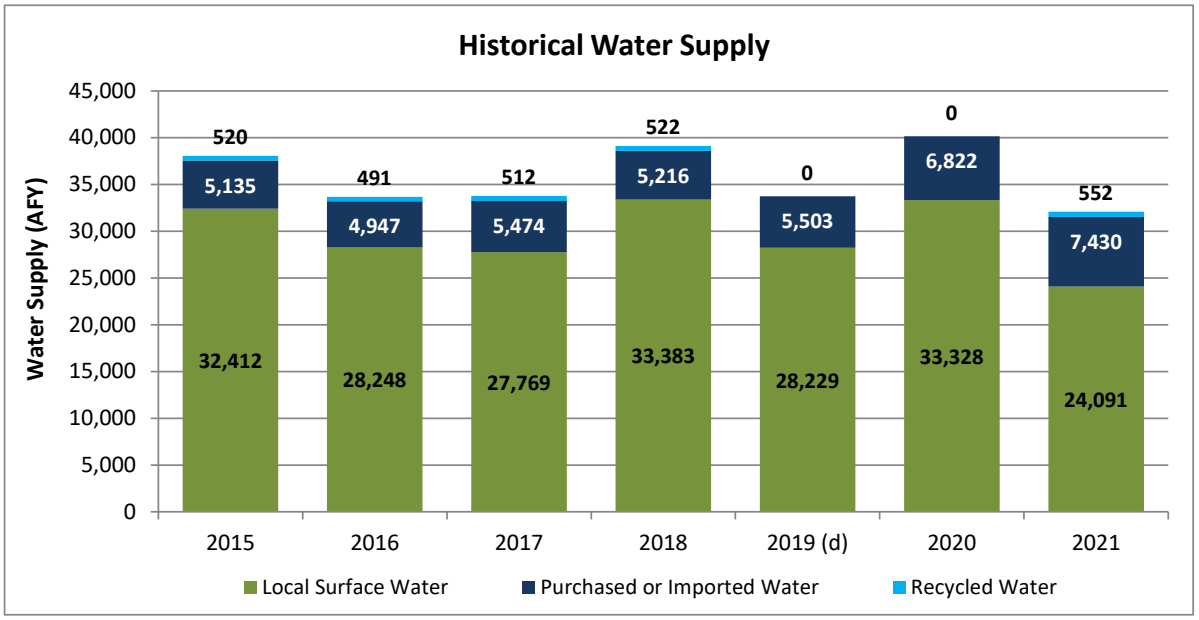
As seen in **Table 9**, and similar to the other hydrologic year conditions mentioned in Section 6.2.1, the projected recycled water supply is currently estimated to be 750 AFY in the extreme drought scenario by 2045, and the projected District demand inclusive of the Project is estimated to be 801 AFY. As there is excess capacity in the recycled water system, the recycled water supply will be able to increase by 51 AFY, and therefore no recycled water supply shortfall is anticipated as the recycled water supply.

Table 5

Historical Water Supply for Marin Municipal Water District

Northgate Town Square, San Rafael, California

Water Supply Source	Historical Water Supply (AFY)						
	2015	2016	2017	2018	2019 (d)	2020	2021
Purchased or Imported Water (a)	5,135	4,947	5,474	5,216	5,503	6,822	7,430
Local Surface Water (not desalinated) (b)	32,412	28,248	27,769	33,383	28,229	33,328	24,091
Recycled Water (c)	520	491	512	522	0	0	552
Total Water Supply	**70,478**	**61,935**	**61,523**	**72,503**	**61,960**	**73,478**	**56,164**



Abbreviations:

"AFY" = acre-feet per year

"MMWD" = Marin Municipal Water District

"SCWA" = Sonoma County Water Agency

Notes:

(a) Purchased water supply from SCWA. Historical supplies from 2015-2020 per Reference 2 and 2021 per Reference 4.

(b) Historical local surface water supply from 2015-2020 per Reference 3 and 2021 per Reference 5.

(c) Historical recycled water supply from 2015-2020 per Reference 1 and 2021 per Reference 4.

(d) The recycled water plant was taken offline in 2019 and 2020 to allow for upgrades, and all recycled water demands were met by potable water during this time.

References:

1. MMWD, 2020. Information provided by MMWD, received on 23 September 2020.
2. MMWD, 2021a. Information provided by MMWD, received on 4 February 2021.
3. MMWD, 2021b. Information provided by MMWD, received on 23 February 2021.
4. MMWD, 2022b. Information provided by MMWD, received on 22 September 2022.
5. MMWD, 2022c. Information provided by MMWD, received on 29 September 2022.

Table 6

Projected Normal Year Water Supply and Demand for Marin Municipal Water District

Northgate Town Square, San Rafael, California

Water Supply and Demand	Projected Normal Year Supply and Demand (AFY)				
	2025	**2030**	**2035**	**2040**	**2045**
Potable and Raw Water					
Normal Year Supply (a)	83,840	84,093	83,825	83,858	83,926
District Demand	37,269	37,296	37,225	37,301	37,458
Proposed Project Demand	167	167	167	228	228
Total Potable and Raw Demand Inclusive of Proposed Project	**37,436**	**37,463**	**37,392**	**37,529**	**37,686**
Normal Year Supply Shortfall (% demand)	***None***	***None***	***None***	***None***	***None***
Recycled Water					
Normal Year Supply (b)	750	750	750	750	750
District Demand	750	750	750	750	750
Proposed Project Demand	34	34	34	51	51
Total Recycled Demand Inclusive of Proposed Project	**784**	**784**	**784**	**801**	**801**
Normal Year Supply Shortfall (% demand) (c)	***None***	***None***	***None***	***None***	***None***

Abbreviations:

"AFY" = acre-feet per year

"District" = Marin Municipal Water District

"Proposed Project" = Northgate Town Square

"SCWA" = Sonoma County Water Agency

Notes:

(a) Normal year supply includes both purchased water from SCWA and local surface water that includes environmental releases per Table 6-10 in Reference 1.

(b) Normal year recycled water supply per Table 7-5 in Reference 1.

(c) Because there is excess capacity in the recycled water system, the currently projected recycled water supply of 750 AFY will be able to increase by 51 AFY to meet the District's demands, and therefore no recycled water supply shortfall is anticipated.

References:

1. 2020 Urban Water Management Plan, Marin Municipal Water District, prepared by EKI Environment & Water, Inc., dated June 2021.

Table 7

Projected Single Dry Year Water Supply and Demand for Marin Municipal Water District

Northgate Town Square, San Rafael, California

Water Supply and Demand	Projected Single Dry Year Supply and Demand (AFY)				
	2025	**2030**	**2035**	**2040**	**2045**
Potable and Raw Water					
Single Dry Year Supply (a)	51,211	51,213	51,209	51,213	51,223
District Demand	37,269	37,296	37,225	37,301	37,458
Proposed Project Demand	167	167	167	228	228
Total Potable Water Demand Inclusive of Proposed Project	**37,436**	**37,463**	**37,392**	**37,529**	**37,686**
Normal Year Supply Shortfall (% demand)	***None***	***None***	***None***	***None***	***None***
Recycled Water					
Single Year Supply (b)	750	750	750	750	750
District Demand	750	750	750	750	750
Proposed Project Demand	34	34	34	51	51
Total Recycled Water Demand Inclusive of Proposed Project	**784**	**784**	**784**	**801**	**801**
Normal Year Supply Shortfall (% demand) (c)	***None***	***None***	***None***	***None***	***None***

Abbreviations:

"AFY" = acre-feet per year

"District" = Marin Municipal Water District

"Proposed Project" = Northgate Town Square

"SCWA" = Sonoma County Water Agency

Notes:

(a) Projected supply includes both purchased water from SCWA and local surface water including environmental releases per Table 7-3 and Table 7-4 in Reference 1, respectively.

(b) Projected recycled supply per Table 7-5 in Reference 1.

(c) Because there is excess capacity in the recycled water system, the currently projected recycled water supply of 750 AFY will be able to increase by 51 AFY to meet the District's demands, and therefore no recycled water supply shortfall is anticipated.

References:

1. 2020 Urban Water Management Plan, Marin Municipal Water District, prepared by EKI Environment & Water, Inc., dated June 2021.

Table 8

Projected Multiple Dry Year Water Supply and Demand for Marin Municipal Water District

Northgate Town Square, San Rafael, California

Water Supply and Demand	Projected Water Supply and Demand During Multiple Dry Years (AFY) (a)																									
	2025					2030					2035					2040					2045				
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5
Potable and Raw Water																									
Multiple Dry Year Supply (b)	78,635	83,400	85,509	71,779	68,520	78,636	83,389	85,524	71,771	68,508	78,634	83,416	85,493	71,802	68,545	78,636	83,388	85,527	71,770	68,506	78,641	83,336	85,604	71,701	68,402
District Demand	37,269	37,269	37,269	37,269	37,269	37,296	37,296	37,296	37,296	37,296	37,225	37,225	37,225	37,225	37,225	37,301	37,301	37,301	37,301	37,301	37,458	37,458	37,458	37,458	37,458
Proposed Project Demand	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167	228	228	228	228	228	228	228	228	228	228
Total Potable Water Demand Inclusive of Proposed Project	**37,436**	**37,436**	**37,436**	**37,436**	**37,436**	**37,463**	**37,463**	**37,463**	**37,463**	**37,463**	**37,392**	**37,392**	**37,392**	**37,392**	**37,392**	**37,529**	**37,529**	**37,529**	**37,529**	**37,529**	**37,686**	**37,686**	**37,686**	**37,686**	**37,686**
Multiple Dry Year Supply Shortfall (% demand)	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***
Recycled Water																									
Multiple Dry Year Supply (c)	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750
District Demand	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750
Proposed Project Demand	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	51	51	51	51	51	51	51	51	51	51
Total Recycled Water Demand Inclusive of Proposed Project	**784**	**784**	**784**	**784**	**784**	**784**	**784**	**784**	**784**	**784**	**784**	**784**	**784**	**784**	**784**	**801**	**801**	**801**	**801**	**801**	**801**	**801**	**801**	**801**	**801**
Multiple Dry Year Supply Shortfall (% demand) (d)	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***

Abbreviations:

"AFY" = acre-feet per year
"District" = Marin Municipal Water District
"Proposed Project" = Northgate Town Square
"SCWA" = Sonoma County Water Agency
"UWMP" = Urban Water Management Plan
"WSA" = Water Supply Assessment

Notes:

(a) While WSA regulations only require an analysis of a three-year drought scenario, UWMP regulations were updated in 2018 to include a five-year drought scenario (California Water Code §10635), Therefore, a five-year drought scenario is presented here.
(b) Projected supply includes both purchased water from SCWA and local surface water including environmental releases per Table 7-3 and Table 7-4 in Reference 1, respectively.
(c) Projected recycled supply per Table 7-5 per Reference 1.
(d) Because there is excess capacity in the recycled water system, the currently projected recycled water supply of 750 AFY will be able to increase by 51 AFY to meet the District's demands, and therefore no recycled water supply shortfall is anticipated.

References:

1. 2020 Urban Water Management Plan, Marin Municipal Water District, prepared by EKI Environment & Water, Inc., dated June 2021.

Table 9

Projected Extreme Drought Multiple Dry Year Water Supply and Demand for Marin Municipal Water District

Northgate Town Center, San Rafael, California

Water Supply and Demand (b)	Projected Water Supply and Demand During Multiple Dry Years (AFY) (a)																								
	2025					2030					2035					2040					2045				
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5
Potable and Raw Water																									
Multiple Dry Year Supply (c)	62,778	46,161	34,614	23,956	13,060	13,060	13,060	13,060	13,060	13,060	13,060	13,060	13,060	13,060	13,060	13,060	13,060	13,060	13,060	13,060	13,060	13,060	13,060	13,060	13,060
District Demand	37,269	37,269	37,269	37,269	37,269	37,296	37,296	37,296	37,296	37,296	37,225	37,225	37,225	37,225	37,225	37,301	37,301	37,301	37,301	37,301	37,458	37,458	37,458	37,458	37,458
Proposed Project Demand	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167	228	228	228	228	228	228	228	228	228	228
Total Potable Water Demand Inclusive of Proposed Project	**37,436**	**37,436**	**37,436**	**37,436**	**37,436**	**37,463**	**37,463**	**37,463**	**37,463**	**37,463**	**37,392**	**37,392**	**37,392**	**37,392**	**37,392**	**37,529**	**37,529**	**37,529**	**37,529**	**37,529**	**37,686**	**37,686**	**37,686**	**37,686**	**37,686**
Supply Shortfall without Project (% demand)	***None***	***None***	***7.1%***	***35.7%***	***65.0%***	***65.0%***	***65.0%***	***65.0%***	***65.0%***	***65.0%***	***64.9%***	***64.9%***	***64.9%***	***64.9%***	***64.9%***	***65.0%***	***65.0%***	***65.0%***	***65.0%***	***65.0%***	***65.1%***	***65.1%***	***65.1%***	***65.1%***	***65.1%***
Supply Shortfall Inclusive of Project (% demand)	***None***	***None***	***7.5%***	***36.0%***	***65.1%***	***65.1%***	***65.1%***	***65.1%***	***65.1%***	***65.1%***	***65.1%***	***65.1%***	***65.1%***	***65.1%***	***65.1%***	***65.2%***	***65.2%***	***65.2%***	***65.2%***	***65.2%***	***65.3%***	***65.3%***	***65.3%***	***65.3%***	***65.3%***
Recycled Water																									
Multiple Dry Year Supply	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750
District Demand	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750
Proposed Project Demand	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	51	51	51	51	51	51	51	51	51	51
Total Recycled Water Demand Inclusive of Proposed Project	**784**	**784**	**784**	**784**	**784**	**784**	**784**	**784**	**784**	**784**	**784**	**784**	**784**	**784**	**784**	**801**	**801**	**801**	**801**	**801**	**801**	**801**	**801**	**801**	**801**
Supply Shortfall (% demand) (d)	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***	***None***

Abbreviations:

"AFY" = acre-feet per year
"District" = Marin Municipal Water District
"Proposed Project" = Northgate Town Center
"SCWA" = Sonoma County Water Agency
"UWMP" = Urban Water Management Plan
"WSA" = Water Supply Assessment

Notes:

(a) While WSA regulations only require an analysis of a three-year drought scenario, UWMP regulations were updated in 2018 to include a five-year drought scenario (California Water Code §10635), Therefore, a five-year drought scenario is presented here.
(b) The Extreme Drought scenario for potable, raw, and recycled supply is per Table 7-12 in Reference 1.
(c) Projected supply includes both purchased water from SCWA and local surface water including environmental releases.
(d) Because there is excess capacity in the recycled water system, the currently projected recycled water supply of 750 AFY will be able to increase by 51 AFY to meet the District's demands, and therefore no recycled water supply shortfall is anticipated.

References:

1. 2020 Urban Water Management Plan, Marin Municipal Water District, prepared by EKI Environment & Water, Inc., dated June 2021.

7 COMPARISON OF SUPPLY AND DEMAND

☑ ***CWC § 10910 (c)(3)***

If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

☑ ***CWC § 10911 (a)***

If, as a result of its assessment, the public water system concludes that its water supplies are, or will be, insufficient, the public water system shall provide to the city or county its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies. If the city or county, if either is required to comply with this part pursuant to subdivision (b), concludes as a result of its assessment, that water supplies are, or will be, insufficient, the city or county shall include in its water supply assessment its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies. Those plans may include, but are not limited to, information concerning all of the following:

(1) The estimated total costs, and the proposed method of financing the costs, associated with acquiring the additional water supplies.

(2) All federal, state, and local permits, approvals, or entitlements that are anticipated to be required in order to acquire and develop the additional water supplies.

(3) Based on the considerations set forth in paragraphs (1) and (2), the estimated timeframes within which the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), expects to be able to acquire additional water supplies.

☑ ***CWC § 10911 (c)***

The city or county may include in any environmental document an evaluation of any information included in that environmental document provided pursuant to subdivision (b). The city or county shall determine, based on the entire record, whether projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses. If the city or county determines that water supplies will not be sufficient, the city or county shall include that determination in its findings for the project.

Pursuant to CWC §10910c(3), this WSA must include an estimate of the projected water supplies available to the District under normal, single dry, and multiple dry years, and a discussion of whether those supplies will meet the projected demand associated with the proposed Project, in addition to the water system's existing and planned future uses. This assessment is parallel to the multiple-dry year supply reliability analysis required for UWMPs under CWC §10635. In 2018, CWC §10635 was revised to require UWMPs to extend this analysis to consider "a drought lasting five consecutive water years." Although CWC §10910c(3) has not yet been updated to require this for WSAs, a five-year drought scenario and an extreme drought scenario are also evaluated herein based on the projections in the 2020 UWMP.

Tables 6 through **9** provide a comparison of the District's demands and supplies in normal year, single-dry year, and multiple-dry year hydrologic conditions, along with an extreme drought scenario.

It is projected that available potable and raw water supplies will be sufficient to meet the demands under normal year, single dry year, and multiple dry year hydrologic conditions through 2045, inclusive of the proposed Project.

Under the extreme drought scenario, shortfalls of up to 65% are possible in drought periods representing, as discussed above, the "worst-case" in which the total water supplies (purchases from SCWA, local surface water, and recycled water) are below 14,000 AFY by 2025. As discussed in Section 2, the District is working on a Strategic Water Supply Assessment that will introduce new measures to augment supply to meet its customers' water needs.

As described in Section 6, in response to anticipated future dry-year shortfalls, the District has developed a WSCP that systematically identifies ways in which the District can reduce water demands during dry years. The overall reduction goals in the WSCP are established for six drought stages ranging from 10% to greater than 50% shortfalls.

8 CONCLUSIONS

As listed in Water Code §10910I(4), the primary purpose of this WSA is to evaluate whether sufficient water supply is available to meet all future water demands within the water supplier's service area, including those associated with the proposed Project, during normal and dry hydrologic years for a 20-year time horizon.

Based on currently available information and conservative estimates of projected demand, the District expects to be able to meet all future demands within its existing service area, inclusive of the proposed Project in normal, dry, and multiple dry hydrologic years. The shortfalls that are currently projected during an extreme drought scenario are not materially different from the shortfalls that would be experienced without the proposed Project and would be addressed through planned implementation of the District's Water Shortage Contingency Plan. In addition, as described herein, the District is currently preparing a Strategic Water Supply Assessment that will identify ways in which its water supply portfolio can be augmented to serve all users, including the proposed Project, in such an extreme drought scenario.

9 REFERENCES

CBECS, 2012. US Energy Information Administration 2012 Commercial Buildings Energy Consumption Survey: Water Consumption in Large Buildings Summary.

City of Los Angeles Bureau of Engineering, 2012. City of Los Angeles Bureau of Engineering, City of Los Angeles Bureau of Sanitation, Sewer Generation Rates Table, dated 6 April 2012.

City of Ventura, 2020. Final Water Demand Factor Study, City of Ventura, prepared by Wood Rodgers, dated 8 April 2020.

DWR, 2006. California Groundwater Bulletin 118, dated January 2006.

DWR, 2015. California Code of Regulations, Title 23, Division 2, Chapter 2.7, Model Water Efficient Landscape Ordinance, effective 1 December 2015.

DWR, 2019. Sustainable Groundwater Management Act 2018 Basin Prioritization, State of California, January 2019.

DWR, 2022. MMWD 2021 Water Audit Data Report, accessed via the WUEdata - Water Audit Report Data website on 1 November 2022, https://wuedata.water.ca.gov/awwa_plans

Flume Data Labs, 2021. Marin Municipal Water District Residential Water Use Study Q1 2022 Dashboard, accessed via link on 18 October 2022, https://public.tableau.com/app/profile/flumewater/viz/MarinQ12022Dashboard/Q122

Marin Municipal Water District (MMWD), 2021. 2020 Urban Water Management Plan, MMWD, prepared by EKI Environment & Water, Inc. dated June 2021.

MMWD, 2022. Information provided by MMWD, received 1 September 2022.

Merlone Geier Partners, 2022. Information provided by Merlone Geier Partners, received 7 September 2022.

Santa Rosa Plain Basin Advisory Panel, 2014. Santa Rosa Plain Watershed Groundwater Management Plan, Santa Rosa Plain Basin Advisory Panel, 2014.

SCWA, 2021. 2020 Urban Water Management Plan, prepared by Brown and Caldwell, June 2021.

Appendix A

Landscape Coverage Plans

NORTHGATE LANDSCAPE AREA CALCULATIONS - PHASE 1 2025						
LOT SIZE	VEHICULAR AREA	BUILDING COVERAGE	OPEN SPACE	USABLE OPEN SPACE (pedestrian paving)	LANDSCAPE (planting area)	LANDSCAPE %
1,949,409 SF	638,924 SF	721,747 SF	588,738 SF	275,141 SF	313,597 SF	16.1%

SCALE 1" = 60'-0"

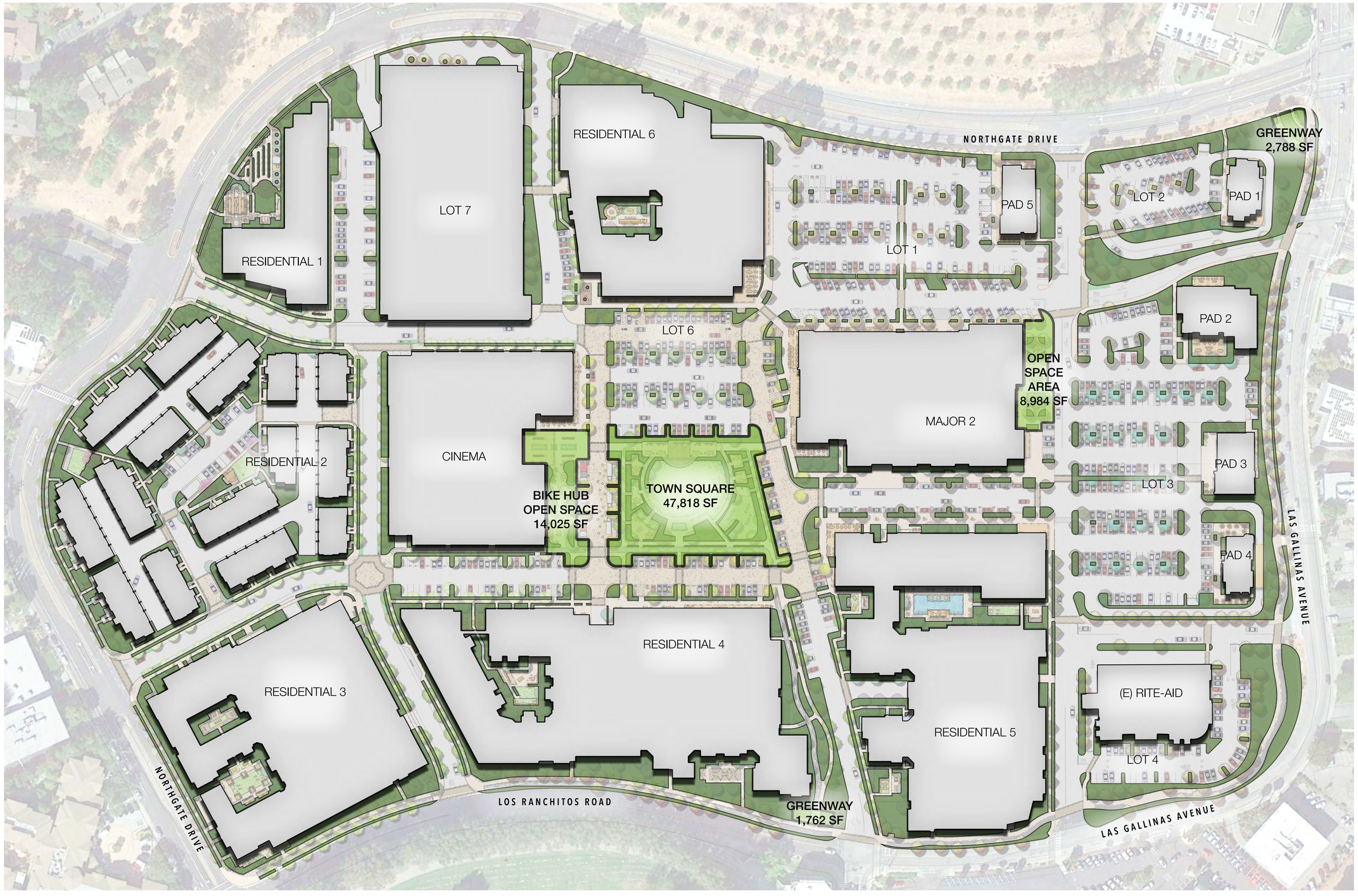
0 30' 60' 120' 240'

NORTHGATE TOWN SQUARE

MARCH 09, 2022

OPEN SPACE DIAGRAM - 2025 VISION PLAN

MerloneGeier Partners | CSW | ST2 | URBAN ARENA | STUDIO T SQUARE | FIELD PAOLI



NORTHGATE LANDSCAPE AREA CALCULATIONS - PHASE 2 2040						
LOT SIZE	VEHICULAR AREA	BUILDING COVERAGE	OPEN SPACE	USABLE OPEN SPACE (pedestrian paving)	LANDSCAPE (planting area)	LANDSCAPE %
1,949,409 SF	550,467 SF	775,317 SF	623,625 SF	284,985 SF	338,640 SF	17.4%

SCALE 1" = 60'-0"

0 30' 60' 120' 240'

NORTHGATE TOWN SQUARE

MARCH 09, 2022

OPEN SPACE DIAGRAM - 2040 VISION PLAN

MerloneGeier Partners | CSW | ST2 | URBAN ARENA | STUDIO T SQUARE | FIELD PAOLI

Item Number: 07
Meeting Date: 12-13-2022
Meeting: Board of Directors

Informational Item

TO: Board of Directors

FROM: Paul Sellier, Water Resources Director

THROUGH: Ben Horenstein, General Manager

DIVISION NAME: Water Resources

ITEM: Water Management Portfolios for the Strategic Water Supply Assessment

SUMMARY
The District is currently developing a Strategic Water Supply Assessment (SWSA) to evaluate the District's water supply reliability under projected drought scenarios, and to develop a "roadmap" to implement and address any identified deficit in supply. In this Assessment, a range of water management alternatives to increase resiliency is being identified and evaluated, with the result of this effort being a roadmap for implementation. The project team has combined water management alternatives into portfolios and will provide the board a presentation outlining a set of potential portfolios designed to reduce the water supply deficit and improve resiliency.

DISCUSSION
The Strategic Water Supply Assessment was designed to update and integrate previous water supply planning efforts to comprehensively assess water supply resiliency in areas such as demand management, local storage, recycled water, and desalination.

As part of the Strategic Water Supply Assessment the team developed six categories of water management alternatives including Conservation, Desalination, Marin-Sonoma Partnerships, Local Storage, Recycled Water and Interties. At the board's request conservation has been included as a project to be selected as opposed to being built-in to all the portfolios. As a result the baseline deficits developed earlier in the Assessment have increased because as a baseline they no longer include the conservation savings.

Through the Strategic Water Supply Assessment the team has developed five planning scenarios that consider different levels of drought from both paleo and historic hydrology as well as a synthetic drought more severe than has occurred previously. In addition to the drought scenarios the team considered a major disruption scenario where under the existing baseline infrastructure the District is only able to provide 50% of the water demand due to a seismic or other major disaster scenario. Each scenario presents different challenges ranging

from supply deficits to persistent drought measures across a number of years. The synthetic drought resulted in the greatest supply deficit and, based on the severity of the recent drought, is the benchmark for the assessment.

The team has evaluated each of the water management alternatives individually across a variety of criteria, including water yield and cost, to help differentiate the alternatives. Individual water management alternatives have been grouped together, linked by a particular strategy or theme into portfolios. For example in one portfolio the strategy was to look at maximizing existing infrastructure and includes local storage enlargement, as well as conveyance of supplemental water from Sonoma. The project team will layout four portfolios describing the projects and the evaluation criteria to help support discussion.

For the next step in the assessment process, at a board meeting in January, the project team will provide a review of each refined portfolio and how each portfolio performs against each of the scenarios present. Based on this analysis, the project team may evaluate additional hybrid portfolios and then work with the Board to develop a roadmap for implementation.

FISCAL IMPACT
None

ATTACHMENT(S)

None

Item Number: 08
Meeting Date: 12-13-2022
Meeting: Board of Directors

Informational Item

TO: Board of Directors

FROM: Terrie Gillen, Board Secretary

THROUGH: Ben Horenstein, General Manager

DIVISION NAME: Communications & Public Affairs Department

ITEM: Future Meeting Schedule and Agenda Items

SUMMARY
Review of the upcoming Board of Directors and Committee meetings

DISCUSSION
Below are the upcoming meetings of the Board of Directors and/or Committees:

Internal Meetings

- Thursday, December 15, 2022
  Watershed Committee/Board of Directors (Watershed) Meeting
  1:30 p.m.

- Friday, December 16, 2022
  Operations Committee/Board of Directors (Operations) Meeting
  9:30 a.m.

- Thursday, December 22, 2022
  Finance & Administration Committee/ Board of Directors (Finance & Administration) Meeting
  9:30 a.m.

- Tuesday, January 3, 2023
  Board of Directors' Regular Bi-Monthly Meeting
  7:30 p.m.

- January 2023 (Date TBD)
  Board Retreat

External Meetings

- Friday, January 6, 2023
  North Bay Watershed Association Meeting
  9:30 a.m.

FISCAL IMPACT
None

ATTACHMENT(S)
None