FALLBROOK PUBLIC UTILITY DISTRICT
BOARD OF DIRECTORS
SPECIAL BOARD MEETING

NOTICE AND AGENDA

FRIDAY, JULY 14, 2023
11:30 A.M.

FALLBROOK PUBLIC UTILITY DISTRICT
990 E. MISSION RD., FALLBROOK, CA 92028
PHONE: (760) 728-1125

THIS MEETING WILL BE HELD AT THE ABOVE DATE, TIME, AND LOCATION AND MEMBERS OF THE PUBLIC MAY ATTEND IN PERSON AT THE DISTRICT OFFICE LOCATED AT 990 E. MISSION RD., FALLBROOK, CA 92028. FOR THE CONVENIENCE OF MEMBERS OF THE PUBLIC WHO DO NOT WISH TO ATTEND IN PERSON, FALLBROOK PUBLIC UTILITY DISTRICT PROVIDES A MEANS TO OBSERVE AND PROVIDE PUBLIC COMMENTS AT THE MEETING VIA WEB CONFERENCE USING THE BELOW CALL-IN AND WEBLINK INFORMATION. PLEASE NOTE THAT IN THE EVENT OF TECHNICAL ISSUES THAT DISRUPT THE ABILITY OF MEMBERS OF THE PUBLIC TO VIEW THE MEETING OR PROVIDE PUBLIC COMMENTS THROUGH THE WEB CONFERENCE OPTION, THE MEETING WILL CONTINUE.

TELECONFERENCE LOCATION
In addition, Director McDougal will be teleconferencing pursuant to Government Code section 54953 from the following location:
Emerald Point Marina, 5973 Hiline Road, Slip D-3, Austin, TX 78732

Join Zoom Meeting
https://us06web.zoom.us/j/84191210820?pwd=NXFZVXB5MlVDV3VBbVFISUUyWXNLQT09
MEETING ID: 841 9121 0820
AUDIO PASSCODE: 919770

Dial by your location
+1 346 248 7799 US (Houston); +1 720 707 2699 US (Denver); +1 253 215 8782 US (Tacoma);
+1 312 626 6799 US (Chicago); +1 646 558 8656 US (New York); +1 301 715 8592 US (Washington DC)
Find your local number: https://us06web.zoom.us/u/kb7TPD4AEt

Members of the public may participate in the meeting from any of the above locations.

PUBLIC COMMENTS: Members of the public may submit public comments and comments on agenda items in one of the following ways:

SUBMIT COMMENTS BEFORE THE MEETING:
- By emailing to our Board Secretary at leckert@fpud.com
- By mailing to the District Offices at 990 E. Mission Rd., Fallbrook, CA 92028
- By depositing them in the District's Payment Drop Box located at 990 E. Mission Rd., Fallbrook, CA 92028

All comments submitted before the meeting by whatever means must be received at least 1 hour in advance of the meeting. All comments will be read to the Board during the appropriate portion of the meeting. Please keep any written comments to 3 minutes.

REMOTELY MAKE COMMENTS DURING THE MEETING: The Board President will inquire prior to Board discussion if there are any comments from the public on each item.
- Via Zoom Webinar go to the "Participants List," hover over your name and click on "raise hand." This will notify the moderator that you wish to speak during oral communication or during a specific item on the agenda.
- Via phone, you can raise your hand by pressing *9 to notify the moderator that you wish to speak during the current item.

MAKE IN-PERSON COMMENTS DURING THE MEETING: The Board President will inquire prior to Board discussion if there are any comments from the public on each item, at which time members of the public attending in person may make comments.

If you have a disability and need an accommodation to participate in the meeting, please call the Secretary at (760) 999-2704 for assistance so the necessary arrangements can be made.

I. PRELIMINARY FUNCTIONS

CALL TO ORDER / ROLL CALL / ESTABLISH A QUORUM

PLEDGE OF ALLEGIANCE

APPROVAL OF AGENDA

PUBLIC COMMENT
Members of the public are invited to address the Board of Directors on any item that is within the subject matter jurisdiction of the legislative body. The Board President may limit comments to three (3) minutes.

II. ACTION/DISCUSSION CALENDAR ----------(ITEM A)

A. CONSIDER ADOPTION OF RESOLUTION NO. 5055 REGARDING IMPLEMENTATION OF SAN DIEGO LOCAL AGENCY FORMATION COMMISSION'S JULY 10, 2023 APPROVAL OF THE DISTRICT'S PROPOSAL TO DETACH FROM THE SAN DIEGO COUNTY WATER AUTHORITY (SDCWA) AND ANNEX INTO THE EASTERN MUNICIPAL WATER DISTRICT

Recommendation: The Board adopt Resolution No. 5055, declaring its intent to take actions with due haste to satisfy the terms and conditions of LAFCO's approval of the District's reorganization application, including conducting an election on detaching from SDCWA, and directing the General Manager to take all necessary actions required to accomplish this intent.

III. ADJOURNMENT OF MEETING

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DECLARATION OF POSTING

I, Lauren Eckert, Executive Assistant/Board Secretary of the Fallbrook Public Utility District, do hereby declare that I posted a copy of the foregoing agenda in the glass case at the entrance of the District Office located at 990 East Mission Road, Fallbrook, California, at least 24 hours prior to the meeting in accordance with Government Code § 54956.

I, Lauren Eckert, further declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct.

July 13, 2023
Dated / Fallbrook, CA

/s/ Lauren Eckert
Executive Assistant/Board Secretary

M E M O

TO: Board of Directors
FROM: Jack Bebee, General Manager
DATE: July 14, 2023
SUBJECT: Consider Adoption of Resolution No. 5055 regarding implementation of San Diego Local Agency Formation Commission's July 10, 2023 approval of the District's proposal to detach from the San Diego County Water Authority (SDCWA) and annex into the Eastern Municipal Water District

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Purpose

To consider adoption of Resolution No. 5055 declaring the Board's intent to take actions with due haste to satisfy the terms and conditions of LAFCO's approval of the District's Reorganization Application, including presenting the question to the District's electors at the next available special or general election.

Summary

On December 9, 2019, the Board of Directors unanimously adopted Resolution No. 4985, a Resolution of Application requesting LAFCO to commence proceedings for the detachment and exclusion of the District from the San Diego County Water Authority, and annexation of the District into Eastern Municipal Water District. The Board took this action due to a need to stabilize long-term water costs to address sustainability and affordability issues threatening to negatively impact District ratepayers, and a desire to support the local economy by providing more affordable and sustainable water supplies to those undertaking agricultural activities within the District.

On March 19, 2020, the Board filed the Resolution of Application and required application materials with LAFCO pursuant to the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 and LAFCO's rules and regulations. After three years of review, LAFCO approved the District's Reorganization Application on July 10, 2023, subject to various terms and conditions that must be satisfied no later than July 10, 2024. One such condition is that the District must submit to its electors at the next available general or special election the proposition of detaching from SDCWA, pursuant to the provisions of the County Water Authority Act regarding such election in effect on May 26, 2023, the date LAFCO's Executive Officer issued the Certificate of Filing for the District's application.

Recommendation

The Board adopt Resolution No. 5055, declaring its intent to take actions with due haste to satisfy the terms and conditions of LAFCO's approval of the District's reorganization application, including conducting an election on detaching from SDCWA, and directing the General Manager to take all necessary actions required to accomplish this intent.

Attachments

Attachment A: Resolution No. 5055

Attachment A

RESOLUTION NO. 5055

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE FALLBROOK PUBLIC UTILITY DISTRICT DECLARING ITS INTENT TO TAKE ACTIONS WITH DUE HASTE TO CALL AN ELECTION ON THE REORGANIZATION INVOLVING DETACHMENT (EXCLUSION) FROM THE SAN DIEGO COUNTY WATER AUTHORITY AS APPROVED BY THE SAN DIEGO LOCAL AGENCY FORMATION COMMISSION ON JULY 10, 2023

*** * * * ***

WHEREAS, on December 9, 2019, the Board of Directors (Board) of the Fallbrook Public Utility District (District) unanimously adopted Resolution No. 4985, a Resolution of Application "Requesting the San Diego Local Agency Formation Commission to Commence Proceedings for the Detachment/ Exclusion of FPUD from the San Diego County Water Authority and Annexation into the Eastern Municipal Water District" (Resolution of Application), a copy of which is attached hereto as Exhibit "A;" and

WHEREAS, the reasons supporting the District's Resolution of Application, included, the need to stabilize long-term water costs to address affordability and sustainability issues for the benefit of the District's ratepayers and the desire to better provide water supplies to those within its boundaries undertaking agricultural activities, in support of the local economy; and

WHEREAS, on March 19, 2020, the District filed with the San Diego Local Agency Formation Commission (LAFCO), the Resolution of Application together with application and other materials required under the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 and/ or LAFCO (Reorganization Application); and

WHEREAS, on June 1, 2020, LAFCO approved the establishment of an advisory committee (Ad Hoc Committee) to directly assist the LAFCO Executive Officer in the administrative review of the District's Reorganization Application; and

WHEREAS, the Ad Hoc Committee subsequently held 13 public meetings between December 2020 and April 2023, which meetings focused on review of issues related to water supply reliability, financial impacts, and potential exit fees, as related to the District's Reorganization Application; and

WHEREAS, on February 7 & March 7, 2022, San Diego LAFCO received and approved a final report on a scheduled municipal service review on the Fallbrook region and the local agencies operating therein subject to the Commission's oversight – including the District; and

WHEREAS, on July 10, 2023, LAFCO, acting in its established quasi-legislative capacity pursuant to authority delegated to it by the California Legislature, approved the

District's Reorganization Application following consideration of same at duly noticed public hearings held on both on June 5, 2023 and July 10, 2023; and

WHEREAS, LAFCO's approval of the District's Reorganization Application imposed various terms and conditions, which terms and conditions must be satisfied no later than July 10, 2024, and which include, but are not limited to, a requirement that the District submit to its electors at the next available general or special election, the proposition of detaching from CWA, pursuant to the provisions of the County Water Authority Act regarding such election in effect at the time the LAFCO Executive Officer issued the Certificate of Filing for the District's Reorganization Application; and

WHEREAS, the LAFCO Executive Officer issued the Certificate of Filing for the District's Reorganization Application on May 26, 2023, a copy of which is attached hereto as Exhibit "B."

NOW, THEREFORE, BE IT RESOLVED BY the Board of Directors of the Fallbrook Public Utility District as follows:

1. The Board of Directors hereby declares its intent to take actions with due haste to satisfy the terms and conditions of LAFCO's approval of the District's Reorganization Application, including presenting to the District's electors, at the next available general or special election.
2. The Board of Directors hereby declares its intent to conduct the election pursuant to the provision of the County Water Authority Act regarding such election in effect on May 26, 2023 as specified in LAFCO's terms and conditions.
3. The Board of Directors authorizes and directs the District's General Manager to take all necessary steps required to accomplish the intent of the Board of Directors as specified herein.

PASSED AND ADOPTED by the Board of Directors of the Fallbrook Public Utility District at a special meeting of the Board held on the 14th day of July, 2023, by the following vote:

AYES:
NOES:
ABSTAIN:
ABSENT:

_____
President, Board of Directors

ATTEST:

_____
Secretary, Board of Directors

Exhibit "A" Resolution No. 4985
Exhibit "B" LAFCO Certificate of Filing for District's Reorganization Application

EXHIBIT “A”

Resolution No. 4985

RESOLUTION NO. 4985

A RESOLUTION OF APPLICATION BY THE FALLBROOK PUBLIC UTILITY DISTRICT (FPUD) REQUESTING THE SAN DIEGO LOCAL AGENCY FORMATION COMMISSION TO COMMENCE PROCEEDINGS FOR THE DETACHMENT/ EXCLUSION OF FPUD FROM THE SAN DIEGO COUNTY WATER AUTHORITY AND ANNEXATION INTO THE EASTERN MUNICIPAL WATER DISTRICT AS MORE PARTICULARLY DESCRIBED HEREIN AND FINDING THAT THE ACTION IS EXEMPT FROM CEQA

WHEREAS, the Fallbrook Public Utility District ("FPUD") is a Public Utility District formed in 1922, and is organized under the provisions of the Public Utility District Act, (Public Utilities Code § 15500 et seq.); and

WHEREAS, FPUD is authorized to provide water, wastewater, and reclaimed water services, within all or part of its boundaries; and

WHEREAS, FPUD is a member of the San Diego County Water Authority ("County Water Authority") from which it purchase water to serve its rate payers; and

WHEREAS, the County Water Authority is organized under the provisions of the County Water Authority Act (Water Code Appendix Chapter 45); and

WHEREAS, the County Water Authority is a member agency of the Metropolitan Water District of Southern California ("Metropolitan"), which serves as the County Water Authority's largest supplier; and

WHEREAS, since the formation of the County Water Authority in 1944, with FPUD as a charter member, FPUD has contributed almost $300 Million to construct and operate assets owned by the County Water Authority; and

WHEREAS, over the last 25 years, the County Water Authority has made major investments in new storage and treatment facilities located well south of the FPUD service area, which investments have increased the cost of water to FPUD ratepayer adding several hundred dollars per acre foot to the cost of water; and

WHEREAS, to date FPUD receives the majority of its water directly from Metropolitan pipelines and FPUD's water distribution system is not directly able to receive deliveries from the County Water Authority's new storage and treatment facilities, and as a result FPUD's rate payers currently do not receive the full benefit of these County Water Authority's investments; and

WHEREAS, FPUD's mission is to benefit the community of Fallbrook by providing efficient and reliable services and as part of its efforts to fulfill this mission, FPUD seeks to identify opportunities to reduce the cost of providing efficient and reliable services to its ratepayers; and

WHEREAS, to that end FPUD is currently under contract for the construction of the Santa Margarita River Conjunctive Use Project, which after complete will provide FPUD with a local water supply equal to roughly 30 percent of its current total water supply, providing a

buffer from escalating imported water costs and creating an additional shield against the impacts of drought; and

WHEREAS, Eastern Municipal Water District ("Eastern"), located in Riverside County, is a member agency of Metropolitan receiving water supplies from Metropolitan, which water it provides to retail waster service agencies such as cities and special districts in Riverside County; and

WHEREAS, FPUD has evaluated the possibility of annexing to Eastern as a means of obtaining a lower cost supply of reliable water; and

WHEREAS, based on FPUD's evaluation, the reliability of supplies from Eastern to FPUD in combination with FPUD local supply resources are sufficient to meet FPUD's needs; and

WHEREAS, Eastern has indicated its support of the possible annexation of FPUD into its boundaries; and

WHEREAS, if FPUD detaches from the County Water Authority, the County Water Authority and its remaining member agencies will realize future savings associated with no longer needing to complete construction of the North County EPS pump stations to serve FPUD and Rainbow Municipal Water District, which project is currently on hold, but is budgeted at $40 million; and

WHEREAS, if FPUD detaches from the County Water Authority, the reduction in demand from FPUD for water supplies and expanded water facilities will result in benefit the County Water Authority and its remaining member agencies in that it will increase reliability of supplies from County Water Authority in times of drought and reductions in imported water supplies; and

WHEREAS, Board of Directors of FPUD desires to initiate proceedings pursuant to the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000, Division 3, commencing with Section 56000 of the California Government Code for the exclusion/ detachment of FPUD from the County Water Authority and annexation of FPUD into Eastern (the "Reorganization"); and

WHEREAS, the detachment of FPUD from the County Water Authority is expressly permitted and authorized by the County Water Authority Act, specifically Section 45-11; and

WHEREAS, the Riverside Local Agency Formation Commission and the San Diego Local Agency Formation Commission have executed a memorandum of understanding dated October 24, 2019 by which San Diego Local Agency Formation Commission will undertake the processing of any application by FPUD to proceed with the Reorganization; and

WHEREAS, the reasons for the proposed Reorganization are as follows:

1. Due to the combination of rising wholesale water costs and FPUD infrastructure needs, the Reorganization will help stabilize long-term water costs to address affordability and sustainability issues for FPUD for the benefit of its ratepayers.

2. The Reorganization will enable FPUD to better provide water supplies to those within its boundaries undertaking agricultural activities, in support of the local economy.

3. FPUD already obtains its water supplies directly off of Metropolitan's infrastructure instead of off of County Water Authority's infrastructure, which is unique for County Water Authority member agencies but similar to other cities and special districts receiving water supplies from Eastern. Accordingly, the Reorganization requires no modifications to FPUD infrastructure and the water supply from Eastern can be obtained at significantly lower cost.

3. The Reorganization would permit FPUD to cease funding County Water Authority infrastructure throughout the County that it does not need nor use.

4. The Reorganization would benefit the County Water Authority and its remaining member agencies by permitting the County Water Authority to save, in the future, the $40 million budgeted for completing construction of the North County EPS pump stations to serve FPUD and Rainbow Municipal Water District should Rainbow Municipal Water District also detach.

5. The Reorganization would benefit the County Water Authority and its remaining member agencies because the reduction in demand from FPUD for water supplies and expanded water facilities will result in increased reliability of supplies from County Water Authority in times of drought and reductions in imported water supplies; and

WHEREAS, the Reorganization is supported by the draft Plan for Providing Services required by Government Code section 56653 attached hereto as Exhibit "A," and by this reference incorporated herein; and

WHEREAS, the external boundaries of FPUD, County Water Authority and Eastern are generally depicted in the maps attached hereto as Exhibit "B," and by this reference incorporated herein; and

WHEREAS, FPUD is inhabited; and

WHEREAS, the Reorganization is not a project within the meaning of CEQA because it does not have the potential to result in a direct physical change in the environment or a reasonably foreseeable indirect physical change to the environment (Pub. Res. Code § 21065; CEQA Guidelines § 15378(a).) The Reorganization will not require the construction of any new infrastructure or any changes to the manner in which FPUD receives its water supplies; and

WHEREAS, even if the Reorganization is a "project" within the meaning of CEQA, it is exempt under the Class 20 exemption for changes in the organization of local agencies. (CEQA Guidelines § 15320.) Under section 15320, changes in the organization of local governmental agencies are exempt if the changes do not modify the geographical area in which previously existing powers are exercised. The Reorganization is a change in FPUD's organization structure that does not modify FPUD's service area; and

WHEREAS, even if the Reorganization is a "project" within CEQA's meaning, it is exempt under State CEQA Guidelines section 15061(b)(3)-Common Sense Exemption as "it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment." The Reorganization will not change the type, intensity, or manner of service that FPUD provides. Further, the Reorganization will not result in construction or other physical alteration of the environment because the Reorganization will not require any new infrastructure or any changes to the manner in which FPUD receives its water supplies. None of the exceptions identified in CEQA Guidelines § 15300.2, which prohibit the use of an exemption, apply here. The Reorganization does not present any unusual circumstances that would create a significant effect on the environment. Further, the Reorganization would not create cumulative impacts, damage scenic resources, be utilized on a hazardous waste site, or impact any historic resources.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Fallbrook Public Utility District as follows:

1. **Recitals.** The forgoing recitals are true and correct and are incorporated herein and are made an operative part of this Resolution of Application.

2. **Proposal.** A proposal is hereby made by FPUD to the San Diego Local Agency Formation Commission for a Reorganization as follows:

    a. This proposal for the Reorganization is made pursuant to the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 commencing with Section 56000 of the California Government Code.

    b. The nature of the proposed Reorganization is detachment of FPUD from the County Water Authority and annexation of FPUD into Eastern.

    c. FPUD is inhabited.

    d. The boundaries of the proposal area are described in the legal description, and depicted on the corresponding maps attached hereto as Exhibit "B," and by this reference incorporated herein.

    e. The reasons for proposed Reorganization are as follows:

        i. Due to the combination of rising wholesale water costs and FPUD infrastructure needs, the Reorganization will help stabilize long-term water costs to address affordability and sustainability issues for FPUD for the benefit of its ratepayers.

        ii. The Reorganization will enable FPUD to better provide water supplies to those within its boundaries undertaking agricultural activities, in support of the local economy.

        iii. FPUD already obtains its water supplies directly off of Metropolitan's infrastructure instead of off of County Water Authority's infrastructure, which is unique for County Water Authority member agencies but similar to other cities and special districts receiving water supplies from

Eastern. Accordingly, the Reorganization requires no modifications to FPUD infrastructure and the water supply from Eastern can be obtained at significantly lower cost.

iv. The Reorganization would permit FPUD to cease funding County Water Authority infrastructure throughout the County that it does not need nor use.

v. The Reorganization would benefit the County Water Authority and its remaining member agencies by permitting the County Water Authority to save, in the future, the $40 million budgeted for completing construction of the North County EPS pump stations to serve FPUD and Rainbow Municipal Water District should Rainbow Municipal Water District also detach.

vi. The Reorganization would benefit the County Water Authority and its remaining member agencies because the reduction in demand from FPUD for water supplies and expanded water facilities will result in increased reliability of supplies from County Water Authority in times of drought and reductions in imported water supplies; and

g. It is desired by FPUD that the proposed Reorganization provide for and made subject to the following terms and conditions:

i. Pursuant to the express provisions of the applicable portion of Section 45-11(a)(2) of the County Water Authority Act, establishing the process for detachments from a county water authority, that the portion of the Reorganization involving detachment from the County Water Authority be subject to the following conditions:

(1) That the matter of detachment of FPUD from the County Water Authority be submitted to a vote by only the electors of FPUD. (Water Code Appendix Section 45-11 (a)(2).)

(2) That to the extent that there is any, that the taxable property to be detached from the County Water Authority, i.e., FPUD, shall continue to be taxable by the County Water Authority for the purpose of paying the bonded and other indebtedness of the County Water Authority outstanding or contracted for at the time of the detachment and until the bonded or other indebtedness has been satisfied. (Water Code Appendix Section 45-11 (a)(2).)

(3) That if the taxable property to be detached from the County Water Authority is, at the time of detachment, subject to special taxes levied or to be levied by the County Water Authority pursuant to the terms and conditions previously fixed under Water Code Appendix Section 45-10 (c) or (d) for the annexation of the property to be detached County Water Authority, the taxable property within the excluded area so subject to the special taxes shall continue to be taxable by the County Water

Authority for the purpose of raising the aggregate sums to be raised by the levy of special taxes upon taxable property within the respective annexing areas pursuant to the terms and conditions for the annexation or annexations as so fixed and until the aggregate sums have been so raised by the special tax levies. (Water Code Appendix Section 45-11 (a)(2).)

The full text of Water Code Appendix Section 45-11 (a)(2) is attached hereto as Exhibit "C," and by this reference incorporated herein.

ii. That upon the effective date of the Reorganization, the County Water Authority shall retain FPUD's share of and interest in any County Water Authority infrastructure.

iii. That upon the effective date of the Reorganization, that the County Water Authority ceases collection of the Standby Water Availability Charge from the properties within FPUD.

iv. That upon the effective date of the Reorganization, that Eastern commence collection of its Standby Assessment/Fee from the properties within FPUD.

3. **CEQA Compliance.**

a. For all the reasons set forth in the above Recitals, and based upon all of the substantial evidence in the record as a whole, the Board of Directors finds that proposed Reorganization: (1) is not a "project" subject to environmental review under CEQA pursuant to Public Resources Code § 21065 and State CEQA Guidelines § 15378(a); (2) alternatively, is exempt from CEQA under the Class 20 exemption as a "change in organization" (State CEQA Guidelines § 15320); and (3) alternatively, is exempt from CEQA under the "common sense" exemption because it can be seen with certainty that there is no possibility that Reorganization would have a significant effect on the environment. (CEQA Guidelines § 15061(b)(3)); and (4) none of the exceptions to the application of the exemptions exist under State CEQA Guidelines § 15300.2.

b. The Board of Directors hereby directs that all documents and other materials constituting the record of proceedings related to this Resolution of Application for approval of the power to exercise the Activated Powers, be maintained by the General Manager of the Fallbrook Public Utility District, or his designee, on file at the Fallbrook Public Utility District 990 East Mission Road, Fallbrook, CA 92028.

c. The Board of Directors directs Staff to file a Notice of Exemption with the County Clerk for the County of San Diego.

4. **Adoption.** This Resolution of Application is hereby adopted and approved by the Board of Directors of the Fallbrook Public Utility District and San Diego Local Agency Formation Commission is hereby requested to initiate proceedings as authorized and

in the manner provided by the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 for the Reorganization described herein.

5. **Plan for Services.** The Board of Directors directs the Fallbrook General Manager to finalize the draft Plan for Services attached hereto as Exhibit "A," and by this reference incorporated herein.

6. **Submission of Resolution of Application and other Application Materials.** The Board of Directors further authorizes and directs the Fallbrook General Manager to file a certified copy of this Resolution of Application together with the required LAFCO application, finalized Plan for Services, maps, other documents with the Executive Officer of the San Diego Local Agency Formation Commission. The Fallbrook General Manager is further authorized and directed to pay the required application filing fee and to pay such additional sums as may be invoiced from the San Diego Local Agency Formation Commission for services rendered in the processing of the Reorganization application.

7. **Effective Date.** This Resolution shall take effect immediately upon adoption by the Board of Directors of the Fallbrook Public Utility District.

PASSED AND ADOPTED by the Board of Directors of the Fallbrook Public Utility District at a regular meeting of the Board held on the 9th day of December, 2019, by the following vote:

AYES:	Directors Baxter, DeMeo, Endter, and Wolk
NOES:	None
ABSTAIN:	None
ABSENT:	Director McDougal

President, Board of Directors

ATTEST:

Secretary, Board of Directors

List of Exhibits:

Exhibit A: Plan for Providing Services
Exhibit B: Maps
Exhibit C: Text of County Water Authority Act Section 45-11 (A)(2)

EXHIBIT A
PLAN FOR PROVIDING SERVICES

DRAFT

Fallbrook Public Utility District

Plan for Providing Service

Application for Proposed Reorganization

December 2019

DRAFT

1.0 INTRODUCTION

This document is part of the application for Reorganization from the Fallbrook Public Utility District (FPUD) to the San Diego County Local Agency Formation Commission ("LAFCO"). FPUD is requesting a governmental reorganization consisting of a) the detachment of FPUD from the San Diego County Water Authority (SDCWA) and b) annexation to the Eastern Municipal Water District (EMWD). The plan provides FPUD, LAFCO, affected property owners and voters, and other interested persons with information regarding existing and proposed local government services for the proposed reorganization.

2.0 MUNICIPAL SERVICES

2.1 Description of Service Territory

2.1.1. Fallbrook Public Utility District (FPUD)

History

Fallbrook is an unincorporated community in San Diego County. The first permanent recorded settlement in Fallbrook was in 1869, in the east area of FPUD, which later became Live Oak County Park. While agriculture has always played a major role in the community, the first plantings were olives and citrus. These crops were replaced in the 1920's by avocados and it wasn't long before Fallbrook became generally recognized as the "Avocado Capital of the World."

Fallbrook Public Utility District (FPUD), organized under the provisions of the Public Utility District Act, Public Utilities Code section 15500 et seq., was formed on June 5, 1922 to serve water from local area wells along the San Luis Rey River. Soon after it was established, FPUD began to grow. Annexations into FPUD have expanded the service area from 500 acres to 28,000 acres (44 square miles). To meet the growing demand for water, additional ground water supplies were developed along both the San Luis Rey and Santa Margarita rivers.

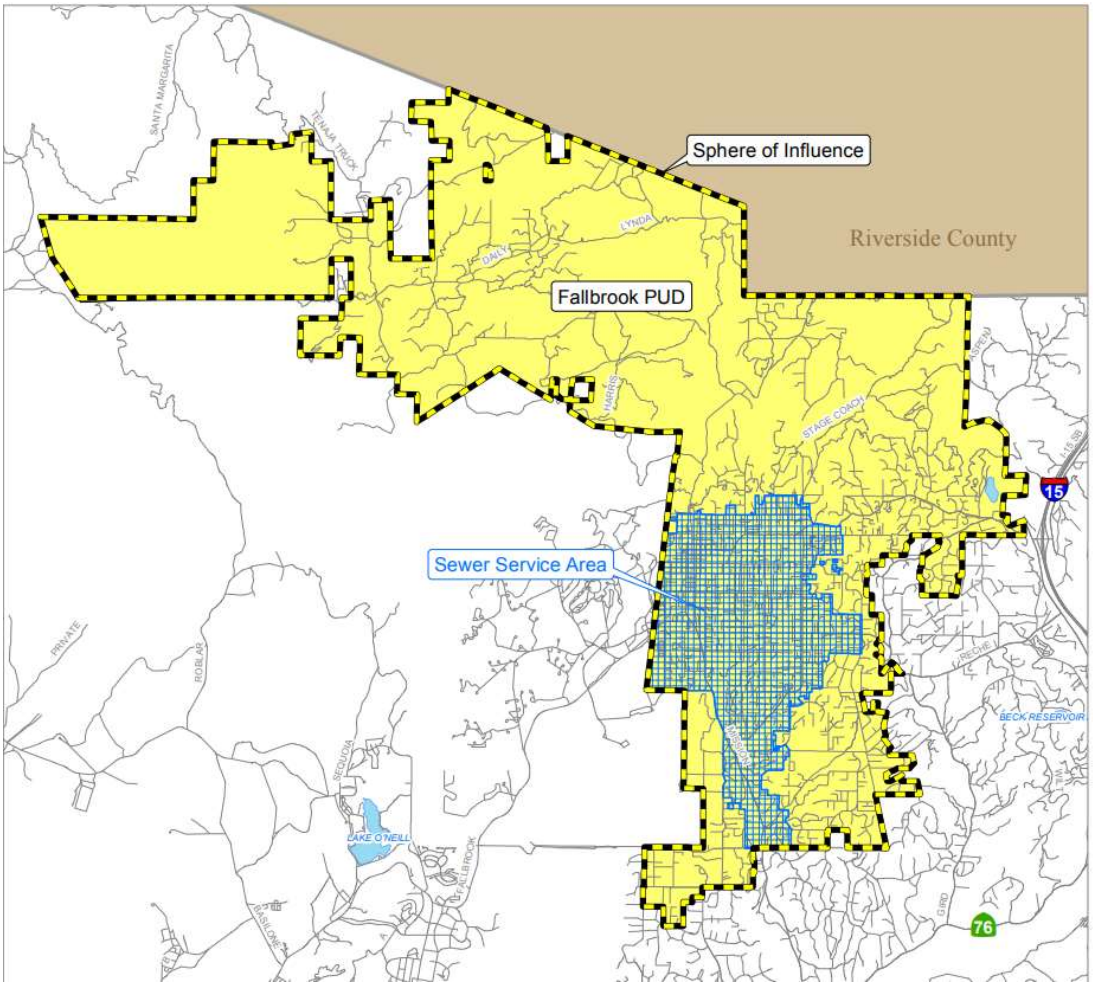
FPUD became a member of the San Diego County SDCWA (SDCWA) at its formation on June 9, 1944, and thus was eligible to receive a portion of Colorado River water that would be diverted by the Metropolitan Water District of Southern California (MWD). When Colorado River water became available in 1948, consumption within FPUD gradually increased to approximately 10,000 acre-feet per year by 1959. Then in 1978, MWD augmented its supply system with water from the California State Water Project and began delivering water from both systems to San Diego County. Today, virtually all of FPUD's water supplies are from the Colorado River and California State Water Project.

FPUD's scope of operations grew in the 1990's with both the 1990 dissolution of the DeLuz Heights Municipal Water District and annexation of its 12,000-acre service area to FPUD, and the 1994 dissolution of Fallbrook Sanitary District, which was located entirely within FPUD's boundaries. The Sanitary District had provided parts of Fallbrook with recycled water and wastewater service within a 4,200 acre area of downtown. FPUD took over those services, and the same year the playing fields at Fallbrook High School started receiving reclaimed water as its source of irrigation water. So did two new large nurseries. For the next ten years, FPUD's Reclamation Plant (Plant) began receiving a series of awards for safety in operations. In 2015, FPUD completed a major overhaul, upgrade and expansion of the Plant. The $27 million project took three years to complete, replacing aged and aging equipment, and allowed for a substantial expansion of FPUD's recycled water distribution system. The overhaul involved upgrades to the existing Plant to improve reliability in operation and created much-needed storage space for recycled water.

FPUD provides residents, businesses and agricultural customers with full-service water, wastewater and recycled water services within all or part of its boundaries. **Figure 1** shows FPUD's service area and boundaries.

Because of its geographic location, FPUD is unique and mostly independent of the SDCWA Aqueduct system, its reservoirs and its water treatment plant. Almost all of FPUD's water is treated and delivered through MWD owned facilities. Although FPUD pays SDCWA for emergency water service, due to the lack of regional SDCWA infrastructure directly to FPUD, it cannot physically receive deliveries from SDCWA to serve the vast majority of it's service area in a catastrophic emergency or in the event of an extended SDCWA shutdown for repair.

FIGURE 1—FPUD Service Area



Governance and Organizational Structure

FPUD is governed by a 5-member Board of Directors who serve staggered 4-year terms. Each Director is elected by the registered voters of the subdistrict in which he or she resides. Previous to 2016 FPUD's Board of Directors were elected as at-large representatives. Legislation passed in 2016 allows FPUD to elect its directors by subdistrict. To run for office, a candidate must be a resident and qualified elector of the subdistrict they are running to represent. FPUD is administered by 68 Full Time employees organized by functional departments. The General Manager of FPUD is Jack Bebee, P.E.

Service Area and Local Economy

Currently, FPUD serves an area of 28,000 acres. Approximately 40% of the annual water deliveries are for agricultural use. This number is significantly lower than in prior years. The remainder is for municipal, residential and industrial uses. Total growth in population over the past 20 years has been about 24%, or about 1.6% annually. It increased from a population of 28,200 in 1995 to a population of 33,476 in 2015. Annual water consumption increased to a high of 19,597 acre-feet/year in 2007, then decreased to 9,000 in 2018 with a projection of even lower sales in 2019. This decrease in water consumption was due to the drought, water use restrictions placed on customers, as well as the increased cost of water.

As an unincorporated area of San Diego County, land use authority for Fallbrook resides with the County Board of Supervisors. The Fallbrook Community Plan (FCP), which is part of the County of San Diego General Plan, was adopted on Dec. 31, 1974 by the Board of Supervisors and updated in November 2015. The FCP did not project land use for intermediate future years but rather produced an ultimate land-use plan. While the Community Plan specifies land use, it does not constitute zoning. All future zoning is legally required to be consistent with the adopted community goals and objectives presented in the FCP.

The following general goal has been adopted in the FCP:

> *"Perpetuate the existing rural charm and village atmosphere while accommodating growth in such a manner that it will complement and not sacrifice the environment of our rustic, agriculturally oriented community."*

The FCP attempts to fulfill this goal by limiting future multiple-use and high-density development to the designated town center and is referred to in the County General Plan as a "Country Town." Land outside the designated town center, extending to the community's boundaries, is intended for agricultural uses and rural, residential development and has parcel size limits of 1, 2, 4 or 8 acres, depending on topography and steepness of the land. Most population increase is occurring within the Country Town as land is developed into subdivisions and apartment units. Outside the Country Town land subdivision has been occurring gradually as 40-and 80-acre parcels are split up over many years down to the permissible minimum size of 2 or 4 acres. Based on the updated General Plan, larger parcels further from roads and utilities may be limited to minimum lot sizes, much larger than 2 to 4 acres.

Agricultural land use has been undergoing a gradual change from primarily avocados and citrus to a mixture of crops including other subtropical fruit and nut orchards such as macadamias, persimmons, kiwis, cherimoyas, grapes, dragon fruit, etc. In addition, ornamental flowers and commercial nurseries are increasing in prominence and will tend to preserve the agricultural orientation of the community. Decreases in agriculture, due to increasing water cost as well as development, are expected to remain close to the historic long-term trend.

2.1.2 San Diego County Water Authority (SDCWA)

History

SDCWA was established pursuant to legislation adopted by the California State Legislature in 1943 (County Water Authority Act) to provide a supplemental supply of water as the San Diego region's civilian and military population expanded to meet wartime activities. Because of the strong military presence, the federal government arranged for supplemental supplies from the Colorado River in the 1940s. In 1947, water began to be imported from the Colorado River via a single pipeline that connected to MWD's Colorado River Aqueduct located in Riverside County. To meet the water demand for a growing population and economy, SDCWA constructed four additional pipelines between the 1950s and early 1980s that are all connected to MWD's distribution system and deliver water to San Diego County. SDCWA is now the county's predominant source of wholesale water, supplying from 75% to 95% of the region's wholesale water needs depending upon weather conditions and yield from local surface, recycled, and groundwater resources and projects.

Governance & Organizational Structure

The decision-making body of SDCWA is its 36-member Board of Directors. Each of the 24 member agencies of SDCWA has at least one representative on the SDCWA Board of Directors. Member agencies may appoint one additional representative for each additional 5% of total assessed value of property taxable by the CWA for purposes within the public agency's boundaries. As a result, FPUD is entitled to representation by 1 director. The City of San Diego, the largest member agency in terms of assessed value is entitled to 10 Directors.

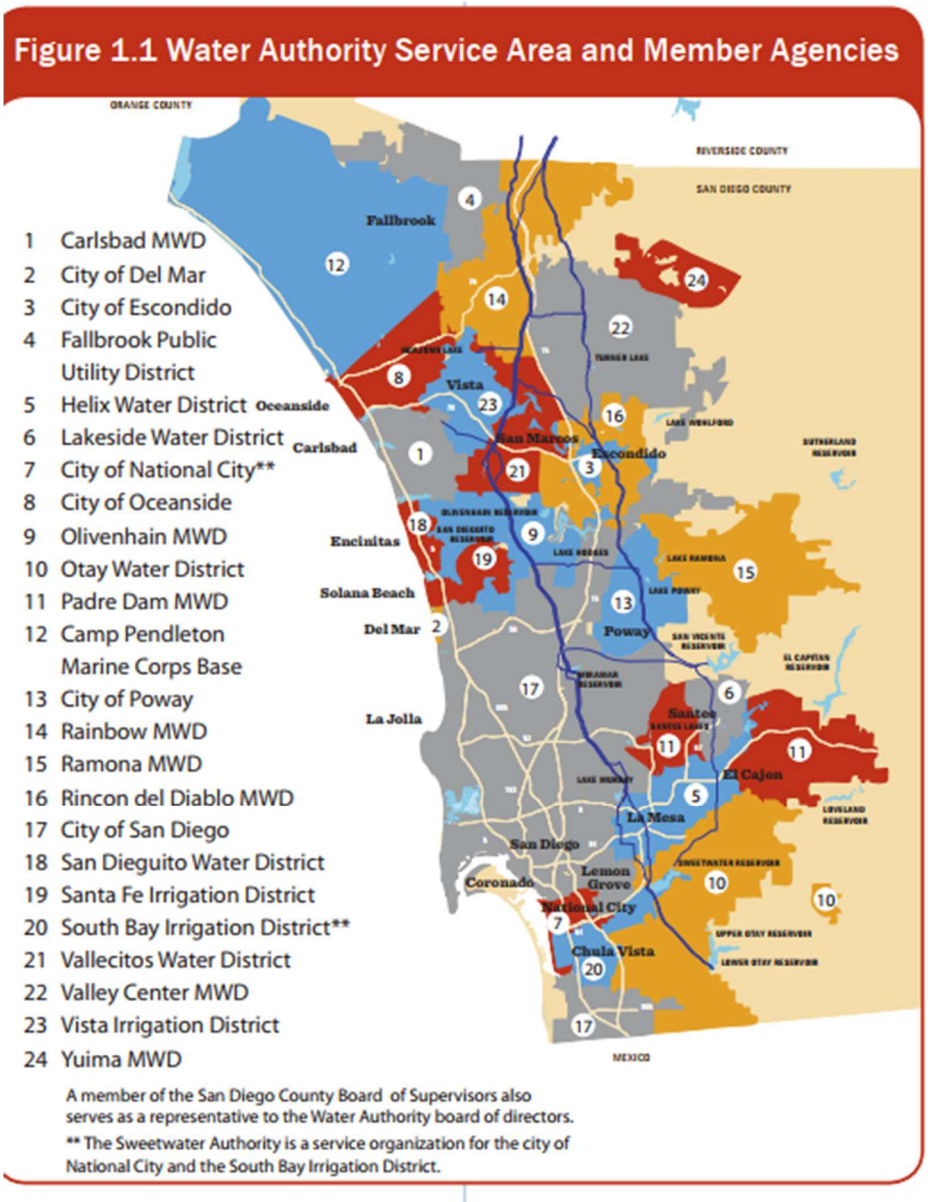
Under the CWA Act, a member agency's vote is based on its "total financial contribution" to the CWA since the CWA's organization in 1944. Total financial contribution includes all amounts paid in taxes, assessments, fees, and charges to or on behalf of SDCWA or MWD. The CWA Act authorizes each CWA Board of Directors member to cast one vote for each $5,000,000, or major fractional part thereof, of the total financial contribution paid by the member agency. Based on this formula, FPUD is entitled to 2.32% of the total vote in Calendar Year 2019. For comparison purposes the City of San Diego is entitled to 39.81% of the total vote in calendar year 2018. The four largest urban water agencies (City of San Diego, City of Oceanside, Helix Water District and Otay Water District) have a combined vote total over 58% in calendar year 2018.

Service Area and Local Economy

SDCWA's boundaries extend from the border with Mexico in the south, to Orange and Riverside counties in the north, and from the Pacific Ocean to the foothills that terminate the coastal plain in the east. With a total of 951,000 acres (1,486 square miles), SDCWA's service area encompasses the western third of San Diego County. **Figure 2** shows SDCWA's service area, its member agencies, and aqueducts (shown as blue lines). SDCWA's 24 member agencies purchase water from SDCWA for retail distribution within their service territories. The member agencies (six cities, five water districts, eight municipal water districts, three irrigation districts, a public utility district, and a federal military reservation) have diverse and varying water needs.

In terms of land area, the City of San Diego is the largest member agency with 210,726 acres. The smallest is the City of Del Mar, with 1,159 acres. Some member agencies, such as the cities of National City and Del Mar, use water almost entirely for municipal and industrial purposes. Others, including Valley Center, Rainbow, and Yuima Municipal Water Districts, deliver water that is used mostly for agricultural production.

FIGURE 2 –SDCWA Service Area and Member Agencies



Facilities

Imported water supplies from MWD are delivered to SDCWA member agencies through a system of large-diameter pipelines, pumping stations, and reservoirs. The pipelines deliver supplies from MWD are divided into two aqueduct alignments, both of which originate at Lake Skinner in southern Riverside County and run in a north to south direction through the SDCWA service area. MWD's ownership of these pipelines extends to a "delivery point" six miles into San Diego County. From there, Pipelines 1 and 2 comprise the First San Diego Aqueduct, which reaches from the delivery point to the San Vicente Reservoir. Pipelines 3, 4, and 5 from the Second San Diego Aqueduct. These pipelines are located several miles to the west of the First San Diego Aqueduct.

Storage facilities are used by SDCWA to both manage daily operations and provide reserves for seasonal, drought, and emergency storage needs. SDCWA seasonal, drought, and emergency storage capacity currently includes 234,000 AF of in-region surface water. In addition to the Twin Oaks Valley WTP, SDCWA entered into an agreement with the Helix Water District to purchase 36 MGD of treatment capacity from the R.M. Levy WTP. Water from the Levy plant supplements treated water service to eastern San Diego County, storage and 70,000 AF of out of region leased groundwater storage in the San Joaquin Valley.

Economy

SDCWA's service area characteristics have undergone significant changes over the last several decades. Driven by an average annual population increase of 50,000 people per year, large swaths of rural land were shifted to urban uses to accommodate the growth in population. This shift in land use has resulted in the region's prominent urban and suburban character. San Diego County also has a rich history of agriculture, beginning with the large cattle ranches established in the 18th century and continuing through the diverse range of crops and products grown today. Although the total number of agricultural acres under production has declined, the region maintains a significant number of high value crops, such as cut-flowers, ornamental trees and shrubs, nursery plants, avocados, and citrus. Based on the 2009 Crop Statistics and Annual Report by the San Diego County Department of Agricultural Weights and Measures, the region has 6,687 farms—more than any other county in the nation. San Diego County agriculture is a $1.5 billion dollar per year industry, and ranks first in the state in gross value of agricultural production for flowers, foliage, and nursery products.

Today, San Diego boasts an economy that is not dominated by any one sector; in fact, no sector accounts for more than 15% of the regional economy. Several sectors are "economic drivers," specifically tourism, the military, and the "innovation" sector, which together make up a third of the regional economy. Tourism is an obvious strength, due in part to the weather, the beaches, the San Diego Zoo, and the Convention Center. The military is pivoting toward Asia and has committed to San Diego, as have many military contractors, like General Dynamics (makers of the Predator drone) and ViaSat (satellite communications leaders). Moreover, innovation will continue to drive San Diego's economy, with forward-looking technologies with massive growth potential from companies like QUALCOMM (pioneers in mobile phone technology), Illumina

(revolutionized DNA sequencing with tremendous potential to improve healthcare and quality of life), and ESET (cybersecurity experts). San Diego also fares well in industries like healthcare, education, and a lean government sector. These sectors are generally population-driven—they rise in tandem with population—and, like the economic driver sectors, have proven through the Great Recession to be less affected by economic cycles. In sum, "recession-resilient" sectors account for over 60% of the San Diego economy.

2.1.3 Eastern Municipal Water District (EMWD)

History

EMWD is a public water agency formed in 1950 by popular vote. In 1951, it was annexed into the MWD and gained access to a supply of imported water from the Colorado River Aqueduct. When EMWD was formed in 1950 it was a small agency, primarily serving agricultural customers. Since then, potable water use in EMWD's service area has shifted from primarily agricultural to urban use. The reduction in agricultural demand has two major causes: rural farmland has been transformed to urban housing, and most remaining agricultural demands have been shifted to the recycled water system. EMWD is organized under the provisions of the Municipal Water Law of 1911, Water Code section 71000 et seq.

Today, EMWD remains one of MWD's 26 member agencies and receives water from Northern California through the State Water Project (SWP) in addition to deliveries through the Colorado River Aqueduct. EMWD's initial mission was to deliver imported water to supplement local groundwater for a small, mostly agricultural, community. Over time, EMWD's list of services has evolved to include groundwater production, desalination, water filtration, wastewater collection and treatment, and regional water recycling. EMWD provides both retail and wholesale water service covering a total population of over 750,000. EMWD's mission is "to provide safe and reliable water and wastewater management services to our community in an economical, efficient, and responsible manner, now and in the future."

Governance and Organizational Structure

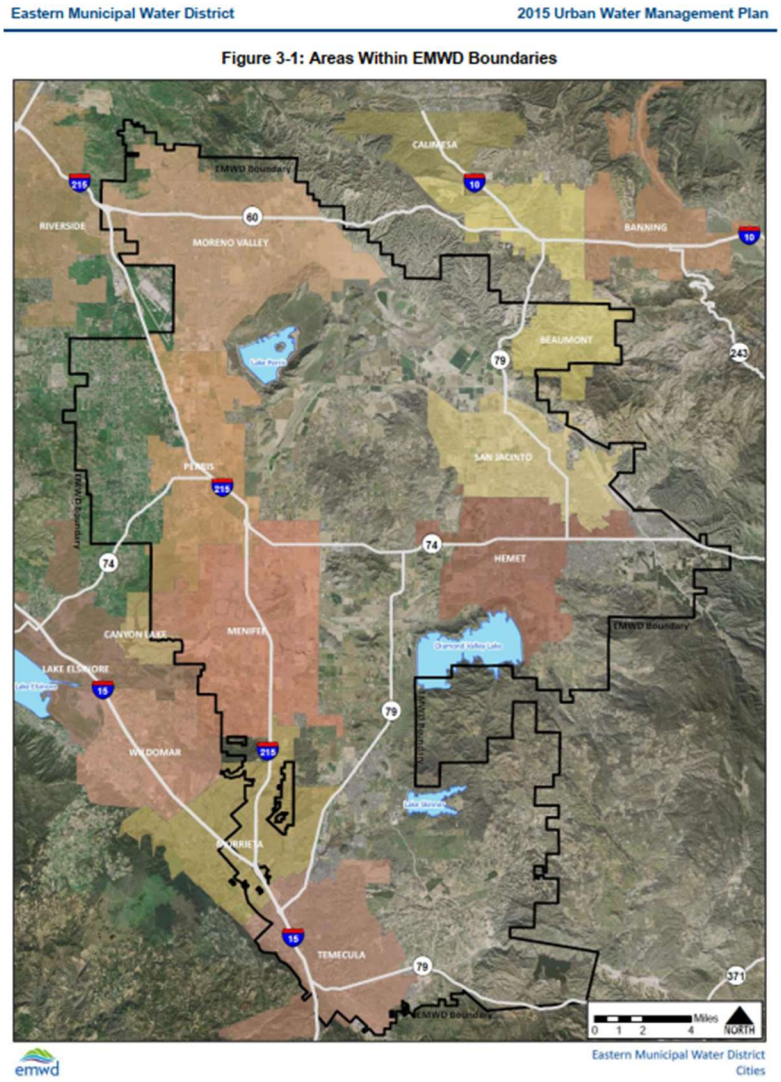
EMWD is governed by a 5-member Board of Directors who serve staggered 4-year terms, representing the district division they were elected to represent. As a member agency of MWD, EMWD also has a member appointed to the MWD Board.

Service Area and Local Economy

EMWD is located in western Riverside County, approximately 75 miles east of Los Angeles. (Figure 3.) EMWD provides potable water, recycled water, and wastewater services to an area of

approximately 555 square miles in western Riverside County. The 555 square mile service area includes seven incorporated cities in addition to unincorporated areas in the County of Riverside.

FIGURE 3—EMWD Service Area



EMWD is both a retail and wholesale agency, serving a retail population of 546,146 people and a wholesale population of 215,075 people. The agency was initially formed in 1950 to bring imported water to the area and in 1951 was annexed into the MWD. EMWD is now one of MWD's 26 member agencies.

Facilities

The majority of EMWD's supplies are imported water purchased through MWD from the State Water Project (SWP) and the Colorado River Aqueduct. Imported water is delivered to EMWD either as potable water treated by MWD, or as raw water that EMWD can either treat at one of its two local filtration plants or deliver as raw water for non-potable uses. EMWD's local supplies include groundwater, desalinated groundwater, and recycled water. Groundwater is pumped from the Hemet/San Jacinto and West San Jacinto areas of the San Jacinto Groundwater Basin. Groundwater in portions of the West San Jacinto Basin is high in salinity and requires desalination for potable use. EMWD owns and operates two desalination plants that convert brackish groundwater from the West San Jacinto Basin into potable water. EMWD also owns, operates, and maintains its own recycled water system that consists of four Regional Water Reclamation Facilities and several storage ponds spread throughout EMWD's service area that are all connected through the recycled water system. As of 2014, EMWD has used 100% of the recycled water it produces.

As stated above, since its formation as a water agency, EMWD has shifted from primarily serving agricultural uses to primarily serving urban uses. Today, EMWD's retail customers are mostly residential, with other uses consisting of commercial, industrial, institutional, landscape and agricultural. In addition to retail potable water demand, EMWD delivers water to seven wholesale customer agencies.

Economy

As the population within EMWD's service area continues to grow, the characteristics of the service area are continually changing. Tract homes, commercial centers and new industrial warehouses are replacing areas of agriculture and vacant land. Over the next 25 years, EMWD's total population is projected to grow by over 500,000 people, a 67% increase over the current population.

As part of the broader Inland Empire Southern Riverside county's economy reflects strong sectors in logistics, construction, health care, manufacturing, professional, management & scientific, and finance, insurance and real estate. Construction has historically been the major driver of the economy given its undeveloped land and Southern California's need for single family homes, apartments, industrial facilities, and infrastructure. Health Care firms are expanding in the Inland Empire. These same economic sectors are reflected within EMWD's service area. Much of the service area is characterized by being above the national average in median household income.

EMWD has a history of boom and bust development cycles. From the mid- 1980's to 1990's, population growth in EMWD routinely exceeded 10% per year. In the early 1990's, growth slowed during an economic recession. During the late 1990's, growth began to steadily increase, and the first five years of the 2000's again brought accelerated population growth to the area. Growth within EMWD's service area reached its peak rate in 2005, but then there was a major decline in housing development and growth slowed again. Starting in 2006 EMWD saw a sharp decline in

the number of new connections added, reaching a low point in 2010. Since 2010, new connections have slowly been increasing; but they remain well below the peak levels of new development seen in the early 2000's.

2.2 Existing Service Providers and Service Provider after Reorganization

Table 1 provides the current public services provider for the FPUD service area and the responsible public service provider if LAFCO's approved the reorganization.

Table 1—Summary of Municipal Services

Municipal Service	Current Provider	Provider After Reorganization
Wastewater Collection and Treatment	Fallbrook Public Utility District	Fallbrook Public Utility District
Water Service	Fallbrook Public Utility District **Imported Water from SDCWA*	Fallbrook Public Utility District **Imported Water from EMWD*
Recycled Water	Fallbrook Public Utility District	Fallbrook Public Utility District

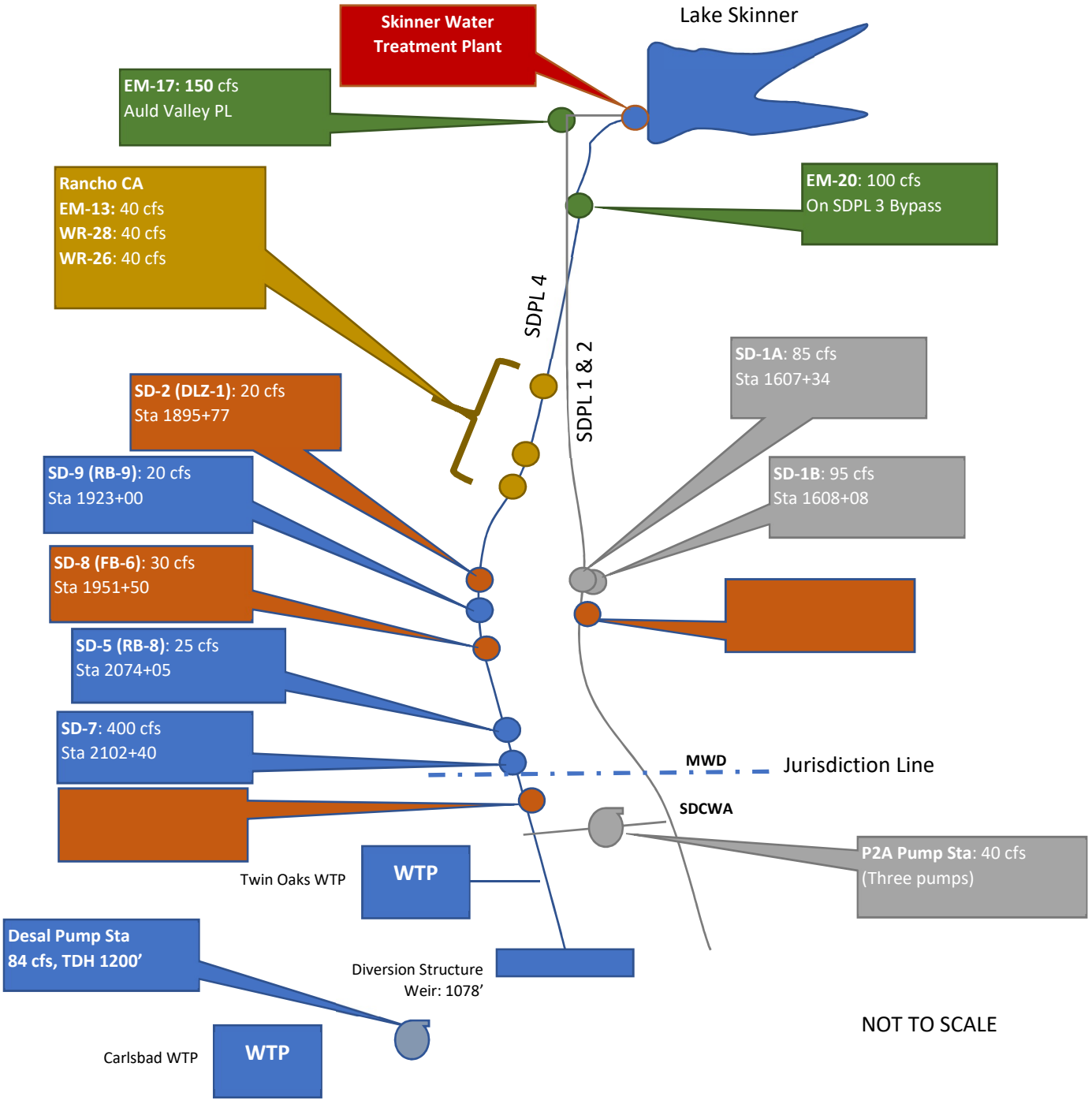
2.2.1 Level and Range of Services To Be Provided

Imported Water

FPUD imports 99% of its potable water from SDCWA with the remaining 1% coming from a local well. FPUD has four connections to SDCWA's system. **Figure 4** provides a schematic of how imported water is delivered to FPUD. Three of these connections are to pipelines owned by the MWD and one connection is to a pipeline owned by SDCWA. SDCWA currently purchases treated water from MWD that is treated at the Skinner Water Treatment Plant (WTP) and delivered to FPUD's connections. With approval of the reorganization, imported water treated at Skinner WTP will continue to be delivered to the same FPUD connections with no physical or operational changes necessary. FPUD does currently have the ability to take deliveries to occur on one connection it has to SDCWA owned pipeline, but FPUD has recently determined that continued deliveries through this connection are not necessary and FPUD will stop taking deliveries on this connection. Because there are no physical or operational change in the delivery of imported water to FPUD under reorganization there are no facilities to be built by EMWD or FPUD to begin service at the same level as today.

DRAFT

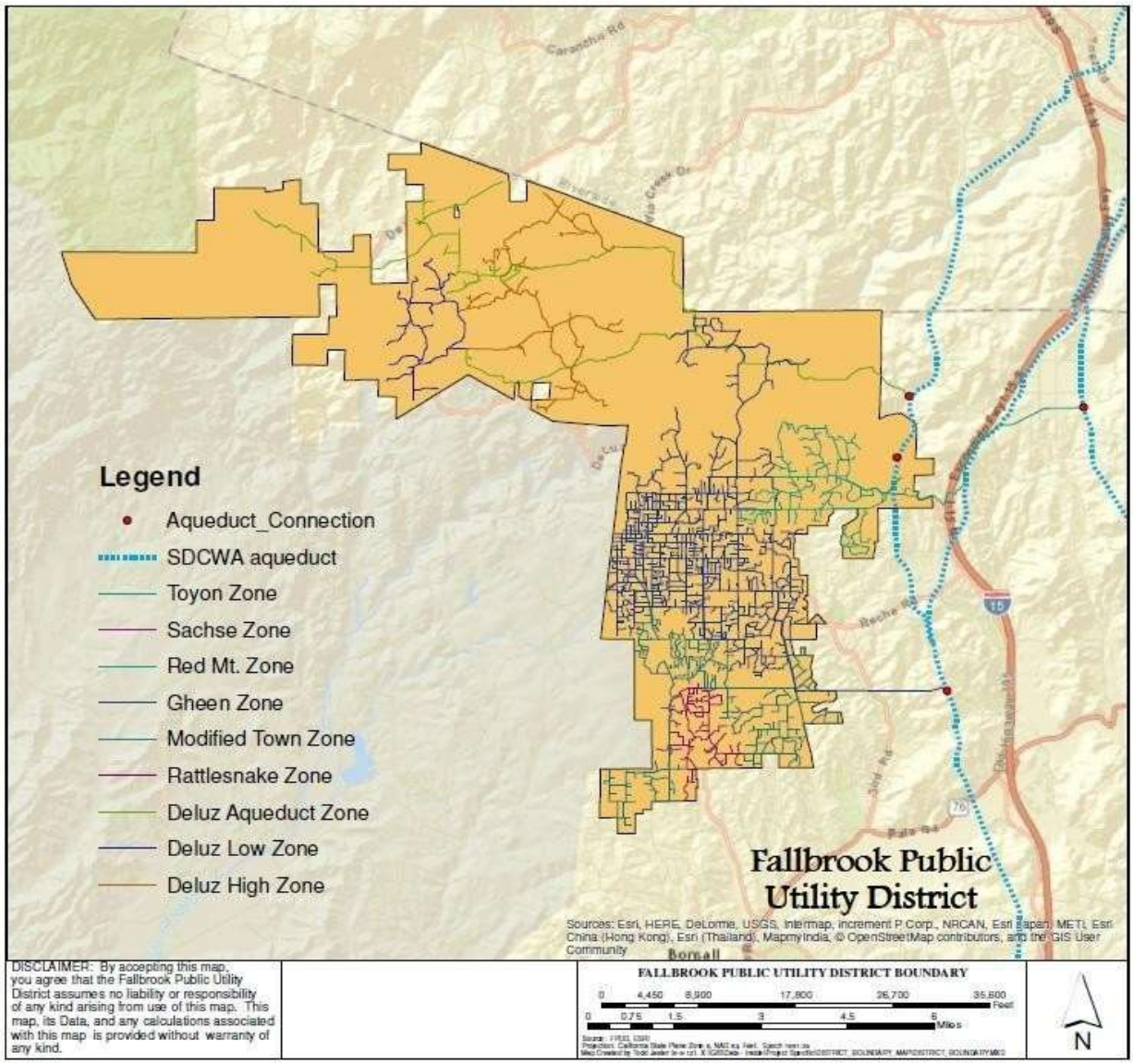
FIGURE 4—How FPUD Receives Water Deliveries



Retail Water Distribution

FPUD's water distribution system (**Figure 5**) is comprised of 270 miles of pipeline, 6,800 valves, an ultraviolet disinfection water treatment plant, nine steel reservoirs, a 300-million-gallon treated water reservoir, five pump stations and plans for a groundwater treatment plant. District staff operates the system, and conduct all system maintenance and repairs. FPUD is in the middle of an Advanced Metering Infrastructure (AMI) system upgrade that will enable real-time meter reading and provide customers with real-time water use. Reorganization will not result in any changes to retail water distribution in FPUD's service area.

FIGURE 5—FPUD Water Distribution System



FPUD Local Water Supply

FPUD also recently signed an agreement with U.S. Marine Corps Base Camp Pendleton to share local water in the Santa Margarita River, of the SMRCUP. The river is expected to provide 30%-40% of FPUD's total water needs, reducing reliance on imported water. Construction of a bi-directional pipeline and groundwater treatment plant is expected to begin in the Fall of 2019 and be operational by 2023. These construction activities and the provision of a new, more reliable water supply will occur as planned under annexation to EMWD which will not affect the provision or cost of this service to District customers.

FPUD's five-year average annual water sales is 10,375 acre-feet. Residential and commercial customers represent 59% of sales, and agricultural customers make up the remaining 41%. FPUD's historic sales trend is down due to improved water efficiency for both residential and commercial indoor and outdoor use, combined with sharp decreases in agricultural water demands. The decrease in agricultural water demands is due to drought restrictions and the increases in water costs over the last decade driven by a sharp rise in the cost of the water we purchase. FPUD's agricultural water sales have reduced from 7,000 acre-feet in Fiscal Year 2008 to 3,200 in Fiscal Year 2017.

No Change In Water Operations

Since there is no change in service boundaries or inclusion of additional territory, FPUD will be able to continue to serve its customers in the same manner if the reorganization is approved. Reorganization approval will not result in the need for any additional infrastructure that would not otherwise be needed if reorganization were not approved and FPUD remained a member of SDCWA.

Other Services

Certain services provided by SDCWA to FPUD will be provided under similar circumstances by EMWD. These include current MWD funded water conservation programs available to FPUD customers under similar conditions as currently provided. Commercial, Multi-Family and Residential rebate programs similarly available as a member agency of SDCWA would be available to FPUD customers under membership in EMWD. Similar to SDCWA, EMWD provides supplement to MWD funding for water conservation programs to its member agencies.

EMWD does not offer agricultural customers a discount water program in exchange for lesser reliability equivalent to SDCWA's Transitional Special Agricultural Water (TSAWR) Program. The SDCWA Board recently took actions to move towards making TSAWR into a Special Agricultural Water Rate Program (SAWR) and allowing new customers to qualify for the program. In exchange for a lesser level of reliability in a water shortage commercial agricultural customers participating in the TSAWR receive a substantial discount on the price of water purchased from SDCWA. However, EMWD has proposed a nominal wholesale charge or mark up to the cost of

MWD water that results in a lower cost to FPUD customers than SDCWA's TSAWR. **Table 2** compares the different calendar year 2020 SDCWA water rates (TSAWR and Full Service (FS)) to those proposed by EMWD.

Table 2—2020 SDCWA TSAWR, Full Service M&I and Potential EMWD Charges

Rate	*TSAWR*	*SDCWA FS*	*EMWD*
Treated	$1,231	$1,686	$1,078
RTS	28	28	82
CC	24	24	24
IAC	43	43	0
EMWD			11
Total	$1,326	$1,781	$1,195
Rate Differential From SDCWA FS	($455/AF)		($586/AF)

Source :SDCWA and MWD websites
Note: IAC is converted to $ per AF based on FPUD/RMWD 2020 shares divided by FPUD/RMWD 3 year average of SDCWA deliveries
MWD RTS is based on FPUD and RMWD 2020 shares divided by FPUD and RMWD 10 year deliveries
MWD CC is based on FPUD and RMWD actual 2020 shares divided by FPUD RMWD 3 year average
Stand-By Availability charge is considered equivalent regardless of membership and not shown

Reliability

In contrast to SDCWA, EMWD is both a retail and wholesale water supplier. As a retailer, approximately 50% of EMWD's supplies consist of local groundwater and recycled water. The remainder are deliveries of imported water from MWD. As a wholesale water supplier EMWD delivers only imported water from MWD. In terms of delivery of water to FPUD, EMWD would act in its wholesale capacity and take delivery of MWD water in the same manner as SDCWA and FPUD would receive delivery of water from EMWD in the same manner as it receives deliveries of wholesale water from SDCWA. While the method of deliver is exactly the same, there are some potential changes in the overall reliability of the imported water supplies from EMWD versus SDCWA during cutbacks that are described in more detail below.

Over the last 25 years SDCWA as a wholesale water supplier, and many of its retail member agencies, have been successfully diversifying the region's water supply portfolio by developing local recycled water, groundwater and seawater desalination supplies. SDCWA has also invested in surface water storage and out-of-region groundwater storage to improve reliability in both drought related and catastrophic emergencies. Because of the success of supply diversification and the significant reduction in water demand through conservation, SDCWA's dependence on imported water from MWD has been reduced and the reliability of its service area has substantially

improved in the last two drought as compared to the maximum of 32% combined agricultural and non-agricultural shortages SDCWA experienced in 1991-1992 prior to the region's diversification program. The more reliable local supplies available to MWD member agencies, the less reliant they are on MWD imported water supplies in a drought induced shortage, and the higher the agencies level of reliability.

As noted previously, FPUD's TSAWR customers receive a lesser level of reliability in exchange for discounted water from SDCWA. TSAWR customers reliability in a shortage is set at the level of reliability and cutbacks that MWD places on its member agencies. TSAWR customers do not benefit from the reliability investments made through SDCWA's diversification and Carryover Storage Program. If the reorganization is approved FPUD's current TSAWR customers would not benefit from EMWD's local supplies or groundwater storage programs and would similarly be subject to a pass-through of MWD cutbacks.

The benefits of SDCWA's diversification program are realized by FPUD's non TSAWR customers (also referred to as Municipal & Industrial or M&I) in higher levels of reliability during drought related shortages. However, MWD and its member agencies (including SDCWA) have also made significant investments in reliability over the last 25 years and will continue to do so. Local supply development and water conservation has reduced demand on MWD for imported water by just over half of its peak demand. That result along with MWD investments in in-region and out-of-region storage has significantly bolstered its ability to withstand multiyear droughts at cutback levels much lower than 20% experienced by MWD M&I customers in the peak cutback year of 1991. Although MWD planning documents anticipate that it will not experience cutbacks if its assumptions on local and imported supplies are fulfilled, they have experienced two rounds of cutbacks within the last 10 years. Both instances (2010-2011 and 2015-2016) resulted in a maximum cutback level of 15%.

A comparative analysis, which follows, was conducted to estimate the reliability and cutback level FPUD would experience in shortage similar to the maximum cutback of 15% from MWD initiated in the last two droughts. In this analysis it is assumed that FPUD has fully implemented the SMR CUP currently under construction. Both SDCWA and MWD have detailed computer models that calculate member agency allocations including the various adjustments for highly reliable local supplies, extraordinary conservation and population growth used by both agencies. The final allocations to an individual member agency consider what other member agencies supplies and demands are in the allocation year. The analysis contained below uses simplified assumptions based on the allocation methodologies and supply and demand amounts contained in the most recent UWMPs for 2030. (**Table 3**.)

The analysis is for a single dry year in a prolonged multi-year drought event. The range includes whether SDCWA has carryover storage supplies and in circumstances where it has exhausted those supplies. Shortages under EMWD reduce available MWD supplies by the level of the overall MWD cutback and does not attempt to apply any adjustments to EMWD that may result in it receiving a higher allocation. The analysis also assumes EMWD does not provide FPUD any of its local or stored water supplies. For more accurate estimates of what FPUD's shortage allocation would be it would be necessary to request that SDCWA and potentially MWD run their allocation

models. A more complete report was prepared for Rainbow Municipal Water District, providing much of the background on SDCWA and MWD reliability planning for the assessment of water reliability that applies also to FPUD. (See **Attachment A** - Analysis of RMWD Water Supply Reliability November 2019.)

Table 3—Reliability Analysis Summary

FPUD Reliability Single Dry Year 2030
15% MWD Cutback

	M&I Cutback		TSAWR Cutback	Combined Cutback	
	Low*	High*		Low	High
SDCWA	0%	4%	15%	3%	8%
EMWD	10%		10%	10%	

* Range is based on use of Carryover Storage supplies and allocation under MWD Water Shortage Allocation Plant (WSAP) or Preferential Rights

Although the above reliability analysis supports that the overall range in reliability is better under SDCWA, FPUD believes the differences in the severity of the shortage will not have a significant impact given the rural characteristics of the District's service area and ability to encourage reduced outdoor water use to achieve the cutback target. FPUD benefits from both improved MWD reliability through local supply development and reduced demand on MWD and its own groundwater conjunctive use project. The range of shortages indicated above are well within the historic shortages managed by FPUD without economic harm to its customers. Article 26 of FPUD's Administrative Code provides the detailed actions FPUD takes in a water shortage. Additionally, the State of California through the Urban Water Management Planning Act (Water Code Section §10610 et seq.) requires preparation of a Shortage Contingency Plan. The Shortage Contingency Plan identifies the stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50% reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.

Managing a Water Shortage

In SDCWA's 2008 Model Drought Response Ordinance provided to its member agencies for regional consistency in drought management, SDCWA established an up to 10% conservation target considered to be a voluntary stage prior to imposing mandatory restrictions. This is reflected in FPUD's Administrative Code Article 26 and its UWMP Shortage Contingency Plan.

Table 11-2. Correlation between WSDRP Stages and Model Drought Ordinance Levels

WSDRP STAGE	DROUGHT RESPONSE LEVEL	USE RESTRICTIONS	CONSERVATION TARGET
Voluntary (Stage I)	1 – Drought Watch	Voluntary	Up to 10%
Supply Enhancement (Stage II)	1 – Drought Watch	Voluntary	Up to 10%
	2 – Drought Alert	Mandatory	Up to 20%
Mandatory Supply Cutback (Stage III)	2 – Drought Alert	Mandatory	Up to 20%
	3 - Drought Critical	Mandatory	Up to 40%
	4 - Drought Emergency	Mandatory	Above 40%+

Source: SDCWA Urban Water Management Plan

Although a 10% shortage has resulted in mandatory water use restrictions in previous droughts. Achieving that goal is considered very manageable by most water suppliers. Because FPUD residential customers typically have larger lot sizes that are irrigated a reduction in 10% has been achievable and surpassed in the recent past. A 10% reduction in water use by commercial agricultural customers has also been achievable and is less than those customers would experience under continued participation in TSAWR in a similar 15% MWD cutback.

During the most recent drought, the State of California imposed an Emergency Conservation Regulation that required reduced water use over what was necessary given available MWD and SDCWA supplies. Below (**Table 4)** is an excerpt from an FPUD Water Supplier monthly report to the state of California addressing FPUD's performance during implementation of the Emergency Regulation. It compares monthly water use for the summer of 2015 at the height of the last drought and imposition of the most severe restrictions with pre-drought water use for the same months in 2013.

Table 4—FPUD Water Use Report (2015)

Supplier Name	Stage Invoked	Mandatory Restrictions	Reporting Month	REPORTED Total Monthly Potable Water Production	REPORTED Total Monthly Potable Water Production 2013	Redcution in Water Use
Fallbrook Public Utility District	Stage 2	Yes	Sep-19	960.8	1454.2	51%
Fallbrook Public Utility District	Stage 2	Yes	Aug-19	1097.5	1514.9	38%
Fallbrook Public Utility District	Stage 2	Yes	Jul-19	1006.9	1513	50%
Fallbrook Public Utility District	Stage 2	Yes	Jun-19	945.5	1307	38%

Source:https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/docs/2019sept/uw_supplier_data090319.xlsx

FPUD can manage the differences in shortages between SDCWA and EMWD though demand management during a shortage consistent with its UWMP Shortage Contingency Plan. The large

amount of outdoor irrigation provides FPUD customers with a cushion with which to reduce water usage during a shortage without inflicting economic harm or hardship. FPUD considers this to be more cost effective for its customers than to consistently pay significantly more for its water supply as a member agency of SDCWA.

The most noticeable trend in reliability since the last drought (2015-2016) has been the continued decline in water use. (**Table 5**.)This continued drop in water use pertains to SDCWA an MWD as large wholesale agencies and to FPUD as an individual water district. In comparing FPUD's monthly water use in the summer of 2018 to its 2013 water use shows a continuance of lower water demand.

Table 5—FPUD Water Use Report (2018)

Supplier Name	Stage Invoked	Mandatory Restrictions	Reporting Month	REPORTED Total Monthly Potable Water Production	REPORTED Total Monthly Potable Water Production 2013	Redcution in Water Use
Fallbrook Public Utility District	Stage 1	Yes	Sep-18	944.8	1454.2	54%
Fallbrook Public Utility District	Stage 1	Yes	Aug-18	1143	1514.9	33%
Fallbrook Public Utility District	Stage 1	Yes	Jul-18	1201.7	1513	26%
Fallbrook Public Utility District	Stage 1	Yes	Jun-18	928.3	1307	41%

Source:https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/docs/2019sept/uw_supplier_data090319.xlsx

Although the 2015 updates of the UWMP were used in conducting the above reliability analysis, updates will be prepared in 2020 with new water demand forecasts. It is assumed that continued decreases and slower growth rates will be included in UWMPs throughout the MWD service area. These lower demand forecasts along with continued local supply development will reduce demand on imported water and strengthen the reliability of imported water supplies from MWD. This continued trend will likely reduce the margin of difference for FPUD in reliability as a member agency of EMWD and SDCWA.

Catastrophic Emergency

For the last 20 years SDCWA has been implementing the Emergency Storage Project (ESP). The ESP is a system of new, existing and expanded reservoirs, pipelines and pump stations that will ensure that its member agencies receive a 75% Level of Service during a catastrophic earthquake that severs San Diego County form MWD's imported water system. SDCWA's ESP manages the risk of seismic events on the San Andreas, San Jacinto and Elsinore faults. Although FPUD has been paying for the ESP through it water rates for 20 years, it is not able to receive ESP service due to a yet to be constructed pump station and appurtenant facilities by SDCWA. It should be noted that SDCWA's planning documents for these facilities indicate that SDCWA will need to use MWD's aqueduct system to make ESP deliveries to FPUD.

If the facilities are constructed FPUD's customers would be able to receive ESP water in a catastrophic emergency. FPUD's M&I customers would receive a 75% level of service while

FPUD's TSAWR customers would be cut at twice the rate of non-TSAWR customers (50% cutback compared to 25% for non-TSAWR customers). This lower level of reliability is in exchange for the discounted water rate TSAWR customers pay and in recognition that in an emergency outdoor irrigation water will be a low priority.

MWD also has an Emergency Response Plan and emergency water storage for its member agencies and their sub-agencies. MWD maintains sufficient storage in its 800,000 acre foot Diamond Valley Lake and other storage reservoirs to provide a similar 75% Level of Service in the event of earthquakes on the San Andreas and San Jacinto earthquake faults that would sever the imported water conveyance system for the State Water Project and Colorado River. The difference between SDCWA and MWD emergency storage programs is the response to a seismic event on the Elsinore Fault in southern Riverside County that disrupts service from MWD's treatment plants, reservoirs and local pipelines. The Elsinore Fault is considered the least active of the 3 earthquake faults, and MWD in its Emergency Response Plan intends to complete repairs on those facilities within 14 days of the seismic event and restore service to at least the 75% level. When facilities for SDCWA's ESP are completed it expects to provide emergency water for a 75% Level of Service to FPUD customers following the seismic event on the Elsinore Fault and the interruption of imported water deliveries.

In an effort to address the proposed reorganization's potential for 14 days with limited or no service in the event of an earthquake on the Elsinore Fault, FPUD customers will receive local water supply during an emergency from its Santa Margarita River Conjunctive Use Project (SMRCUP). FPUD is constructing the SMRCUP in partnership with U.S. Marine Corps Base Camp Pendleton to share local water in the Santa Margarita River through a groundwater storage and recovery project. Local supply from the SMRCUP will provide an additional layer of water supply reliability to the FPUD service area. Construction of a bi-directional pipeline and groundwater treatment plant is expected to begin in the Fall of 2019 and be operational by 2023. These construction activities and the provision of a new, more reliable water supply will occur as planned under reorganization which will not affect the provision or cost of this service to FPUD customers.

The SMRCUP is planned to produce approximately 9 acre feet per day on average and can meet all the daily indoor health and safety of FPUD residents for the 14 day expedited repair period. Additional drinking water will be available from the SMRCUP, FPUD's Red Mountain Reservoir and other storage tanks to meet very limited irrigation needs of M&I and agricultural customers during this period as well.

The below **Table 6** reflects the Level of Service FPUD customers can expect during a catastrophic emergency as a member agency of SDCWA and under reorganization as a member agency of EMWD.

Table 6—FPUD Reliability During a Catastrophic Emergency

FPUD Reliability Catastrophic Emergency				
	San Andreas & San Jacinto Faults		Elsinore Fault	
	M&I Level Of Service	TSAWR Level of Service	M&I Level Of Service	TSAWR Level of Service
SDCWA	75%	37%	75%	37%
EMWD	75%	NA	20% to 75%**	NA
**Range is based on MWD emergency planning for seismic event on Elsinore fault is to expedite repairs to facilities in southern Riverside county to restore service within 14 days. Indoor Health and Safety water use minimum level of service form local supplies and storage for 14 day period. SDCWA plans to provide emergency deliveries with earthquake on Elsinore Fault.				

While the SMRCUP is designed to be a baseline supply for FPUD and Camp Pendleton, FPUD is considering entering into an MOU with Rainbow Municipal Water District (RMWD) that will allow a portion of this FPUD's local water to be provided to RMWD in the event of a catastrophic emergency on the imported water system, such as an earthquake along the Elsinore Fault. A small amount of SMRCUP supply will be provided to RMWD during this 14 day period to supplement RMWD stored supplies in its local reservoirs and storage tanks.

3.0 FINANCING

In California, funding for special districts comes in two distinct types, based on their source (or sources) of revenue: Enterprise Districts and Non-Enterprise Special Districts.

Non -Enterprise Districts deliver services that provide general benefits to entire communities. They are primarily funded by property taxes. Enterprise Districts finance district operations via fees for public service, similar to a business. Under this model, the customers that consume goods or services such as drinking or irrigation water, waste disposal, or electricity, pay a fee. Rates are set by a governing board and there is a nexus between the costs of providing services and the rates customers pay. Sometimes enterprise district may also receive property taxes which comprise a portion of their budget.

FPUD operates as an enterprise fund, which has a set of self-balancing accounts that record the financial position of each of FPUD's services. The service funds track revenues from service fees and operating expenses specific to each service. This, in turn, makes each service fund independent and self-sufficient, and also ensures service fees are set to recover only costs associated with the particular service.

FPUD's accounting system and practices are based upon Generally Accepted Accounting Principles (GAAP) and are kept on an accrual basis. Under the accrual basis, revenues are recognized when earned and expenditures are recognized when a liability is incurred. FPUD's budget is prepared on a cash basis, which means that projected revenues are recognized when cash is assumed to be received and projected expenses are recognized when cash is disbursed.

Annual Budget Process

Each year, FPUD develops and adopts a new budget for the upcoming fiscal year. The budgeting process begins in January and starts with the budget message. The budget message establishes the priorities of FPUD in the next fiscal year and provides budget managers with guidance on how to prioritize their budget needs.

The capital and operating budget are included in FPUD's preliminary budget. Once assembled, the preliminary budget is reviewed by the General Manager and staff in a series of meetings. Adjustments are made to the preliminary budget and the revised preliminary budget is reviewed by the FPUD Board of Directors Fiscal Policy and Insurance Committee. Once the Committee's comments are incorporated and the proposed budget developed, budget workshops with the Board, if required, are held. The final proposed budget is then sent to the Board for review. Once Board comments are incorporated into the document, a public hearing, if necessary, is held and the recommended budget is adopted.

Budget adjustments are made if projects or expenditures are needed that fall outside FPUD's adopted budget. These items are brought to the Board for approval and to appropriate the funds. A mid-year budget update is also provided to the Board each year to update spending trends and identify early any potential shortfalls or surpluses. FPUD maintains a balanced budget, which means that sources of funds equals uses of funds in instances of shortfall. Reserve fund withdrawals, if necessary, provide a source of funds. Likewise deposits to reserves are a use of funds and are unappropriated balances.

Financial Impacts of Reorganization

The proposed reorganization will have financial impacts to FPUD, EMWD, and CWA. While FPUD has pursued discussions with SDCWA to identify a potential cost structure for detachment, the parties have not made significant progress on reaching consensus. The last communication requested that FPUD meet with each SDCWA member agency separately to negotiate a solution. While FPUD did in fact reach out to each member agency and met with many of them and provided potential concepts for a cost structure for detachment, the general consensus from these meetings is that development of separate agreements with each SDCWA member agency is unworkable. This is because any impacts or benefits to SDCWA resulting from the reorganization, if approved, will impact SDCWA's rate setting process, and the impact on each member agency will vary over time with that agency's water demands.

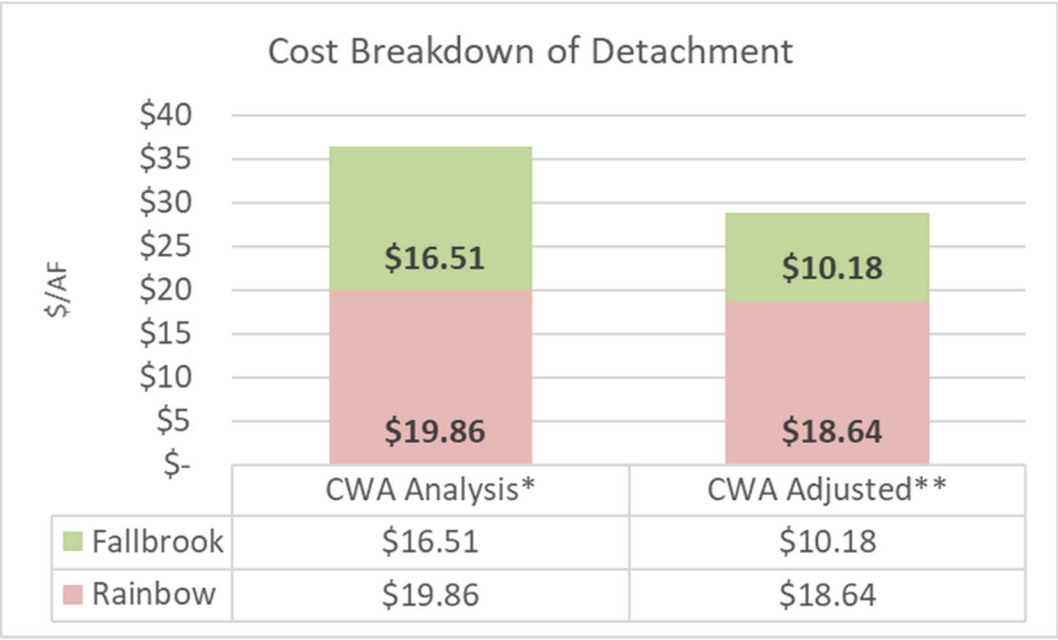
In absence of a negotiated agreement with SDCWA, FPUD proposes that the detachment from SDCWA be consistent with the County Water Authority (CWA) Act (Water Code Appendix section 45-1 et seq.), the law under which SDCWA exists and is organized. Section 45-11 of the CWA Act sets forth certain requirements a member agency must follow in order to detach (called an "exclusion" in the CWA Act) from SDCWA. In accordance with this provision if the detachment is successful, taxable property within the detaching member agency may still continue

to be taxable by SDCWA for the purpose of paying bonded and other indebtedness outstanding or contracted for at the time of detachment/exclusion. The amount currently collected annually from FPUD customers is roughly $150,000. These payments would continue after detachment pursuant to the CWA Act even though FPUD will cease to receive any benefit from any SDCWA facilities.

The remaining SDCWA member agencies would also benefit from past investments made by FPUD in regional infrastructure. As of January 1, 2018 FPUD has contributed approximately $300 million to help build SDCWA's infrastructure. These investments helped fund storage projects, emergency water supply projects and secure lower cost water supplies from canal lining projects. These investments will continue to provide benefits to the remaining SDCWA member agencies and FPUD will not recover any value from these regional investments that will continue to support all other member agencies of SDCWA. Further, there is no outstanding SDCWA debt associated with SDCWA facilities that only serve FPUD and that will, consequently, have no benefit to other remaining agencies after detachment.

Figure 6 shows the anticipated impact on SDCWA rates based on current FPUD and RMWD demand projections, including the reduction in SDCWA demands from the local groundwater development. As shown in **Figure 6**, the relative projected impact to SDCWA from FPUD detachment is $10.18/AF. The current SDCWA rate is approximately $1686/AF, so this represents an increase of 0.6%. The average rate increase experienced by FPUD over the last 10 years from SDCWA is over 8%. Using recent water usage for the City of San Diego of 91 gallons per capita per day (gpcd) and a rate impact of $10.18 per AF for FPUD, the average person from the City of San Diego would see an annual cost impact of $1 per year. Currently the average person from the City of San Diego pays an additional $41 per year for SDCWA's desalinated water (excluding the conveyance pipeline costs) and Imperial Irrigation District's transfer water.

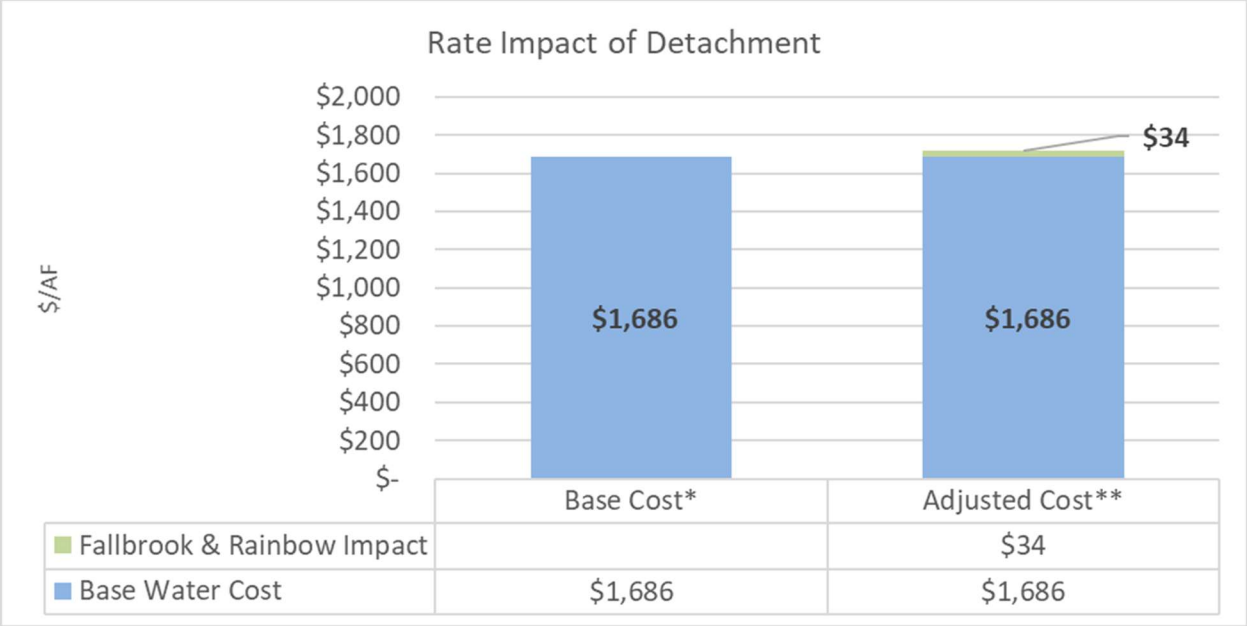
FIGURE 6—Rate Impact of FPUD/RMWD Detachment.



* Based upon SDCWA's August Preliminary Financial Impact Analysis | De-Annexation.
** Based upon updated water sales projections and includes 3,100 AF of local supplies.

Although all the water purchased by FPUD is received directly from MWD, there will be a reduction in revenue for SDCWA if FPUD began to purchase wholesale water through MWD. SDCWA prepared a summary of the anticipated costs based on FY 2018 water demands and CY 2020 rates in August 2019. This analysis results in an estimated revenue reduction to CWA of approximately $36.37/AF on top of the existing rate of $1686/AF for remaining agencies from the detachment of FPUD and RMWD based on their being no cost reduction in SDCWA operations due to detachment. (**Figure 7.**)

FIGURE 7—SDCWA Projected Rate Impact



* Based upon CWA's Recommended Calendar Year 2020 Rates and Charges presentation.
** Based upon updated water sales projection for CWA of 338,958 AF.

SDCWA's estimate is higher than the actual projected impact for two key reasons:

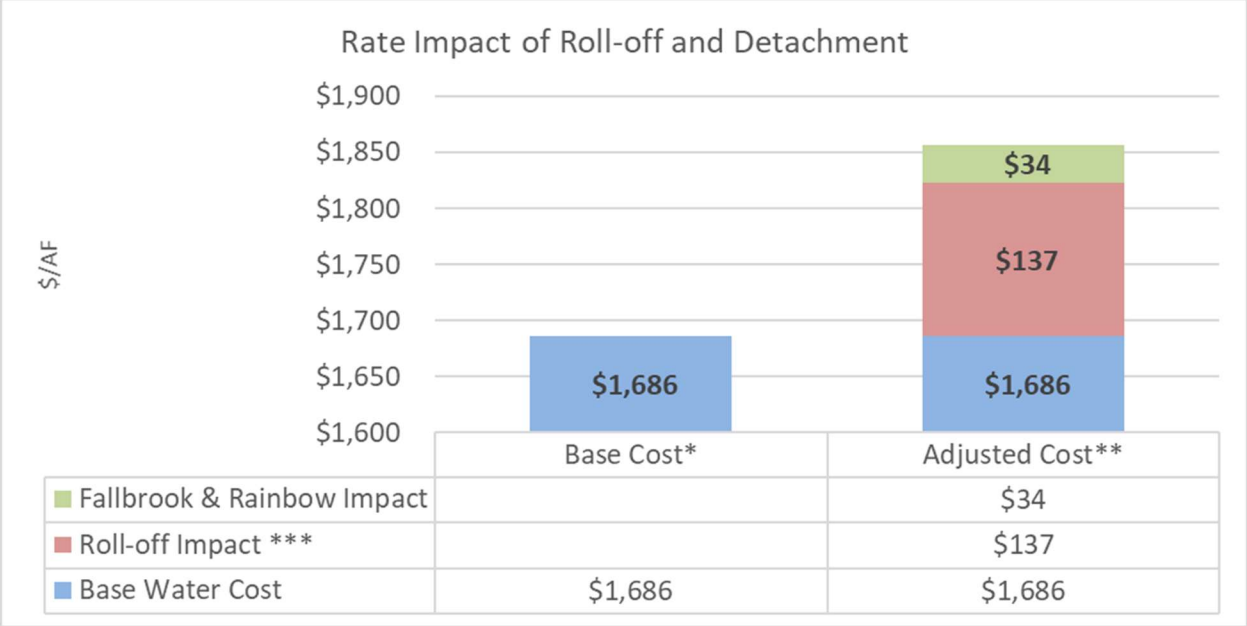
1. The FY 2018 flows are higher than current and projected flows largely due to a continued decline in agriculture in the region.
2. FPUD is constructing a new groundwater treatment plant that will supply 30-40% of anticipated annual water demands.

These factors will reduce the water demands on SDCWA, which will reduce the cost impact of on SDCWA of detachment.

SDCWA has also argued that the detaching agency must ensure revenue neutrality for the remaining agencies. Under this concept, FPUD would continue to make the same net payment to SDCWA, but would receive no services. In turn, SDCWA would use this money to subsidize other member agencies rates to be able to offset the potential 0.56% rate increase associated with the detachment of FPUD. We feel this concept is flawed at a number of levels:

1. This approach is inconsistent with the CWA act and would not have any cost of service basis and would violate proposition 26.
2. Currently member agencies can build local projects and reduce their water demands with a similar effect as detachment. The vast majority of rates allocated to a member agency are based on demands. While some are rolling averages, the costs paid by a District to SDCWA are largely proportional directed to water demands. **Figure 8** shows an example of the rate impacts to other member agencies for three local supply projects that are underway. These projects include Phase I of the City of San Diego Pure Water Program, Pure Water Oceanside and the East County Advanced Purification Facility.

FIGURE 8—Rate Impact of Roll-Off and Detachment



* Based upon SDCWA's Recommended Calendar Year 2020 Rates and Charges presentation.

** Based upon updated water sales projection for SDCWA of 338,958 AF.

*** Pure Water Phase I, East County AWP, Pure Water Oceanside.

As shown in **Figure 8**, the impact of these projects to other remaining member agencies is approximately $137 per AF or over ten times times the projected impact of the FPUD detachment. If FPUD was required to make each agency revenue neutral for the impact of their reduced water

purchases then the same concept would need to be in place for entities that are rolling off SDCWA and shifting existing SDCWA costs to the remaining agencies including FPUD and RMWD if detachment is not successful.

The majority of water used by FPUD is currently delivered from MWD through MWD facilities, and FPUD pays SDCWA for this water. The cost of treated MWD water to SDCWA is $1,184/AF. Currently, FPUD is charged by SDCWA over $450/AF on top of the MWD price versus an additional $11/AF if the water was supplied by EMWD (**See Figure 9)**. If FPUD detaches from SDCWA and attaches to EMWD, there is a substantial long-term savings to FPUD customers due to this difference in unit water costs.

Figure 9 shows the projected water rate increases for FPUD with and without detachment. As shown in **Figure 9**, without detachment an annual increase of 8% is anticipated over the next three years. With the reorganization it is anticipated that no rate increase could be achieved for 3 years or rates could be slightly decreased based on the reduction in the cost of water with on-going savings in wholesale water costs of over 25%.

FIGURE 9—Wholesale Water Costs

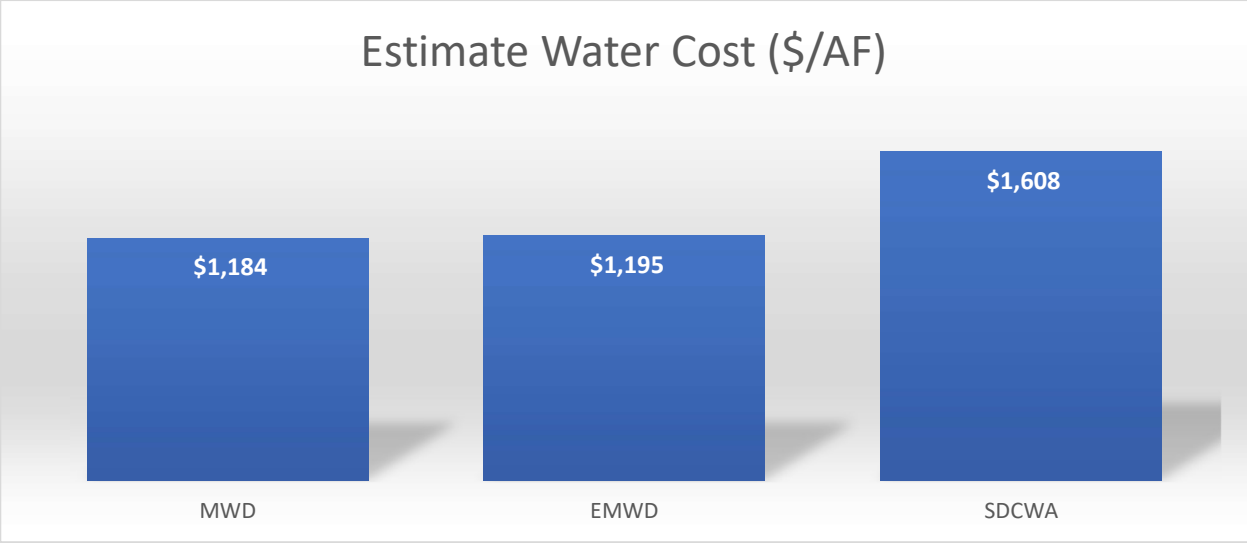
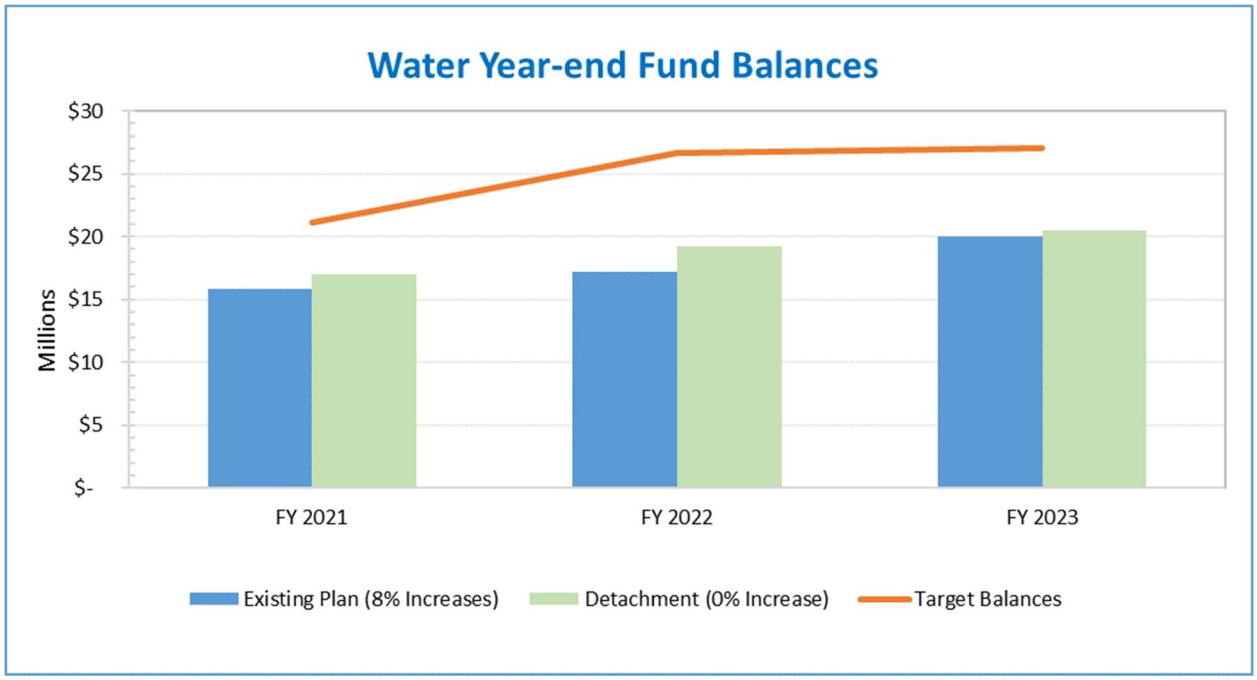


FIGURE 10—Projected Rate Impacts of Detachment



FPUD has had to implement significant rate increases over the past decade to address the combined impacts of increased water supply costs, declining sales and aging infrastructure needs. Increasing water rates has had a significant impact on the quality of life in our community due to the loss of agriculture and the inability to afford the water costs to maintain a rural lifestyle. These trends will continue into the future and further negatively impact our community unless LAFCO supports efforts by FPUD to reduce its water costs through the process of detachment from SDCWA and annexation to EMWD.

Attachment A

DRAFT

Analysis of RMWD Water Supply Reliability

DRAFT

Prepared By

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November 2019

INTRODUCTION

Rainbow Municipal Water District (District) is evaluating whether it is in the long term interests of its ratepayers to remain as a member agency of the San Diego County Water Authority (SDCWA) a member agency of the Metropolitan Water District of Southern California (Metropolitan) or to de-annex from SDCWA as allowed under the County Water Authority Act (Water Code § 45-11) and consider annexation to the Eastern Municipal Water District (EMWD), also a member agency of Metropolitan.

The evaluation of a potential de-annexation from SDCWA and annexation to EMWD has two major criteria that determine the effects on District ratepayers. The comparative long term cost to the ratepayers of remaining a member agency of SDCWA versus annexation to EMWD and the comparative water supply reliability and associated risk of water shortages of membership in each wholesale water supplier. A comparative cost analysis of long term membership in both SDCWA and EMWD has been prepared previously by Ken Weinberg Water Resources Consulting LLC. This Technical Memorandum (TM) compares the different levels of water supply reliability the District would experience through either continued membership in SDCWA or as a member agency of EMWD.

EXECUTIVE SUMMARY

Due to SDCWA's investments in reliability over the last two decades the San Diego region and the District's ability to withstand drought related shortages has significantly improved from what was experienced in San Diego county during what has been considered the most severe drought of 1987-1992. With the construction of SDCWA's Emergency Storage Program and Carryover Storage Program (ESP/CSP) the region's ability to supplement supplies to its member agencies during a drought or a catastrophic emergency is a significant benefit to all SDCWA member agencies. Likewise, investments by Metropolitan in surface water and groundwater storage, water transfers and financial incentives to local agencies for receiving water, groundwater recovery and water conservation has contributed to major improvements in urban southern California's resilience to multiyear droughts.

District reliability varies by customer class. The District has two classes of service, Municipal & Industrial (M&I) and Transitional Special Agricultural Water Rate (TSAWR) customers. Because TSAWR customers pay a discounted rate to SDCWA they do not benefit from SDCWA's investments in its own Colorado River Supplies through the IID Water Transfer and the Coachella and All American Canal Lining Projects or from the Carlsbad Desalination Plant. In FY 2018 TSAWR customers who made up approximately 44% of District water sales also do not benefit or receive a significantly reduced benefit from the ESP and no benefit from the CSP.

SDCWA Reliability

The District and SDCWA analyze long term supply reliability every 5 years through the update and adoption of an Urban Water Management Plan (UWMP) as mandated by the state under the Urban Water Management Planning Act. UWMPs are the best basis to evaluate supply reliability.

In its 2015 UWMP, SDCWA identified, on a regional scale, its water supply - demand balance under normal weather and a single and three consecutive dry year weather conditions. The results of that analysis indicated the following:

- Under normal weather conditions SDCWA would be able to meet all of its member agencies expected water demands.
- In a single Dry Year SDCWA assumed Metropolitan would experience shortages of 15%-20% and that SDCWA would begin to experience shortages in 2035 through 2040 of approximately 5-10%.
- In multiple dry year analysis SDCWA expects to experience shortages beginning after 2030 and continue to be subject to dry year shortages until 2040 ranging between approximately 2% to 15%.

SDCWA UWMP Assumptions on Local Supplies

In any long term analysis of supply reliability, it is necessary to project future outcomes that can have some amount of uncertainty. SDCWA's 2015 UWMP reliability analysis assumes that additional "Verifiable" local recycling and groundwater projects are implemented by member agencies as planned. Local Supply projects are considered verifiable if there is substantial evidence and commitment by the member agencies that they will be implemented. SDCWA's 2015 UWMP analysis does not include the City of San Diego's 93,000 acre foot Pure Water Program. The City of San Diego has since determined that Phase 1 Pure Water program consisting of 33,000 acre feet of new supply was a verifiable project and in this reliability analysis it will be added to the other SDCWA member agency verifiable local projects.

SDCWA Assumptions on Metropolitan Shortage Allocation

Also in SDCWA's 2015 UWMP is an assumption that its allocation of Metropolitan supplies during a Metropolitan declared shortage will be its Preferential Right to MWD water under Section 135 of the Metropolitan Water District Act[1]. SDCWA's Preferential Right is currently 23% of available Metropolitan supplies. A Preferential Right allocation would provide SDCWA significantly more water than the allocation methodology used by Metropolitan in the last two

[1] Preferential Right is calculated as the "*ratio to all of the water supply of the district as the total accumulation of amounts paid by such agency to the district on tax assessments and otherwise, excepting purchase of water, toward the capital cost and operating expense of the district's works*"

droughts (2010-2011 and 2015-2016) under the Water Shortage Allocation Plan (WSAP) which attempts to match allocations to dependence on Metropolitan supplies (SDCWA currently purchases about 15% of total Metropolitan supplies and will be reducing purchases to between less than 1% and 13% by 2035[2]).

Metropolitan has never allocated water using Preferential Rights.

EMWD and Metropolitan Reliability

Under the terms of annexation being explored with EMWD the District would not receive any of EMWD local supplies or stored water in either normal or dry weather conditions. Because of that contemplated arrangement, the District would be entirely dependent on the reliability and availability of Metropolitan supplies.

In evaluating Metropolitan supply reliability there are three foundational planning documents that provide the basis for reliability; the 2015 Integrated Resources Plan (IRP), the Water Surplus and Drought Management (WSDM) Plan and the 2015 Regional Urban Water Management Plan (RUWMP). Metropolitan's IRP lays out the regional strategy of improving reliability of imported supplies, utilizing in region and out of region storage and increasing diversification through the development of reliable local supplies and water conservation.

Similar to reliability under SDCWA, the District could expect Metropolitan to:

- meet its member agency demands for water in normal years
- meet its member agency demands for water in a single dry year

However, Metropolitan's 2015 RUWMP reliability analysis indicates that Metropolitan will be able to meet the expected demands of all its member agencies in single and multiple dry years and has identified the potential availability of surplus supply in all years. Metropolitan's analysis rests upon the following two key factors

- Use of Diamond Valley Lake and other storage assets in dry years when supplies are low
- Implementation of additional local supply and conservation as a "*Buffer*" to ensure that available supplies are in excess of forecasted water needs

Metropolitan Reliance on Future Projects and Conservation

To achieve the surplus supply potential identified in Metropolitan's IRP and 2015 RUWMP several specific goals related to imported water (State Water Project/Colorado River), local

[2] SDCWA's amount of total Metropolitan purchases in 2035 ranges from 13% in 2015 UWMP Normal Weather and less than 1% in 2018 Interim Demand Reset. It is assumed that Metropolitan's total supplies delivered average 1.7 MAF (2015 IRP Table 3-6 less QSA supplies).

supply projects and water conservation need to be achieved. To the extent these goals are not achieved Metropolitan will not realize these potential surpluses and may experience shortages. Metropolitan's 2015 IRP Update lays out a strategy of "*Adaptive Management*" where new supplies and programs will be implemented if needed.

Assumption of Metropolitan Reliability For District Reliability Analysis

It is not certain that Metropolitan will achieve all the new supplies and programs contemplated in the 2015 IRP and 2015 RUWMP. The analysis of District reliability is evaluated from the more conservative perspective of Metropolitan's experience in the two most recent drought related shortages. In 2010-2011 and 2015-2016 Metropolitan initiated its Water Supply Allocation Plan (WSAP) and allocated water to its member agencies at a maximum Level 3 cutback of 15%.

Reliability in an Emergency

Assessing the District's reliability in a catastrophic emergency where imported water is cutoff requires a different analysis than dry year drought induced shortages. SDCWA's Emergency Storage Project (ESP) is designed to address a catastrophic failure of the imported water system in the event of a major earthquake on three different fault lines;

- San Andreas
- San Jacinto
- Elsinore

The most probable large seismic event is considered by experts to occur along the more active San Andreas and San Jacinto faults. Earthquakes on either one of these faults would allow Metropolitan supplies from Diamond Valley, Lake Skinner and other facilities in southern Riverside County to maintain service to San Diego County. In the event of a large magnitude earthquake on the Elsinore fault, SDCWA estimates that those facilities would be out of service for up to 2 months. MWD's planning scenarios do not include any outage due to an earthquake on the Elsinore Fault that would exceed 14 days. The Elsinore fault is considered to be the least active of the three faults and has not seen seismic activity in the Riverside county area over a 5.3 magnitude earthquake since 1910[3].

SDCWA Emergency Reliability

SDCWA's ESP consists of pipelines, pump stations and new and existing surface storage reservoirs capable of storing up to 90,000 AF of emergency supplies. The ESP was designed to provide up to a 75% level of service for either a 2 month complete cutoff of imported water or a 6-month emergency with limited imported water supplies from Metropolitan. ESP facilities are currently unable to deliver treated water to most of the District's service area. With the planned construction of the future North County Pump Station (planning started in 1996), the

[3]Caltech, Southern California Earthquake Data Center http://scedc.caltech.edu/significant/elsinore.html

final ESP facility to be built, the District would be capable of receiving deliveries of treated water from the Twin Oaks Valley Water Treatment Plant.

In such an event, the SDCWA Board of Directors would declare an emergency and supplies would be allocated from ESP facilities to augment member agencies M&I level of service to at least 75% of calculated need. TSAWR customers receive a lower level of service from the ESP being cut at twice the rate of M&I customers due to TSAWR customers not paying SDCWA's storage charge. The District's TSAWR customers would receive a Level of Service of approximately 35-40% of needed water.

Metropolitan Emergency Reliability

Metropolitan's emergency storage requirements are based on the potential of a major earthquake along the San Andreas and San Jacinto Faults damaging the aqueducts that transport Southern California's imported water supplies (SWP, CRA, and Los Angeles Aqueduct). Unlike SDCWA, Metropolitan's emergency planning anticipates that its facilities in southern Riverside County will still be operational and a crippling seismic event along the Elsinore fault has not occurred. Metropolitan would draw on its emergency storage in Diamond Valley Lake (DVL) and has access to emergency storage at its other reservoirs, at the SWP terminal reservoirs, and in its groundwater conjunctive use storage accounts.

The adopted criteria assume that damage from such an event could render the aqueducts out of service for six months similar to SDCWA's six month emergency scenario, but Metropolitan has based its planning on a 100 percent reduction in these imported supplies. Firm supplies to member agencies would be restricted by a mandatory cutback of 25 percent from normal-year demand levels (75% Level of Service). Metropolitan emergency response planning does address outages caused by an earthquake on the Elsinore Fault through expedited repairs that would make key facilities operational within a 14 day period.

Recent District Actions

RMWD recently signed an MOU with the Fallbrook Public Utility District (FPUD) to receive local water supply during an emergency from its Santa Margarita River Conjunctive Use Project (SMRCUP). FPUD is constructing the SMRCUP in partnership with U.S. Marine Corps Base Camp Pendleton to share local water in the Santa Margarita River through a groundwater storage and recovery project.

While the SMRCUP is designed to be a baseline supply for FPUD and Camp Pendleton, the MOU will allow a portion of this local water to be provided to RMWD in the event of a catastrophic emergency on the imported water system, such as an earthquake along the Elsinore Fault. When combined with existing RMWD storage reservoirs, supplemental supply from the SMRCUP will provide an additional layer of water supply reliability to the RMWD service area during the 14 day period when Metropolitan is affecting emergency repairs on its facilities that

may be damaged during a seismic event on the Elsinore Fault. Construction of a bi-directional pipeline and groundwater treatment plant is expected to begin in the Fall of 2019 and be operational by 2023.

Comparative Analysis of Reliability in 2030

District reliability under a drought related or catastrophic emergency is evaluated as a member agency of SDCWA and EMWD. To display future year reliability, 2030 is selected as a representative future year. District reliability as a member agency of EMWD is 100% reliant on available Metropolitan supplies in both a drought shortage and emergency situation. For illustration purposes, it is assumed that the District receives a cutback in its supplies equivalent to the Metropolitan shortage. For example, a 15% Metropolitan shortage equates to a 15% District shortage.

It should be noted here that MWD has never actually refused to deliver water during a WSAP allocation period. Should a member agency order a delivery of more water than their allocation, the cost of that water goes up, but in its history MWD has never not delivered the water.

As a SDCWA member agency cutback percentages are calculated under a WSAP allocation and a Preferential Rights allocation. As a EMWD member agency it is only considered in a WSAP allocation.

Both SDCWA and Metropolitan have detailed allocation methodologies and computer models that calculate member agency allocations including the various adjustments used by both agencies. Both methodologies are intended to provide an allocation of water that are commensurate with the member agency's need for wholesale water. Both methodologies have adjustments that can either provide more water to the District in an allocation or reduce the District's allocation. Because the District is 100% dependent on imported water and not a growth agency, adjustments in SDCWA's allocation method can provide additional water for agencies with highly reliable local supplies, population growth and exceptional water conservation while another retail reliability adjustment can ensure that no member agency is cutback by more than 5% of the regional average. Metropolitan also has a retail reliability adjustment which the member agency must qualify for. For this analysis, it is assumed that EMWD will not need the "Retail Promise" adjustment due to its local supply availability.

The analysis contained below uses simplified assumptions based on the allocation methodologies and supply and demand amounts contained in the most recent 2015 UWMPs. SDCWA reliability will be displayed as a range in the WSAP allocation scenario since adjustments can reduce the District's Level of Service in a shortage but by no more than 5%[4].

[4] Current SDCWA's Retail Reliability Adjustment occurs at the 20% cutback level but discussions have occurred about reducing that threshold. It is assumed here that the adjustment will be in place at a lower cutback levels so shortages will not be more than 5% greater than the regional average

For more accurate estimates of what the District's shortage allocation would be it would be necessary to request that SDCWA and Metropolitan run their respective allocation models.

Emergency service is displayed based on the scenario of which fault line the earthquake occurs on and the resulting Level of Service the District can expect.

Results of District Reliability in 2030

The following major assumptions used in calculating an shortage allocation contained in Table A went into determining the allocation of Metropolitan water to SDCWA and potential cutbacks to the District in 2030.

Table A Major Assumptions

a	SDCWA Total Retail 2030 Demand (Base Period)	676,000 AF
b	SDCWA Member Agency Base Period Local Supplies	172,000 AF
c	SDCWA Base Period Local Supplies	330,200
d	Member Agency Base Period Demand on SDCWA (a-*b*)	504,000 AF
e	SDCWA Base Period Demand on Metropolitan	173,800 AF
f	SDCWA & Member Agency Adjustment for Dry Year Loss of Local Supply	45,000 AF
g	SDCWA Adjusted Base Period Demand on MWD	218,800 AF
i	SDCWA Preferential Right	24.22%
j	MWD Total Base Period Demand	1,700,000 AF
k	**Available MWD Supplies in Level 3 15% Cutback**	**1,445,000 AF**
l	**WSAP Level 3 Allocation to SDCWA (l x f)**	**185,980 AF**
m	**MWD Preferential Right Allocation to SDCWA** [3]	**349,979 AF**

Table B District Cutback in a 15% Metropolitan Shortage

SDCWA WSAP Allocation	SDCWA Pref. Right Allocation (M&I Only)	EMWD WSAP Allocation
6%-11%*[5]	6%**	15%

**If cutbacks are at SDCWA regional average of 6% RMWD combined cutback is 10%*

*** Assumes SDCWA has sufficient supplies to not initiate allocation for M&I but allocates shortage to TSAWR per TSAWR program guidelines*

[5] A 6% combined RMWD cutback assumes use of SDCWA carryover supplies to eliminate M&I shortage in the single year analysis. A 12% high end cutback assumes adjustments that favor agencies with highly reliable supplies, exceptional conservation and population growth result in steeper cutbacks but not greater than the regional average. The regional average M&I cutback in the analysis is 6% and combined RMWD cutback of 10%

Elsinore Fault

The Elsinore Fault crosses the buried steel MWD aqueducts in between the District and the MWD storage and treatment facilities. This fault is significant but has a low level of activity (see https://scedc.caltech.edu/significant/elsinore.html). The United States Geological Service (USGS), in its Uniform California Earthquake Rupture Forecast ranks the Elsinore fault as having the lowest probability of a significant quake of any fault of its type in the region (see https://pubs.er.usgs.gov/publication/70036562). The only recorded earthquake of any significant size to occur on the Elsinore fault occurred in 1910 with a magnitude of 6.5. There was no surface rupture and very little damage reported in the region.

Large diameter pipelines move with the surrounding soil in an earthquake. While during periods of prolonged shaping there could be damage to joints in a pipeline, this sort of damage can be repaired quickly. Significant damage could occur if the fault were to rupture at the surface, displacing the pipeline at the area of the surface rupture. The Elsinore fault, unlike many faults in the region, has never caused a recorded surface rupture.

MWD owns and operates its own pipeline fabrication facility and could construct and install the necessary repairs to their pipelines within a few weeks of any type of potential pipeline damage from the Elsinore fault.

Table C below includes an assessment of the reliability of water supply should a major earthquake occur on the Elsinore fault. Should such an unlikely event occur, it is likely that damage to MWD's pipelines would be mirrored in SDCWA's pipelines and even the District's own system. In such a catastrophic emergency, all of the District's customers would be put on emergency demand reduction programs that prohibit exterior irrigation. In this scenario, the District's demands are expected to drop to the 10-15 AF per day level. With several hundred acre feet in storage, and access to a supply of local water from the District's MOU with Fallbrook Public Utility District, the District is prepared to provide baseline supply for health and human safety for several weeks as repairs are completed on either MWD or SDCWA's pipeline systems.

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Table C District Cutbacks in a Catastrophic Emergency

SDCWA Emergency Level of Service Seismic Event on San Andreas, San Jacinto, Elsinore Faults	EMWD (Metropolitan) Emergency Level of Service Seismic Event on San Andreas, San Jacinto Faults	EMWD (Metropolitan) Emergency Level of Service Seismic Event on San Andreas, San Jacinto, Elsinore Faults
59%	75%	8%-75%***

****Assumes RMWD storage and MOU with FPUD for SMRCUP supplies meet health and safety needs set at indoor water use of 55 gpcd based on 2030 population and Total water demand. Also dependent on time to repair Metropolitan Facilities Southern Riverside*

CONCLUSIONS

Investments by SDCWA and its member agencies in its own imported and local water supplies has cushioned SDCWA from shortage in Metropolitan supplies. However, in Metropolitan's planning documents they are not forecasting shortages through 2040 based on assumptions of significant progress on resolving imported water conflicts and implementing more local supplies and conservation in the future. Although Metropolitan believes those goals are achievable SDCWA does not face the level of uncertainties in supply reliability or local projects implementation as Metropolitan. Therefore, SDCWA will maintain a higher level of reliability for its member agencies because they will benefit from Metropolitan's investments in reliability as well as their own and their member agencies.

Although this Report relied upon the approved 2015 updates of the UWMPs and Metropolitan's IRP to conduct the comparative reliability analysis, those plans will be updated in 2020 with new water demand forecasts. It is expected that continued decreases in water use and slower growth rates will be reflected in UWMPs throughout the MWD service area. These lower demand forecasts, along with continued local supply development, will reduce demand on imported water and strengthen the reliability of imported water supplies from MWD. This continued trend will likely reduce the margin of difference for RMWD in reliability as a member agency of EMWD and SDCWA.

The following summarizes the District's reliability during drought induced shortages as a member agency of EMWD based on Metropolitan's planned reliability and the experience of Metropolitan in the last two drought allocations compared to continued membership in SDCWA:

Normal years -	No impact
Short duration drought -	Equivalent based on Metropolitan planning documents to slightly better due to elimination of TSAWR
Long Duration drought -	Equivalent based on MWD planning to lesser reliability due to higher cutback levels based on Metropolitan recent maximum cutbacks allocated by WSAP or Preferential Rights
Catastrophic Emergency -	Slightly greater reliability based on elimination of TSAWR to lesser reliability for first 14 days if seismic event on Elsinore Fault occurs and disables Metropolitan's southern Riverside County facilities. Mitigated to some extent through District storage and Emergency Assistance MOU with FPUD

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ANALYSIS OF RMWD WATER SUPPLY RELIABIITY

BACKGROUND

The Rainbow Municipal Water District (RMWD) is a local governmental agency serving water and sanitation services to an unincorporated area of northern inland San Diego County in California. RMWD was formed in 1953 under the Municipal Water District Act of 1911 (Section 7100 et. seq. of the California Water Code). The District is responsible for providing water service to almost 8,200 metered accounts. Water supply is derived from the regional aqueduct systems owned and operated by the Metropolitan Water District of Southern California (Metropolitan) and the San Diego County Water Authority (SDCWA). The District is a retail supplier that currently depends entirely upon imported water purchased through SDCWA to service a small customer base within a very large agricultural water use area.

Filtered water is supplied from two MWD and SDCWA water aqueducts through a total of eight connections. MWD is the owner and operator of both Aqueducts from southern Riverside County to a Delivery Point approximately six miles into the San Diego County at which point SDCWA is the owner and operator of both Aqueducts. This joint ownership arrangement was memorialized in the annexation agreement that resulted in SDCWA becoming a Metropolitan member agency and was finalized in December 1946 (MWD Resolution 3612). Of the total of eight District connections to the Aqueduct 4 are on the MWD owned portion of the Aqueducts and the remaining are on the SDCWA owned aqueducts. One connection uses only 3000 feet of SDCWA pipeline. In recognition of this split ownership the District does not pay SDCWA's transportation charges for deliveries to connections on the Metropolitan owned portion of the pipelines. Flow Control Facilities(FCF) that deliver water into the District's distribution system are owned and maintained by SDCWA regardless of pipeline ownership.

The District's existing water distribution system consists of twelve major pressure zones. Water is stored in a total of 16 water tanks and reservoirs and is conveyed to the twelve major pressure zones utilizing seven potable water pump stations and over 30 pressure reducing stations. The existing distribution system has over 325 miles of pipelines 6-inches in diameter and larger. There are seven booster pump stations in the District's distribution system which pump water up to higher zones with storage reservoirs.

The District has interconnections with the City of Oceanside and Fallbrook Public Utility District (FPUD) because of their close proximity. These interconnections are used for emergency supply. RMWD and FPUD have an emergency exchange agreement, which was enacted in 1986 to transfer water in an emergency event. An MOU for local water resource development and emergency supply was approved in late 2019.

The District's consideration and evaluation of a change in wholesale agency membership would have no effect on existing water operations under normal operating conditions. If the District chose to take all its deliveries off of the MWD owned pipelines, it would require physical and

operational changes to how water is delivered to District customers. It is not within the scope of this analysis to evaluate the reliability or level of service under potentially changed operations of District facilities. District staff, along with a hydraulic modeling firm have generated a list of improvements required to facilitate operations after detachment.

Current District Wholesale Reliability

The District's current reliability is dictated by which class of service or water rate a customer pays. Customers that are considered Municipal and Industrial (M&I) by SDCWA receive the same amount of supplies in a shortage situation as any other M&I member agency. These customers' reliability is enhanced by SDCWA's separately owned supplies consisting of the Colorado River QSA supplies, All American and Coachella Canal lining water, the IID Water transfer and the Carlsbad Desalination Project. New water storage created through SDCWA's Emergency Storage and Carryover Storage Projects (ESP/CSP) and Central Valley groundwater banks also provide a buffer for M&I customers in emergency and other shortages. These supplies not only provide a reliability buffer to reduce the effect of shortages of Metropolitan's imported water supplies but under some circumstance could delay or even eliminate the need to allocate water to M&I customers. Similarly, during a declared emergency event, where imported water could be cut off from an earthquake north of San Diego County, District M&I customers would receive up to a 75% level of service through the Emergency Storage Program (ESP).

If a District customer pays the *Transitional Special Agricultural Water Rate* (TSAWR) they do not pay SDCWA's Storage or Supply Reliability Charges . In recognition of the lower price paid for water by TSAWR customers they do not receive a reliability benefit from QSA or Carlsbad desalination supplies during a shortage allocation and are cut at twice the level of M&I customers during an ESP event. In FY 2018 34% of District's customers were in the TSAWR and approximately 44% of water deliveries by volume are in the TSAWR program. Under the rules of that program, in a drought related shortage TSAWR customers receive the level of cutback SDCWA receives from MWD and, as noted above, a significantly reduced level of service in an emergency declared by the SDCWA Board. Metropolitan does not distinguish between M&I and agricultural customers considering all SDCWA deliveries M&I under normal and shortage allocation conditions[6].

The ultimate consequence of an unreliable water supply is the need for an allocation of water by the wholesale agency. Although the shortage allocation experienced by the District may vary depending on which wholesaler serves it and potentially other factors (State mandated conservation levels), the District's response to water shortages is considered to remain the same. Currently, RMWD ordinance 16-10 addresses the possible water shortage scenarios in

[6] Metropolitan previously had an agricultural class of service under the Interim Agricultural Water Program (IAWP) that received reduced deliveries under drought and shortage conditions but terminated that program and class of service in 2013.

conjunction with the SDCWA Water Shortage and Drought Management Plan. The sections within the ordinance discuss stages each with both Voluntary and Mandatory reduction of water usage.

District Drought Response (Ordinance 16-10)

The District Board of Directors adopted Ordinance 16-10 to guide its response to increasingly severe drought conditions. These requirements to manage impending or actual water shortages would continue to be in place whether the District remained a member agency of SDCWA or de-annexed and joined EMWD.

There are 4 different stages of water shortage scenarios within Ordinance 16-10. Each stage has specific instructions for various water uses to be prohibited or to be restricted. Drought Response Level 1 is for periods when RMWD is notified that due to drought or other supply reductions, there is a reasonable probability there will be supply shortages or if the State Water Resources Control Board adopts regulations that places restrictions on certain end uses of water. Public outreach and conservation practices are promoted during Drought Response Level 1, and if the SWRCB adopts water use restrictions the following types of uses are prohibited:

1. Irrigation with potable water that results in excessive runoff
2. Use of a hose without a shutoff nozzle
3. Using potable water on driveways and sidewalks
4. Non recirculating decorative fountains
5. Outdoor irrigation within 48 hours of measurable rainfall
6. Serving of drinking water at restaurants unless requested
7. Irrigation of decorative turd on public street medians
8. Irrigation of landscapes in newly constructed buildings and homes inconsistent with state regulations and requirements

For Drought Response Levels 2-4, Level 1 restrictions continue to apply and there are increasingly restrictive measures on water use that can result in civil or criminal penalties if not complied with. These restrictions include limited number and days of irrigation, vehicle washing at commercial establishments using water recycling systems, establishment of customer allocations and under a Level 4 Drought emergency cessation of all outdoor irrigation except for crops.

For agricultural customers participating in the TSAWR program, the requirements are specified in that program. For instance, the water reductions contained in the District's ordinance are not in addition to any mandatory reductions which may apply to a participant in the TSAWR, unless expressly stated in the TSAWR. Violations of the conditions of special supply programs are subject to the penalties established under the applicable program. A person using water subject

to a special supply program and other water provided by the RMWD is subject to this ordinance in the use of the other water.

Enforcement and Penalties

Each stage of the water shortage plan has specific prohibitions, penalties and consumption reduction methods. Section 5.1 discussed the consumption reduction and water use prohibitions. The violation of ordinance 08-01, covered under section 5, is a misdemeanor pursuant to sections 350-358, 375-377 and 71640-71644 of California Water Code and punishable by imprisonment in the county jail for not more than 30 days or a fine not to exceed $1000 or both. Each day that a violation of this ordinance occurs is a separate offense. Administrative fines may be levied for each violation of a provision of this ordinance as follows:

1. One hundred dollars for a first violation.

2. Five hundred dollars for each additional violation of this ordinance within one year of the first violation.

Violation of a provision of this ordinance is subject to enforcement through installation of a flow-restricting device in the meter.

DETERMINING DISTRICT RELIABILITY

The intent of this analysis is to evaluate the District's supply reliability as a continued member agency of SDCWA or as a member agency of EMWD. It is assumed the District will continue to address retail level shortages under current Board policy Ordinance 16-10 irrespective of which wholesale agency it purchases water from.

This analysis of supply reliability will focus on the water wholesaler's ability to meet:

- Normal weather year water demand
- Dry weather year water demand
- non-drought year emergency water service

Reliability as A SDCWA Member Agency

As a member agency of SDCWA the District relies on SDCWA's statutory obligation (County Water Authority Act § 45-5.11) to:

> "*as far as practicable, shall provide each of its member agencies with adequate supplies of water to meet their expanding and increasing needs. If available supplies become inadequate to fully meet the needs of its member agencies, the board shall adopt*

reasonable rules, regulations, and restrictions so that the available supplies are allocated among its member agencies for the greatest public interest and benefit."[7]

As noted above, the District has two customer classes that receive two different levels of reliability in either a drought or catastrophic emergency related shortages; M&I and TSAWR. An evaluation of reliability as a SDCWA member agency and its comparison to membership in EMWD must take those differences into account separately and then evaluate on the basis of the combined level of reliability for all customers.

The District analyzes its reliability as a SDCWA member agency every five years through its update and adoption of an Urban Water Management Plan (UWMP) as mandated by the state under the *Urban Water Management Plan Act*.

Reliability and availability of supply in quantities that meet the needs of retail customers is due to:

1. weather related conditions and/or regulatory constraints
2. failure or insufficiency of infrastructure

This analysis will primarily focus on the hydrologic and/or regulatory constraints on available supply and will discuss more briefly District reliability for infrastructure related shortages as it relates to catastrophic emergency events that result in failure of the imported water delivery system as contemplated under SDCWA's Emergency Storage Program (ESP).

The Importance of Urban Water Management Plans

The Urban Water Management Plan (UWMP) Act requires agencies with more than 3,000 AF of water demand or serving more than 3,000 connections to prepare an UWMP. The UWMP requires the estimation of water demand and the supplies that will serve that demand for a 25 year planning horizon under normal weather and dry weather conditions. In its 2015 UWMP, SDCWA identified on a regional scale its water supply demand balance under normal weather and single and multiple dry year weather conditions. The results are provided in the below excerpted tables:

[7] In December 1952, the Metropolitan Board adopted the Laguna Declaration, which stated "*The District is prepared, with its existing governmental powers and its present and projected distribution facilities, to provide its service area with adequate supplies of water to meet expanding and increasing needs in the years ahead. When and as additional water resources are required to meet increasing needs for domestic, industrial and municipal water, the District will be prepared to deliver such supplies.*" (Section 4202 (a). MWD Administrative Code)

Table 9-1. Normal Water Year Supply and Demand Assessment (AF/YR) [1]

	2020	2025	2030	2035	2040
WATER AUTHORITY SUPPLIES					
IID Water Transfer	190,000	200,000	200,000	200,000	200,000
ACC and CC Lining Projects	80,200	80,200	80,200	80,200	80,200
Carlsbad Desalination Plant	50,000	50,000	50,000	50,000	50,000
Sub-Total	**320,200**	**330,200**	**330,200**	**330,200**	**330,200**
MEMBER AGENCY SUPPLIES (VERIFIABLE SUPPLIES)					
Surface Water	51,580	51,480	51,380	51,280	51,180
Water Recycling	40,459	43,674	45,758	46,118	46,858
Seawater Desalination	6,000	6,000	6,000	6,000	6,000
Potable Reuse	3,300	3,300	3,300	3,300	3,300
Brackish GW Recovery	12,100	12,500	12,500	12,500	12,500
Groundwater	17,940	19,130	20,170	20,170	20,170
Sub-Total	**131,379**	**136,084**	**139,108**	**139,368**	**140,008**
METROPOLITAN WATER DISTRICT SUPPLIES	136,002	181,840	207,413	224,863	248,565
Total Projected Supplies	**587,581**	**648,124**	**676,721**	**694,431**	**718,773**
Total Demands with Water Efficiency Savings	587,581	648,124	676,721	694,431	718,773

[1] Normal water year demands based on 1960 – 2013 hydrology.

Source: SDCWA 2015 Urban Water Management Plan, June 2016

Table 9-1 above indicates that under normal weather conditions SDCWA is projecting to meet all the demands of its member agencies. This is the same assumption contained in the District's 2015 UWMP Table 7-2.

Table 7-2: Normal Year Supply and Demand Comparison

	2020	2025	2030	2035	2040
Supply totals (AF)	20,810	20,820	20,830	20,850	20,660
Demand totals (AF)	20,810	20,820	20,830	20,850	20,660
Deficit (AF)	**0**	**0**	**0**	**0**	**0**
% of Demands	**0%**	**0%**	**0%**	**0%**	**0%**

Source: RMWD 2015 Urban Water Management Plan, June 2016

Wholesale water shortages related to hydrologic constraints have been experienced by the SDCWA and the District on three occasions in the past 28 years; 1991-1992, 2009-2011 and 2015-2016. In all these occasions shortages in imported water deliveries from Metropolitan to SDCWA resulted in allocations of water to the District. Metropolitan and SDCWA have adopted

Table 9-2. Single Dry Water Year Supply and Demand Assessment
Five Year Increments (AF/YR)

	2020	2025	2030	2035	2040
WATER AUTHORITY SUPPLIES					
IID Water Transfer	190,000	200,000	200,000	200,000	200,000
ACC and CC Lining Projects	80,200	80,200	80,200	80,200	80,200
Carlsbad Desalination Plant	50,000	50,000	50,000	50,000	50,000
Sub-Total	**320,200**	**330,200**	**330,200**	**330,200**	**330,200**
MEMBER AGENCY SUPPLIES [1]					
Surface Water	6,004	6,004	6,004	6,004	6,004
Water Recycling	40,459	43,674	45,758	46,118	46,858
Seawater Desalination	6,000	6,000	6,000	6,000	6,000
Potable Reuse	3,300	3,300	3,300	3,300	3,300
Brackish GW Recovery	12,100	12,500	12,500	12,500	12,500
Groundwater	15,281	15,281	15,281	15,281	15,281
Sub-Total	**83,144**	**86,759**	**88,843**	**89,203**	**89,943**
METROPOLITAN WATER DISTRICT SUPPLIES	263,340	264,740	263,340	260,680	258,720
Total Projected Supplies without Storage Takes	**666,684**	**681,699**	**682,383**	**680,083**	**678,863**
Total Demands with Water Efficiency Savings	629,198	694,147	725,006	743,990	770,765
Potential Supply (Shortage) or Surplus	37,486	(12,448)	(42,623)	(63,907)	(91,902)
Utilization of Carryover Supplies	0	12,448	42,623	40,000	40,000
Total Projected Core Supplies with Utilization of Carryover Storage Supplies	**666,684**	**694,147**	**725,006**	**720,083**	**718,863**
Remaining Potential Surplus Supply, or (Shortage) that will be handled through Management Actions	37,486	0	0	(23,907)	(51,902)

[1] Member agency local supplies include verifiable recycling and brackish groundwater, as well as dry-year estimates for surface water and groundwater.

Source: SDCWA 2015 Urban Water Management Plan, June 2016

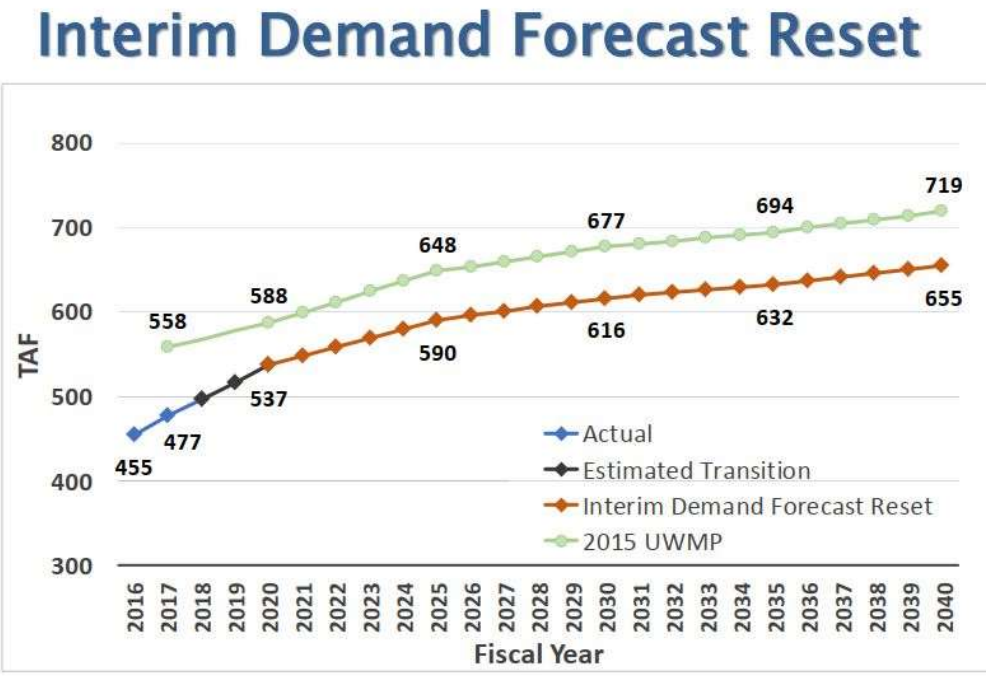
detailed water shortage allocation methodologies to allocate water to their respective member agencies that will be discussed in later sections of this Report.

Under single and multiple dry years SDCWA forecasts shortages beginning in 2035 and increasing in 2040 under the single Dry Year analysis (Table 9-2). Shortages can occur by 2035 more than doubling in 2040. This is due to a combination of increasing water demands and shortages of dry year imported water deliveries by Metropolitan.

In 2018 SDCWA staff released a revised forecast of projected demand (Interim Demand Reset) that lowered the forecast of total consumptive water demand in the region and also assumed inclusion of significantly higher amounts of local projects being implemented by its member agencies than in the verifiable supplies mix. This resulted in in a reduced demand on Metropolitan for imported supplies to as low as 10,000 AF by 2035. **Figure 1** shows the drop in

consumptive demand from the 2015 UWMP and the increase assumption on local supply availability from the verifiable resource mix in Table 9-2 above.

Figure 1



Source: SDCWA Presentation to Member Agency Managers February 13, 2018

Along with the drop in consumptive water use of approximately 60,000 AF or 9% by 2040 SDCWA's Interim Demand Reset also assumed much greater availability of new local water supplies. Table 10-4 is from the Scenario Planning Chapter of SDCWA's 2015 UWMP which looks at management actions the region could take if assumptions on imported supply or other variables are worse than assumed in the official UWMP Reliability Analyses contained in the 9-2 Tables. The use of additional planned projects in Table 10-4 along with the reduction of consumptive water use in Figure 1 combines to lower the amount of Metropolitan water needed by SDCWA to 10,000 AF in 2035 and improves reliability in the face of further uncertainties in imported water availability.

Table 10-4. Potential Strategies to Manage Uncertainty Scenarios (2035)

POTENTIAL STRATEGY	ESTIMATED YIELD (AF)
MEMBER AGENCY VERIFIABLE LOCAL PROJECTS (PLANNED) [1]	**29,520**
MEMBER AGENCY POTENTIAL ADDITIONAL PLANNED LOCAL PROJECTS [2]	
Potable Reuse	106,099
Additional Planned Recycled Water and Brackish Groundwater	10,926
Fallbrook PUD/MCB Camp Pendleton Groundwater Recharge and Recovery Project	3,100
Otay WD Rosarito Beach Desalination Project	16,100
Total Additional Planned Local Projects (Member Agencies)	**136,225**
WATER AUTHORITY POTENTIAL STRATEGIES	
Carlsbad Desalination Plant Additional Capacity	5,600
Potential Regional Seawater Desalination Facility (MCB Camp Pendleton Phase I) [3]	56,000
Regional Shortage Management Actions (Dry-year transfers and potential extraordinary conservation savings)	--- [4]
Total Minimum Estimated Yield from Potential Strategies	**227,345**

[1] Potential strategy for Scenario 3. Yields from verifiable local supply planned projects were not included in the 2035 Scenario 3 planning assessment (yields remained at 2015 levels), and are therefore included as strategies to address potential uncertainties of water supply sources for Scenario 3.

[2] The estimated yields from the additional planned local supply projects are from the member agencies, and the development and implementation of these supplies rest with the member agencies.

[3] Ultimate decision to move forward on construction of the proposed MCB Camp Pendleton desalination project would be considered in context of the development of member agency local supplies, such as potable reuse, changes in imported supply reliability, and regional water demand levels.

[4] Availability of dry-year supplies is described in Section 11.2.4.

Source: SDCWA 2015 Urban Water Management Plan, June 2016

It is unclear how SDCWA is using the Interim Demand Reset for its long-term reliability and financial planning. The analysis of District reliability is based on the official SDCWA Board adopted 2015 UWMP and the assumptions on demand and local supply contained in that document. The implementation of 136,000 AF in additional member agency projects would have its greatest impact on the District and other member agencies that are more dependent on SDCWA as the rate base to spread costs across would diminish significantly. The implications of the Demand Reset Analysis are discussed in further detail below.

As noted in Table 9-5 below, in multiple dry years SDCWA begins to experience shortages in Metropolitan supplies beginning in 2028. Tables 9-6 and 9-7 show that in the later years analyzed in its 2015 UWMP multiple dry years result in increasing amounts of shortage due to primarily increased demand for water from growth.

Table 9-5. Multiple Dry Water Year Supply and Demand Assessment
Five-Year Increments (AF/YR) – 2026-2028

	2026	2027	2028
Member Agency Supplies [1]	127,941	105,048	88,009
Water Authority Supplies	330,200	330,200	330,200
Metropolitan Allocation (Preferential Right)	264,600	245,570	226,440
Total Estimated Core Supplies w/o Storage Takes	**722,741**	**680,818**	**644,649**
Total Demands w/ Water Efficiency Savings	699,895	706,894	713,963
Potential Supply (Shortage) or Surplus (Difference between Supplies and Demands)	22,846	(26,076)	(69,314)
Utilization of Carryover Supplies	0	26,076	40,000
Total Projected Core Supplies w/ Utilization of Carryover Storage Supplies	**722,741**	**706,894**	**684,649**
Remaining Potential Surplus Supply, or (Shortage) that will be handled through Management Actions	22,846	0	(29,314)

[1] Member agency local supplies include verifiable recycling and brackish groundwater, as well as dry-year estimates for surface water and groundwater.

Source: SDCWA 2015 Urban Water Management Plan, June 2016

Even with the shortages identified in SDCWA's 2015 UWMP as occurring over multiple dry years, cutbacks to M&I customers would not exceed 10% until 2038 and in most years identified as a shortage would range between 2% and 7% [8]. This is due to a combination of more reliable local and imported supplies provided by the Water Authority and local supplies implemented by member agencies which reduce demand for less reliable imported water from Metropolitan.

[8] Shortage identified in SDCWA 2015 UWMP divided by forecast demand on SDCWA supplies in the shortage years

Table 9-6. Multiple Dry Water Year Supply and Demand Assessment Five-Year Increments (AF/YR) – 2031-2033

	2031	2032	2033
Member Agency Supplies [1]	129,680	106,442	89,059
Water Authority Supplies	330,200	330,200	330,200
Metropolitan Allocation (Preferential Right)	262,780	243,490	224,280
Total Estimated Core Supplies w/o Storage Takes	**722,660**	**680,132**	**643,539**
Total Demands w/ Water Efficiency Savings	728,330	735,613	742,969
Potential Supply (Shortage) or Surplus (Difference between Supplies and Demands)	(5,670)	(55,481)	(99,430)
Utilization of Carryover Supplies	5,670	40,000	40,000
Total Projected Core Supplies w/ Utilization of Carryover Storage Supplies	**728,330**	**720,132**	**683,539**
Remaining Potential Surplus Supply, or (Shortage) that will be handled through Management Actions	0	(15,481)	(59,430)

[1] Member agency local supplies include verifiable recycling and brackish groundwater, as well as dry-year estimates for surface water and groundwater.

Source: SDCWA 2015 Urban Water Management Plan, June 2016

Table 9-7. Multiple Dry Water Year Supply and Demand Assessment Five-Year Increments (AF/YR) – 2036-2038

	2036	2037	2038
Member Agency Supplies [1]	130,116	106,954	89,647
Water Authority Supplies	330,200	330,200	330,200
Metropolitan Allocation (Preferential Right)	260,260	241,410	222,480
Total Estimated Core Supplies w/o Storage Takes	**720,576**	**678,564**	**642,327**
Total Demands w/ Water Efficiency Savings	749,030	756,521	764,086
Potential Supply (Shortage) or Surplus (Difference between Supplies and Demands)	(28,454)	(77,957)	(121,759)
Utilization of Carryover Supplies	28,454	40,000	40,000
Total Projected Core Supplies w/ Utilization of Carryover Storage Supplies	**749,030**	**718,564**	**682,327**
Remaining Potential Surplus Supply, or (Shortage) that will be handled through Management Actions	0	(37,957)	(81,759)

[1] Member agency local supplies include verifiable recycling and brackish groundwater, as well as dry-year estimates for surface water and groundwater.

Source: SDCWA 2015 Urban Water Management Plan, June 2016

SDCWA UWMP Assumptions on Local Supplies and MWD Shortage Allocation

There are three key assumptions in SDCWA's UWMP that can affect the results of its Dry Year analysis:

1. Implementation of additional local recycling and groundwater projects
2. The development of a revised "Demand Reset" analysis that lowered SDCWA demand on and Metropolitan supplies below 2015 UWMP estimates
3. In a Metropolitan declared shortage SDCWA will receive its Preferential Right to MWD water.

Future Local Project Implementation

Member Agency local supplies included in the SDCWA 2015 UWMP analysis of Dry Year reliability include what are termed *"verifiable projects"*. Verifiable Projects are future supply projects that can demonstrate based on substantial evidence that the projects are proceeding, and the supply can be expected to be available. Projects being planned by member agencies or considered to be at a conceptual level are not included. If those planned or conceptual projects are implemented along with the Verifiable projects, there may be more than assumed in the SDCWA 2015 UWMP Dry Year analysis. Although some verifiable projects have not yet been implemented, it is a reasonable assumption for SDCWA to include them in its 2015 UWMP dry year analysis.

Shortage Allocation by Preferential Right

The assumption that SDCWA's Preferential Right to MWD water will be the basis of its Metropolitan supply shortage allocation requires certain caveats. Preferential Rights, or Article 135 of the MWD Act, provides a member agency a right to available Metropolitan water in an amount equal to its pro rata share of total historical payments to Metropolitan excluding the purchase of water[9]. On the three occasions in the last 28 years that Metropolitan has allocated water to its member agencies (1991-1992, 2010-2011, 2015-2016), Preferential Rights has not been invoked or used as the method to allocate water.

The Water Shortage Allocation Plan (WSAP) approved by the Metropolitan Board has been the methodology used to allocate water and is based on a combination of an agency's demand on Metropolitan, its total retail demand and other factors such as water conservation and population growth. Historically, SDCWA reliance on Metropolitan supplies has exceeded its Preferential Right and assuming a Preferential Right allocation was a worst-case planning scenario. With the ramp-up of the QSA supplies, Carlsbad Desalination and increasing member

[9] In January 2001 SDCWA filed suit against Metropolitan challenging the calculation of Preferential Rights in that SDCWA financial contribution including water purchases which were excluded in Section 135 were much higher than its Preferential Right. After superior and appellate rulings in favor of Metropolitan SDCWA appealed to the California Supreme Court which in 2002 upheld the validity of the Preferential Rights calculation.

agency local supply projects SDCWA's percent reliance on MWD will be significantly less than its Preferential Right percentage.

That differential increased even more with the recent California Court of Appeal decision in *SDCWA v MWD* rate litigation where the Court ordered Metropolitan to add certain wheeling charges paid by SDCWA for QSA supply transportation to its calculation of Preferential Rights. As a result of the Court of Appeals decision, SDCWA's Preferential Right to Metropolitan's available supplies is currently 23% while it constitutes less than 15% of total MWD deliveries and will continue to reduce those deliveries to less than 10% of total Metropolitan deliveries over the next 15 years [10.]

The assumption that SDCWA's Board of Directors will invoke its Preferential Right or that a future Metropolitan Board will use Preferential Rights as the method to allocate water is speculative and in conflict with past practice and previous litigation by SDCWA against Metropolitan and the legality of Preferential Rights. It may be more likely that Metropolitan's Water Shortage Allocation Plan (WSAP) or a future version of that allocation methodology based on the need for Metropolitan water will be used when the next dry year shortage in Metropolitan supplies occurs. It is likely with the use of a need based shortage allocation under Metropolitan's WSAP that cutbacks to SDCWA will be larger than assumed in the SDCWA 2015 UWMP.

These larger cutbacks may be somewhat mitigated by the fact that in SDCWA's analysis they use an historically low 1.4 MAF of available MWD water in a single dry year and in the three multiple dry years' scenarios use 1.4 MAF, 1.3 MAF and 1.2 MAF as available Metropolitan supplies to apply their Preferential Right percentage. If Metropolitan's available supplies are more than assumed by SDCWA then a WSAP allocation may be closer to the assumption and allocation by Metropolitan used in SDCWA's 2015 UWMP.

2018 Demand Reset Analysis

As discussed above, in 2018 SDCWA released a revised 2035 Demand forecast that differed from the 2015 UWMP. The Demand Reset both lowered total demand in 2035 by 9% but included Additional Planned local projects by member agencies. The 9% reduction in demand resulted in SDCWA needing only 10,000 AF in Metropolitan supplies in 2035. The inclusion of Additional Planned projects adds 136,000 AF or over an 100% increase in available new local supplies over the estimate of verifiable only contained in the 2015 UWMP. These additional planned projects include both Phases of the City of San Diego's Pure Water project and East County Advanced Water Purification Project, to recycling and groundwater projects in north County and Otay Water District's participation in a binational seawater desalination Plant in Rosarito Beach, Baja California, Mexico. To the extent some or all of these projects are implemented in the region, SDCWA's supplies will be more reliable. The reduction in SDCWA's

[10] FY 2018 MWD deliveries less QSA Supplies compared to Total MWD Deliveries FY 2018 less QSA supplies

deliveries from Metropolitan under the 2018 Interim Demand Reset will increase the disparity between SDCWA's need for Metropolitan water (less than 1% of total Metropolitan supplies in 2035) and its Preferential Right (24.22%).

SDCWA Drought Shortage Allocation Methodology

SDCWA's Water Shortage & Drought Response Plan (WSDRP) details its policies and procedures for drought and shortage management. The Shortage allocation methodology is included in the WSDRP Plan and has separate methods for allocating water to member agencies M&I users and TSAWR participants.

M&I Cutbacks

M&I shortage allocations are based on a member agency's three year average of SDCWA deliveries prior to the activation of the WSDRP. The base period is adjusted upwards for conservation, population growth, loss of local supply and highly reliable local supply implementations e.g.; water recycling, brackish groundwater recovery and seawater desalination. A final adjustment upwards is made if SDCWA cutbacks reach or exceeds 20% [11]. A *Retail Reliability Adjustment* is made for member agencies to ensure that their total Level of Service is within 5% of the regional average. For example, if the region wide cutback level for M&I is 10% any individual member agency will not experience a greater than 15% shortage.

TSAWR Cutbacks

TSAWR is allocated through a separate methodology that also establishes a Base Period previous to the allocation period for average deliveries to TSAWR customers. Each individual agency has a pro rata share of the total base period TSAWR deliveries. TSAWR supplies are set aside form SDCWA's allocation of water from Metropolitan based on the cutback percentage established by Metropolitan. If Metropolitan's cutback is 15% then SDCWA reduces the Base Period TSAWR demand by 15% and sets that amount of MWD aside. The member agency's pro-rata percentage of the total Base Period TSAWR deliveries is then applied to the available TSAWR supplies. That is the member agency's TSAWR allocation. TSAWR customers do not benefit from any of SDCWA's QSA or desalinated supplies and do not receive any water from Carry Over Storage or any water transfers SDCWA may acquire.

[11] There has been discussion based on recent allocation experience of lowering the shortage percentage for the Retail Reliability Analysis. This analysis assumes that the Retail Reliability Adjustment can be utilized at any level of cutback

RMWD Reliability Planning

The main test of reliability as a member agency of SDCWA or EMWD is the result it has on District customers. The District's 2015 UWMP analyzed its Dry Year reliability based on SDCWA's regional reliability analysis and how shortage allocation would impact the District. Tables 7-3 and Tables 7-4 from the 2015 UWMP illustrate the results. In the District's analysis, it was assumed that a dry year increase in demand would result in a minimum 15% cutback to TSAWR deliveries. That is a more conservative assumption than contained in SDCWA's Dry Year analyses.

Table 7-3: Single Dry Year Supply and Demand Comparison

	2020	2025	2030	2035	2040
Demand totals	22,188	22,296	22,321	22,459	22,188
Supply totals	21,362	20,849	20,753	20,915	21,362
Deficit (AF)	**826**		**1,568**	**1,544**	**826**
% of Demands	**4%**	**6%**	**7%**	**7%**	**4%**

Notes: Same as first year of Multiple Dry Year analysis from Table 7-4, per Water Authority supply allocation policy. Assumes dry-year increase in demands. Assumes minimum 15 percent reduction in TSAWR program deliveries

Table 7-4: Multiple Dry Years Supply and Demand Comparison

		2020-22	2025-27	2030-32	2035-37
First year	Demand totals (AF)	22,188	22,296	22,321	22,459
	Supply totals (AF)	21,362	20,849	20,753	20,915
	Deficit (AF)	**826**	**1,447**	**1,568**	**1,544**
	% of Demands	**4%**	**6%**	**7%**	**7%**
Second year	Demand totals	22,051	22,372	22,418	22,516
	Supply totals	21,105	20,476	20,894	21,224
	Deficit (AF)	**946**	**1,896**	**1,524**	**1,292**
	% of Demands	**4%**	**8%**	**7%**	**6%**
Third year	Demand totals	21,922	22,449	22,516	22,573
	Supply totals	20,868	20,745	20,724	20,670
	Deficit (AF)	**1,054**	**1,704**	**1,792**	**1,903**
	% of Demands	**5%**	**8%**	**8%**	**8%**

Notes: Per Water Authority supply allocation policy. Assumes dry-year increase in demands. Assumes minimum 15 percent reduction in TSAWR program deliveries.

Potential RMWD Local Supply Projects

As a SDCWA member agency, one of the biggest factors affecting retail level reliability is the availability of local supplies to the member agency. Local supplies reduce a demand on SDCWA and under the SDCWA shortage allocation methodology receive additional water if they are a highly reliable supply e.g. recycled water, brackish or seawater desalination.

Currently the District does not own or use local water as a source of its municipal supply. In its Board approved 2015 Urban water Management Plan (June 2016) (UWMP) the District did identify conceptual projects it was considering that could provide up to 2,500 AFY of reliable local supplies from recycled water and recovered brackish groundwater. Table 6-7C from the 2015 UWMP provides the specific details. Since the completion of the District's 2015 UWMP its been determined that the *Rainbow Recycled Water Project Expansion* is not considered feasible or cost effective due to the excessive cost for distribution pipelines to convey non potable recycled water to irrigators. The District is still evaluating the feasibility and cost effectiveness of *Bonsall Groundwater Desalter Expansion*.

Table 6-7C: Additional Conceptual Future Water Supply Projects

Name of Future Projects or Programs	Joint Project with other agencies?	Description	Conceptual Implementation Year	Planned for Use in Year Type	Conceptual Supply (AF/yr.)
Rainbow Recycled Water Project Expansion	No	Possible expansion of Planned project	2025 to 2030	All (baseline supply)	500
Bonsall Groundwater Desalter Expansion	No	Possible expansion of Planned project	2025 to 2035	All (baseline supply)	2,000
TOTAL:					**2,500**

NOTES: Only "Conceptual" projects are included. Conceptual projects are those project concepts that have not been subject to formal study or that have significant uncertainties or obstacles to implementation. This table is not part of the official DWR UWMP table set and is presented as supplemental information only
Source: RMWD 2015 Urban Water Management Plan (June 2016)

The District classified these supplies as *"Conceptual"* which means that they are not used in any of the required reliability analyses contained in the District's or SDCWA's UWMPs. If implemented local supplies would enhance the reliability of the District' supplies during a shortage and would decrease or eliminate the estimated shortfalls contained in Tables 7-3 and 7-4 above.

Reliability in an Emergency

Assessing the District's reliability in a catastrophic emergency where imported water is cutoff requires a different analysis than dry year drought induced shortages. SDCWA's Emergency Storage Project (ESP) is designed to address a catastrophic failure of the imported water system in the event of a major earthquake under two major scenarios.

- 2 month emergency: no imported water available due to a major seismic event on the Elsinore Fault in southern Riverside County that results in a failure of Metropolitan's conveyance and treatment facilities and an inability to supply imported water to San Diego County. ***Note: MWD's emergency planning documentation does not forecast a two month outage due to the Elsinore fault in any scenario. MWD's longest forecast outage is two weeks.***
- 6 month emergency : partial availability of imported water due to a major seismic event on the San Andreas and/or the San Jacinto Faults that results in loss of imported water supplies. Metropolitan is still able to convey and treat stored water through its southern Riverside County facilities.

Figure 3 below identifies the location the earthquake faults that could impact the delivery of imported water into San Diego County.

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Figure 3

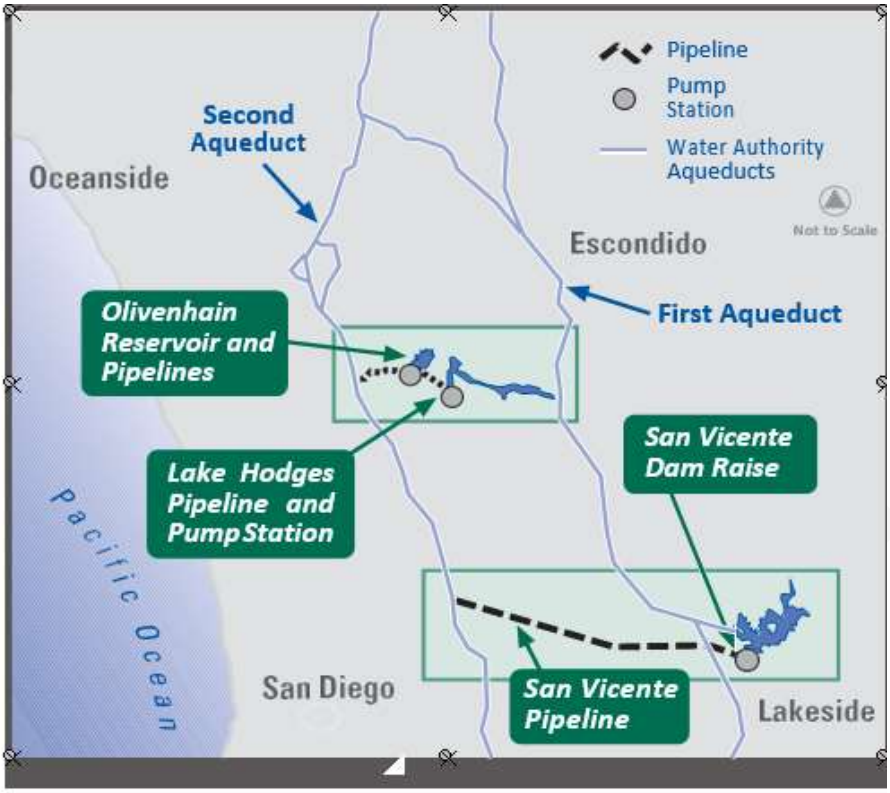
Earthquake faults in Southern California could damage pipelines that deliver imported water to the San Diego region.

Source: SDCWA Emergency & Carryover Storage Fact Sheet , March 2019

The ESP consists of pipelines, pump stations and new and existing surface storage reservoirs capable of storing up to 90,000 AF of emergency supplies. the ESP was designed to provide up to a 75% level of service to Municipal & Industrial customers for either the 2-month or 6-month catastrophic emergency condition. As originally planned the ESP would deliver untreated water to agencies north of Olivenhain Dam. Subsequently, SDCWA built the Twin Oaks Valley Water Treatment Plant (TOVWTP) which is capable of supplying treated water to member agencies south of the plant. Currently SDCWA cannot supply the required treated water in an emergency condition from TOVWTP. District staff is working with SDCWA staff to build a North County pump station capable of supplying treated water to the District in the event Metropolitan's Skinner Plant is unable to deliver water to the District. It is estimated that pumping of treated water from TOVWTP to the District will not be available until at least 2025. SDCWA placed the project on hold in 2019 when RMWD and FPUD signaled an intent to explore annexation into EMWD. Only planning level work – no design work – has been completed on the project since it was identified as being needed in 1996.

Figure 4 below identifies the major storage and conveyance facilities associated with the ESP.

Figure 4



Source: SDCWA Emergency & Carryover Storage Fact Sheet , March 2019

In such an event the SDCWA Board of Directors would declare an emergency and supplies would be allocated from ESP facilities to augment member agencies level of service to at least 75% of calculated need. Level of need is based on a member agency's demand for water during the emergency and the amount of local supplies available to them. A member agency without its own local supplies would receive the highest proportion of ESP water. SDCWA's 2013 Emergency Water Delivery Plan provides the following general approach to an allocation under a catastrophic emergency. Note that in Step 9 of the procedure, member agencies with TSAWR customers receive a lower level of service from the ESP.

The following general procedure from the January 2013 Emergency Water Delivery Plans shows the methodology for calculating the allocation of ESP supplies to member agencies in a prolonged outage situation without imported supplies:

1. Define the water storage and conveyance facility infrastructure that would be in place at the time of the emergency event in order to estimate duration of emergency (that is, time needed to repair damaged pipelines and/or infrastructure).
2. Determine the total demand of each member agency during the emergency, considering both M&I and agricultural demands.
3. Determine the net demand of each member agency, considering the availability of recycled water supplies.
4. Determine the local supplies available to each member agency from groundwater and surface water storage.
5. Determine the amount of local water that could be transferred within City of San Diego service areas, and between member agencies.
6. Determine the amount of Carlsbad Desalination Plant supplies that could be delivered to member agencies.
7. Determine the amount of imported water supplies from Metropolitan available to deliver to member agencies.
8. Allocate ESP supplies in Olivenhain, Lake Hodges, and San Vicente Reservoirs to each member agency to achieve an initial level of service of 75 percent, considering other supplies available to each member agency as described above and taking into account limitations of delivery facilities.
9. Determine reductions in member agency deliveries due to the influence of the Water Authority's TSAWR program. The cutback rate for TSAWR customers is twice the rate imposed on Water Authority M&I customers, up to a 90 percent cutback. Reductions in deliveries that arise from such a cutback would be reallocated to commercial and industrial customers.
10. Determine increases in member agency deliveries due to redistribution of the emergency water not delivered to member agencies as a result of the TSAWR program.
11. Determine net Water Authority deliveries to member agencies from all water supply sources available to the Water Authority, consisting of Carlsbad Desalination Plant supplies, imported water supplies from Metropolitan, and ESP

Source: SDCWA 2015 Urban Water Management Plan, June 2016

M&I Emergency Deliveries

In the case of a prolonged cutoff of the imported water system the District can assume a 75% level of service for its M&I customers.

TSAWR Emergency Deliveries

In the case of a prolonged cutoff of the imported water system the District can assume an approximately 35-40% level of service for its TSAWR customers. Because of its lower priority of service cutbacks to TSAWR agricultural users may be even greater.

District Supply Reliability as a Member Agency of EMWD

District Reliability is Based on Metropolitan Reliability

Under the terms of annexation being explored with EMWD the District would not receive any of EMWD local supplies or stored water in either normal or dry weather conditions. As contemplated in a potential annexation, the District would receive imported water through EMWD supplied by Metropolitan. Because of that arrangement, the District would be entirely dependent on the reliability and availability of Metropolitan supplies.

In evaluating Metropolitan supply reliability there are three foundational planning documents that provide the basis for reliability; the *2015 Integrated Resources Plan (IRP),* the *Water Surplus and Drought Management (WSDM) Plan* and the *2015 Regional Urban Water Management Plan(RUWMP)*. Metropolitan's primary planning process for determining its long-term strategy for meeting the reliability needs of its member agencies and sub agencies is periodic updates of the IRP. First developed in 1995, Metropolitan's IRP lays out the regional strategy of improving reliability of imported supplies, utilizing in region and out of region storage and increasing supply diversification through the development of reliable local supplies and water conservation. This is the fundamental strategy Metropolitan has employed since the first IRP in 1995 and continues to be reflected in its most current water supply planning documents.

2015 IRP UPDATE [12]

In its 2015 IRP Update, Metropolitan continued to stay committed to its reliability strategy of supply diversification and water storage. Metropolitan has developed dry-year storage with a capacity of more than 5.5 million acre feet to manage water supplies for both surplus and shortage conditions. Metropolitan owned storage consists of the 800,000 Acre foot Diamond Valley Reservoir in southern Riverside County, storage capacity in other Metropolitan owned and other state and federal surface reservoirs as well as groundwater storage within Southern California and in the Central Valley.

The following examples are Metropolitan surface water storage identified in the IRP

[12] First IRP was adopted in 1996 and first updated in 2010. This is the second update to the 1996 IRP

SURFACE WATER RESERVOIRS

- Diamond Valley Lake (810,000 acre-feet)
- SWP Article 56 Carryover Storage (up to 200,000 acre-feet)
- Flexible Storage in Castaic Lake and Lake Perris (219,000 acre-feet)
- Intentionally Created Surplus in Lake Mead (1.5 million acre-feet)

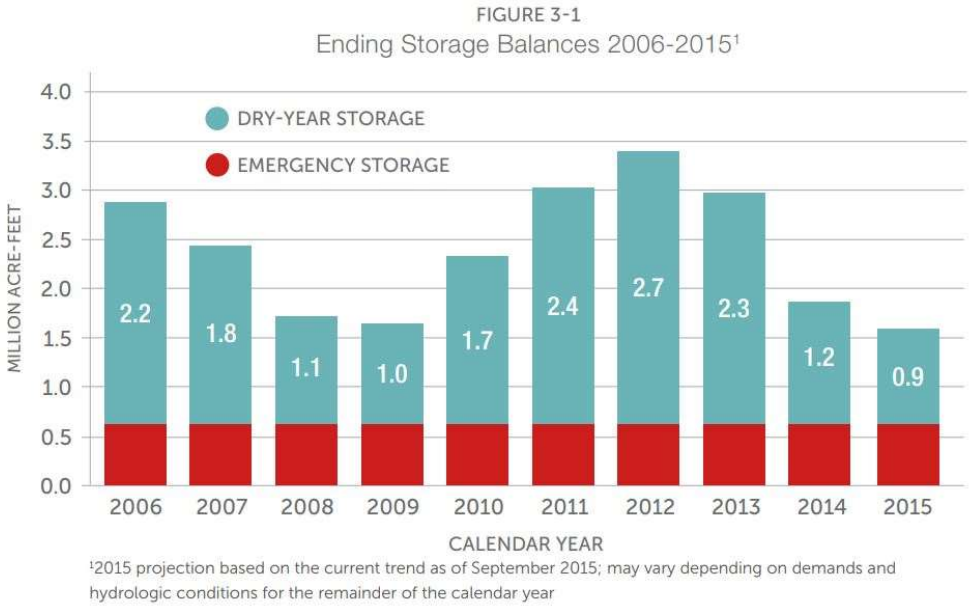
Source: MWD IRP 2015 Update, January 2016

The following statement from the 2015 IRP update summarizes Metropolitan's stated reliability strategy:

> *A VISION FOR WATER MANAGEMENT*
>
> *Diversifying the region's water supplies and developing adequate and healthy water storage reserves has proven to be the backstop for reliability. Stored water reserves provide certainty for meeting the needs of the region's vast service area when traditional sources of supply are challenged by drought, climate change and other risks. But these storage resources must be developed, managed and enhanced. The important elements of using storage to manage water supplies and enhance reliability have been detailed since 1999 in Metropolitan's Water Surplus and Drought Management Plan (WSDM Plan).*

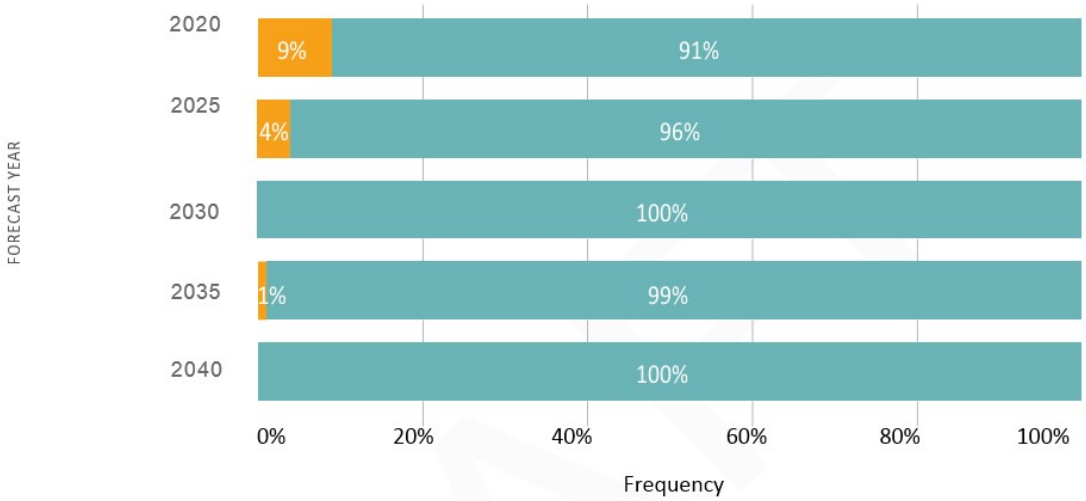
In the 2015 IRP Update, Metropolitan identified a storage level of under 1 million acre feet (MAF) out of a total storage capacity of approximately 5.5 MAF as a trigger condition for initiating a shortage allocation. The significance of dropping below 1 MAF of storage and initiating a shortage allocation is that the uncertainty over the length of time that dry weather conditions will continue requires prudent management of remaining stored water. It will be necessary to protect those storage levels by limiting deliveries to member agencies through specific allocations of water. Figure 3-1 below from the 2015 IRP Update provides end of year storage levels for Metropolitan. This period includes the two most recent droughts and imported water shortages (2007-2011 and 2013-2015). Note that in 2009 and 2015 Metropolitan instituted water shortage allocations to its member agencies.

Metropolitan analyzes supply availability and potential storage levels though a probabilistic computer model, IRPSIM. IRPSIM calculates probability based on 90 years of weather data correlated to supply availability and water demand. Figure 4-2 below illustrates that in its



analysis Metropolitan has identified a 9% probability of storage levels dropping below 1 MAF in 2020 and triggering a shortage allocation. Figure 4-2 also provides an estimate of the probability of allocation in five year intervals from 2020 through 2040.

Figure 4-2



Source: MWD IRP 2015 Update, January 2016

This analysis of reliability is based on the implementation of the "IRP Approach" approved by the Metropolitan Board in 2015.

Metropolitan's IRP Approach

Table ES-1 is from the 2015 IRP Update demonstrates that under average weather conditions supplies expected to be available to meet full retail water demand will exceed the amount of estimated demand. Similar to analyzing reliability as a SDCWA member agency, membership in EMWD will be equivalent to that of SDCWA in normal weather years. Also, similar to evaluating District reliability as a SDCWA member agency, it is necessary to focus on Metropolitan reliability under dry weather conditions and potential shortages as indicated in Metropolitan's 2015 Regional Urban Water Management Plan (RUWMP)

TABLE ES-1

2015 IRP Update

Total Level of Average-Year Supply Targeted (Acre Feet)

	2016	2020	2025	2030	2035	2040
Retail Demands before Conservation	4,878,000	5,219,000	5,393,000	5,533,000	5,663,000	5,792,000
Total Conservation Target	1,034,000	1,096,000	1,197,000	1,310,000	1,403,000	1,519,000
Retail Demands after Conservation	3,844,000	4,123,000	4,196,000	4,223,000	4,260,000	4,273,000
Minimum CRA Diversion Target	900,000	900,000	900,000	900,000	900,000	900,000
Average Year SWP Target	1,202,000	984,000	984,000	1,213,000	1,213,000	1,213,000
Total Local Supply Target	2,199,000	2,307,000	2,356,000	2,386,000	2,408,000	2,426,000
Total Supply Reliability Target	4,301,000	4,191,000	4,240,000	4,499,000	4,521,000	4,539,000

Source: MWD IRP 2015 Update, January 2016

In analyzing Metropolitan reliability during a single dry year Table 2-4 from Metropolitan's 2015 IRP Update evaluates its balance of supply and demand by using the single dry year on record to determine how its resources plan would perform. Under Metropolitan's 2015 RUWMP it will have sufficient supplies, including stored water, to meet demand having a surplus of water in all years analyzed. In the single dry year analysis in Table 2-4 Retail demands after conservation are less than total supply available in each of the 5 year increments through 2040.

Table 2-4

Minimum CRA Diversion Target	900,000	900,000	900,000	900,000	900,000	900,000
Average Year SWP Target	1,202,000	984,000	984,000	1,213,000	1,213,000	1,213,000
Total Local Supply Target	2,199,000	2,307,000	2,356,000	2,386,000	2,408,000	2,426,000
Total Supply Reliability Target	4,301,000	4,191,000	4,240,000	4,499,000	4,521,000	4,539,000
	2016	**2020**	**2025**	**2030**	**2035**	**2040**
Retail Demands before Conservation	4,878,000	5,219,000	5,393,000	5,533,000	5,663,000	5,792,000
Total Conservation Target	1,034,000	1,096,000	1,197,000	1,310,000	1,403,000	1,519,000
Retail Demands after Conservation	3,844,000	4,123,000	4,196,000	4,223,000	4,260,000	4,273,000

Source: MWD IRP 2015 Update, January 2016

Two Tables noted as Table 2-5 below provide an analysis of Metropolitan's reliability in multiple dry years from its 2015 RUWMP under differing weather conditions. This analysis reviews impacts to Metropolitan resulting from a repeat of the historical dry weather pattern experienced in 1991-1992 (hydrology) and when looking across the 90-hydrologies contained in IRPSIM and their effects on both Metropolitan water demand and supply availability including storage levels.

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Table 2-5 Multiple
Dry-Year

Supply Capability[1] and Projected Demands

Repeat of 1990-1992 Hydrology

(Acre-feet per year)

Forecast Year	2020	2025	2030	2035	2040
Current Programs					
In-Region Supplies and Programs	239,000	272,000	303,000	346,000	364,000
California Aqueduct[2]	712,000	730,000	743,000	752,000	752,000
Colorado River Aqueduct					
Total Supply Available[3]	1,403,000	1,691,000	1,690,000	1,689,000	1,605,000
Aqueduct Capacity Limit[4]	*1,200,000*	*1,200,000*	*1,200,000*	*1,200,000*	*1,200,000*
Colorado River Aqueduct Capability	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000
Capability of Current Programs	**2,151,000**	**2,202,000**	**2,246,000**	**2,298,000**	**2,316,000**
Demands					
Total Demands on Metropolitan	1,727,000	1,836,000	1,889,000	1,934,000	1,976,000
IID-SDCWA Transfers and Canal Linings	274,000	282,000	282,000	282,000	282,000
Total Metropolitan Deliveries[5]	**2,001,000**	**2,118,000**	**2,171,000**	**2,216,000**	**2,258,000**
Surplus	**150,000**	**84,000**	**75,000**	**82,000**	**58,000**
Programs Under Development					
In-Region Supplies and Programs	36,000	73,000	110,000	151,000	192,000
California Aqueduct	7,000	7,000	94,000	94,000	94,000
Colorado River Aqueduct					
Total Supply Available[3]	80,000	75,000	50,000	25,000	25,000
Aqueduct Capacity Limit[4]	*0*	*0*	*0*	*0*	*0*
Colorado River Aqueduct Capability	0	0	0	0	0
Capability of Proposed Programs	**43,000**	**80,000**	**204,000**	**245,000**	**286,000**
Potential Surplus	**193,000**	**164,000**	**279,000**	**327,000**	**344,000**

[1] Represents Supply Capability for resource programs under listed year type.

[2] California Aqueduct includes Central Valley transfers and storage program supplies conveyed by the aqueduct.

[3] Colorado River Aqueduct includes programs, IID-SDCWA transfer and exchange and canal linings conveyed by the aqueduct.

[4] Maximum CRA deliveries limited to 1.20 MAF including IID-SDCWA transfer and exchange and canal linings.

[5] Total deliveries are adjusted to include IID-SDCWA transfer and exchange and canal linings. These supplies are calculated as local supply but need to be shown for the purposes of CRA capacity limit calculations without double counting.

Source: MWD Regional Urban Water Management Plan, March 2016

Table 2-5 Multiple
Dry-Year

Supply Capability[1] and Projected Demands

Average of 1922-2012
Hydrologies

(Acre-feet per year)

Forecast Year	2020	2025	2030	2035	2040
Current Programs					
In-Region Supplies and Programs	693,000	774,000	852,000	956,000	992,000
California Aqueduct[2]	1,760,000	1,781,000	1,873,000	1,899,000	1,899,000
Colorado River Aqueduct					
Total Supply Available[3]	1,468,000	1,488,000	1,484,000	1,471,000	1,460,000
Aqueduct Capacity Limit[4]	*1,200,000*	*1,200,000*	*1,200,000*	*1,200,000*	*1,200,000*
Colorado River Aqueduct Capability	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000
Capability of Current Programs	**3,653,000**	**3,755,000**	**3,925,000**	**4,055,000**	**4,091,000**
Demands					
Total Demands on Metropolitan	1,586,000	1,636,000	1,677,000	1,726,000	1,765,000
IID-SDCWA Transfers and Canal Linings	274,000	282,000	282,000	282,000	282,000
Total Metropolitan Deliveries[5]	**1,860,000**	**1,918,000**	**1,959,000**	**2,008,000**	**2,047,000**
Surplus	**1,793,000**	**1,837,000**	**1,966,000**	**2,047,000**	**2,044,000**
Programs Under Development					
In-Region Supplies and Programs	43,000	80,000	118,000	160,000	200,000
California Aqueduct	20,000	20,000	225,000	225,000	225,000
Colorado River Aqueduct					
Total Supply Available[3]	5,000	25,000	25,000	25,000	25,000
Aqueduct Capacity Limit[4]	*0*	*0*	*0*	*0*	*0*
Colorado River Aqueduct Capability	0	0	0	0	0
Capability of Proposed Programs	**63,000**	**100,000**	**343,000**	**385,000**	**425,000**
Potential Surplus	**1,856,000**	**1,937,000**	**2,309,000**	**2,432,000**	**2,469,000**

[1] Represents Supply Capability for resource programs under listed year type.

[2] California Aqueduct includes Central Valley transfers and storage program supplies conveyed by the aqueduct.

[3] Colorado River Aqueduct includes programs, IID-SDCWA transfer and exchange and canal linings conveyed by the aqueduct.

[4] Maximum CRA deliveries limited to 1.20 MAF including IID-SDCWA transfer and exchange and canal linings.

[5] Total deliveries are adjusted to include IID-SDCWA transfer and exchange and canal linings. These supplies are calculated as local supply but need to be shown for the purposes of CRA capacity limit calculations without double counting.

Source: MWD Regional Urban Water Management Plan, March 2016

IRP Water Supply Buffer

A key approach in Metropolitan's long term water supply planning is the development of "Buffer Supplies". A Water Supply Buffer requires the development of multiple sources of local and imported supplies that ensure that potential available supplies under any weather condition will always exceed the demand for water. Concurrent with creating the supply buffer is an adaptive management strategy that assesses current and anticipated conditions and then adjusts the buffer to expedite or slow down the development of new supplies as warranted.

A potential drawback to the supply buffer is it rests on the actions of others beyond Metropolitan itself to implement local supply and imported water projects.

Metropolitan IRP & UWMP Assumptions on Imported and Local Water Supplies

The reliability analysis contained in Metropolitan's IRP and 2015 RUWMP rests on a set of key assumptions related to Colorado River water availability, addressing regulatory concerns in the Bay Delta through the construction and operation of new diversion and conveyance facilities of California WaterFix and reliance on Metropolitan member agency implementation of local supply projects. To the extent that any of these assumptions are not realized as expected, the estimated surpluses on Metropolitan's planning documents would be significantly less.

For purposes of evaluating Metropolitan reliability this analysis of District reliability as a member of EMWD considers cutbacks declared by Metropolitan in the two most recent drought events as the best benchmark for supply reliability. In both drought events Metropolitan experienced a maximum of 15% cutback.

Metropolitan Shortage Allocation

Shortage allocation is administered by Metropolitan through the Water Shortage Allocation Plan (WSAP) Per its 2015 RUWMP:

> *The WSAP formula is calculated in three steps: base period calculations, allocation year calculations, and supply allocation calculations. The first two steps involve standard computations, while the third step contains specific methodology developed for the WSAP.*
>
> *Step 1: Base Period Calculations*
> *The first step in calculating a water supply allocation is to estimate water supply and demand using a historical base period with established water supply and delivery data. The base period for each of the different categories of demand and*

supply is calculated using data from fiscal years (July through June) ending 2013 and 2014.

Step 2: Allocation Year Calculations
The next step in calculating the water supply allocation is estimating water needs in the allocation year. This is done by adjusting the base period estimates of retail demand for population growth and changes in local supplies.

Step 3: Supply Allocation Calculations
The final step is calculating the water supply allocation for each member agency based on the allocation year water needs identified in Step 2. There are a number of adjustments that go into a member agency's water supply allocation. Each element and its application in the allocation formula are discussed in detail in Metropolitan's WSAP.

Source: MWD Regional Urban Water Management Plan, March 2016

Metropolitan Reliability in an Emergency

Emergency storage requirements are based on the potential of a major earthquake damaging the aqueducts that transport Southern California's imported water supplies (SWP, CRA, and Los Angeles Aqueduct). The adopted criteria assume that damage from such an event could render the aqueducts out of service for six months. Therefore, Metropolitan has based its planning on a 100% reduction in these imported supplies for a period of six months, which is a greater shortage than required by the Act.

The emergency plan outlines that under such a catastrophe, non-firm service deliveries would be suspended, and firm supplies to member agencies would be restricted by a mandatory cutback of 25% from normal-year demand levels (75% Level of Service). At the same time, water stored in surface reservoirs and groundwater basins under Metropolitan's program would be made available, and Metropolitan would draw on its emergency storage, as well as other available storage. In addition to Diamond Valley Lake (DVL), Metropolitan has access to emergency storage at its other reservoirs, and at the SWP terminal reservoirs, and in its groundwater, conjunctive use storage accounts.

COMPARATIVE ANALYSIS OF RELIABILITY

Reliability in Prolonged Drought/Shortage

As either a member agency of SDCWA or EMWD, the District will be vulnerable to shortages of imported water from Metropolitan. Although Metropolitan and its member agencies have made substantial investments in storage, local supplies and improvements to imported water reliability the vulnerability remains. Within the last 10 years Metropolitan has initiated its WSAP program during two different drought events for multiple years during each drought. WASAP allocations were as high as a Level 3 Shortage Allocation of 15%.

As a member agency of SDCWA the District's M&I customers benefit from the San Diego region's investments in more reliable imported supplies through the QSA, highly reliable local supplies such as SDCWA's Carlsbad Desalination Project and stored water from the Emergency and Carryover Storage Project (ESP/CSP). The District's supply reliability is also improved by current and future investments by other SDCWA member agencies in local water recycling and brackish groundwater recovery that reduce a demand for MWD imported water.

On the other hand, the District customers who are part of the TSAWR program receive the same level of reliability as any customer that is 100% reliant on imported water from Metropolitan. In evaluating District reliability, a prudent perspective is to understand the impact experienced in the last two droughts where Metropolitan instituted WASAP at Level 3 or a 15% shortage of imported supplies. The approximate cutbacks to District customers in 2030 are estimated in Tables A-D below.

Both SDCWA and Metropolitan have detailed computer models that calculate member agency allocations including the various adjustments used by both agencies. The final allocations consider what other member agencies supplies and demands are in the allocation year. The analysis contained below uses simplified assumptions based on the allocation methodologies and supply and demand amounts contained in the most recent UWMPs. [1] For more accurate estimates of what the District's shortage allocation would be it would be necessary to request that SDCWA and potentially Metropolitan run their allocation models.

Table A provides the assumptions for a Metropolitan's WSAP were the allocation is based on SDCWA dependence on Metropolitan with an adjustment for Loss of Local Water Supply.

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Allocation as SDCWA Member Agency

Table A *2030 Dry Year MWD Level 3 15% Shortage Assumptions*

a	SDCWA Total Retail 2030 Demand (Base Period)	676,000 AF
b	SDCWA Member Agency Base Period Local Supplies	172,000 AF
c	SDCWA Base Period Local Supplies	330,200
d	Member Agency Base Period Demand on SDCWA (a-*b*)	504,000 AF
e	SDCWA Base Period Demand on Metropolitan	173,800 AF
f	SDCWA & Member Agency Adjustment for Dry Year Loss of Local Supply	45,000 AF
g	SDCWA Adjusted Base Period Demand on MWD	218,800 AF
i	SDCWA Preferential Right	24.22%
j	MWD Total Base Period Demand	1,700,000 AF
k	**Available MWD Supplies in Level 3 15% Cutback**	**1,445,000 AF**
l	**WSAP Level 3 Allocation to SDCWA (l x f)**	**185,980 AF**
m	**MWD Preferential Right Allocation to SDCWA** [3]	**349,979 AF**

[1] Includes 2015 UWMP Verifiable Local Supplies and Phase 1 Pure Water of 33,000 AF
[2] SDCWA 2015 Urban Water Management Plan Dry Year analyses
3 MWD Act prohibits selling or transferring excess Preferential Right

Table B *2030 WSAP Allocation*

WSAP SDCWA Level 3 Allocation	185,980
TSAWR Base Period Demand	30,000
TSAWR Allocation from MWD Allocation	25,500
Member Agency Base Period M&I Demand on SDCWA	474,000
MWD WSAP M&I Allocation After TSAWR	160,480
Total SDCWA Dry Year Supplies	330,000
Potential Single Year Carryover Storage withdrawal	30,000
SDCWA M&I Allocation No Carryover Supplies	490,480
SDCWA Dry Year M&I Demand	507,180
SDCWA M&I Shortage No Carryover Storage	16,700
SDCWA M&I Regional Shortage Percent No Carryover Storage	3%
SDCWA M&I Shortage w/Carryover Storage Withdrawal	0
SDCWA M&I Shortage Percent w/ Carryover Storage	0%

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RMWD Reliability Single Dry Year 2030
15% MWD Cutback

	M&I Cutback		TSAWR Cutback	Combined Cutback	
	Low*	High*		Low	High
SDCWA	0%	3%-8%**	15%	6%	11%
EMWD	15%		15%	15%	

* Range is based on use of Carryover Storage supplies and allocation under MWD Water Shortage Allocation Plant (WSAP) or Preferential Rights. Percetage indicates regional average shortage percentage

** SDCWA allocation methodology may provide adjustments to other SDCWA member agencies that reduces RMWD allocation but seeks to ensure that no member agency will be greater than 5% from the regional shortage percentage. RMWD M&I high range may be 5% higher as indicated above and under Combined Cutback.

Factors affecting RMWD Shortage Percent

Under a WSAP allocation as calculated above, adjustments in SDCWA allocation methodology that favor agencies with highly reliable local supplies, exceptional water conservation and population growth can result in a greater cutback on M&I to District customers but not greater than 5% from the regional M&I average. Conversely, if SDCWA had CSP supplies available they could eliminate the entire 3% cutback to M&I for that year. In a multi-year prolonged drought that exceeds three consecutive years SDCWA carryover supplies may be depleted. For these reasons a range of possible M&I shortages is displayed along with potential for adjustments to other member agencies resulting in a 5% differential for RMWD from the regional shortage percentage under the No Carryover supplies scenario.

With the potential effect of adjustments and the use of carryover storage supplies a WSAP allocation could result in a range of combined District cutbacks (including TSAWR customers) of 6% to 11%.

If SDCWA were to invoke its Preferential Right to available MWD supplies as assumed in its 2015 UWMP then the allocation of Metropolitan Supplies would increase and the shortage would be equivalent to the 0% for M&I under the Carryover Storage use under WSAP. It is assumed that even under a Preferential Right Allocation, SDCWA would still adhere to the requirements of TSAWR and would impose the 15% Metropolitan cutback.

Allocation as EMWD Member Agency

In this example, it is assumed that in 2030 District reliability would be entirely dependent on Metropolitan's available supplies and would experience a cutback entirely resulting from application Metropolitan's WSAP.

***Table C** 2030 WSAP Allocation (EMWD)*

Rainbow 2030 Base Period Demand	*M&I and TSAWR*	21,000 AF
Rainbow Allocation	*Base Period Demand × (1-.15)*	17,850 AF
Rainbow Combined Cutback %		**15%**

Reliability in Emergency

Both SDCWA and EMWD (through Metropolitan) have storage programs that are designed to maintain a 75% level of service in a catastrophic cutoff of imported water. Because of the lower level of service provided to TSAWR customers the Districts combined level of service if the emergency occurred in 2030 would be 59%. The Level of Service provided by EMWD through Metropolitan in a similar emergency would be 75% since there would be no distinction made for agricultural customers. If an earthquake severed the connection just north of the San Diego County line service may be impacted. That disruption in service is part of the planning for SDCWA's Emergency Storage Project. Disruption to Metropolitan's facilities in southern Riverside County that serve the District would rely on expedited repair efforts by Metropolitan that would focus on restoring that segment into service within 14 days of the emergency event.

RMWD recently signed an MOU with the Fallbrook Public Utility District (FPUD) to receive local water supply during an emergency from its Santa Margarita River Conjunctive Use Project (SMRCUP). FPUD is constructing the SMRCUP in partnership with U.S. Marine Corps Base Camp Pendleton to share local water in the Santa Margarita River through a groundwater storage and recovery project.

While the SMRCUP is designed to be a baseline supply for FPUD and Camp Pendleton, the MOU will allow a portion of this local water to be provided to RMWD in the event of a catastrophic emergency on the imported water system, such as an earthquake along the Elsinore Fault. When combined with existing RMWD storage reservoirs, supplemental supply from the SMRCUP will provide an additional layer of water supply reliability to the RMWD service area during the 14 day period when Metropolitan is affecting emergency repairs on its facilities that may be damaged during a seismic event on the Elsinore Fault. Construction of a bi-directional pipeline and groundwater treatment plant is expected to begin in the Fall of 2019 and be operational by 2023.

Table D

RMWD Emergency Reliability Comparison

SDCWA Emergency Level of Service Seismic Event on San Andreas, San Jacinto, Elsinore Faults	EMWD (Metropolitan) Emergency Level of Service Seismic Event on San Andreas, San Jacinto Faults	EMWD (Metropolitan) Emergency Level of Service Seismic Event on San Andreas, San Jacinto, Elsinore Faults
59%	75%	8%-75%***

****Assumes RMWD storage and MOU with FPUD for SMRCUP supplies meet health and safety needs set at indoor water use of 55 gpcd based on 2030 population and Total water demand. Also dependent on time to repair Metropolitan Facilities Southern Riverside.*

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CONCLUSION

If RMWD were to detach from SDCWA and become a member agency of EMWD, the District could experience a slightly higher overall level of reliability due to the elimination of the TSAWR class of service and the required lesser reliability for current TSAWR customers in both a drought induced shortage and a catastrophic emergency.

Investments by SDCWA and its member agencies in its own imported and local water supplies has cushioned SDCWA from shortage in Metropolitan supplies. However, in Metropolitan's planning documents they are not forecasting shortages through 2040 based on assumptions of significant progress on resolving imported water conflicts and implementing more local supplies and conservation in the future. Although Metropolitan believes those goals are achievable SDCWA does not face the level of uncertainties in supply reliability or local projects implementation as Metropolitan. Therefore, SDCWA will maintain a higher level of reliability for its member agencies because they will benefit from Metropolitan's investments in reliability and also their own and their member agencies.

Although this Report relied upon the approved 2015 updates of the UWMPs and Metropolitan's IRP to conduct the comparative reliability analysis, those plans will be updated in 2020 with new water demand forecasts. It is expected that continued decreases in water use and slower growth rates will be reflected in UWMPs throughout the MWD service area. These lower demand forecasts along with continued local supply development will reduce demand on imported water and strengthen the reliability of imported water supplies from MWD. This continued trend will likely reduce the margin of difference for FPUD in reliability as a member agency of EMWD and SDCWA.

The following summarizes the District's reliability during drought induced shortages as a member agency of EMWD based on Metropolitan's planned reliability and the experience of Metropolitan in the last two drought allocations compared to continued membership in SDCWA:

Normal years -	No impact
Short duration drought -	Equivalent based on Metropolitan planning documents to slightly better due to elimination of TSAWR
Long Duration drought -	Equivalent based on MWD planning to lesser reliability due to higher cutback levels based on Metropolitan recent maximum cutbacks allocated by WSAP or Preferential Rights
Catastrophic Emergency -	Slightly greater reliability based on elimination of TSAWR to lesser reliability for first 14 days if seismic event on Elsinore Fault occurs and disables Metropolitan's southern Riverside County facilities. Mitigated to some extent through District storage and Emergency Assistance MOU with FPUD

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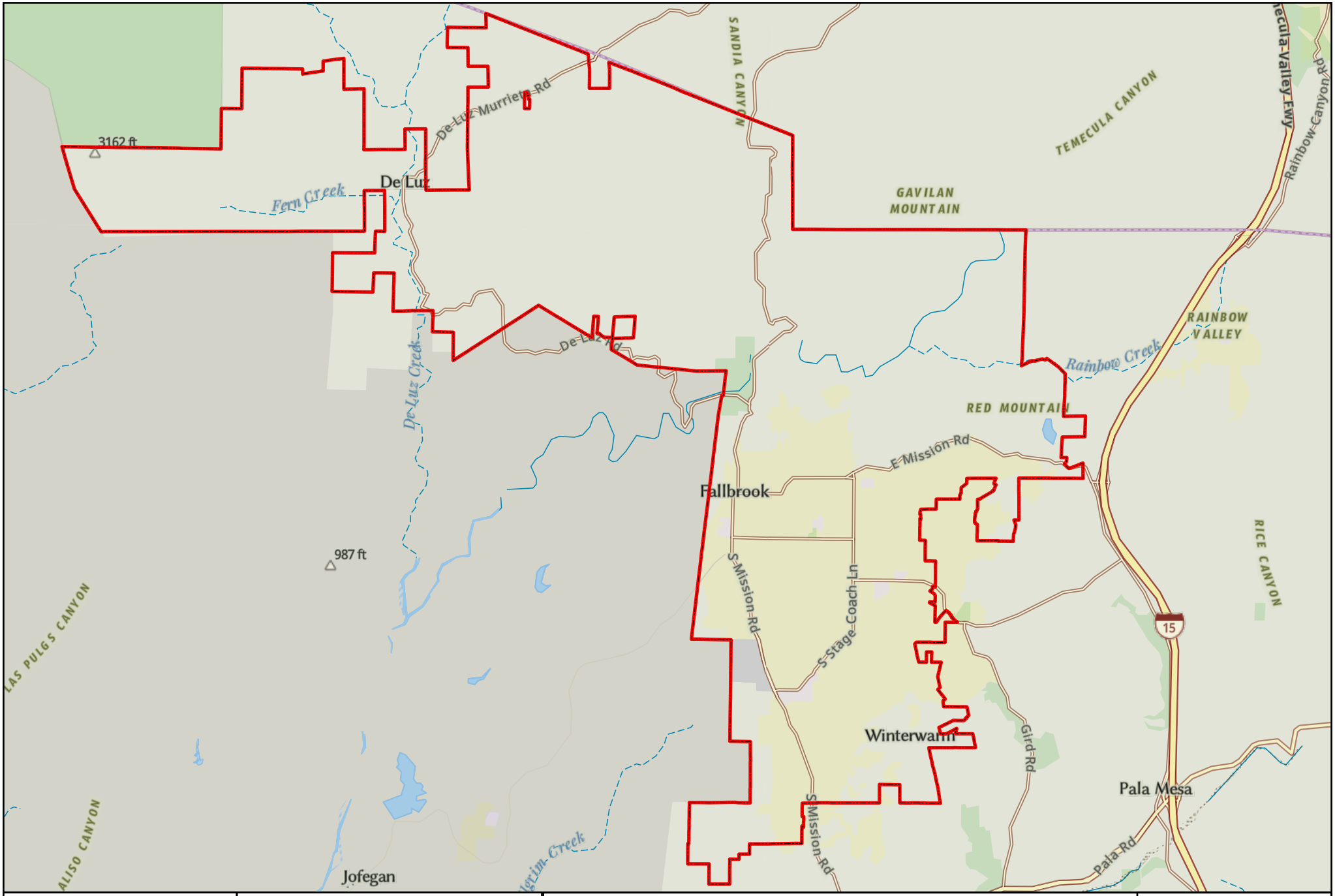
EXHIBIT B
MAPS OF FPUD, EASTERN AND COUNTY WATER AUTHORITY



DISCLAIMER: By accepting this map, you agree that the Fallbrook Public Utility District assumes no liability or responsibility of any kind arising from use of this map. This map, its Data, and any calculations associated with this map is provided without warranty of any kind.

FPUD BOUNDARY

FALLBROOK PUBLIC UTILITY DISTRICT BOUNDARY

0 0.5 1 2 3 4 Miles

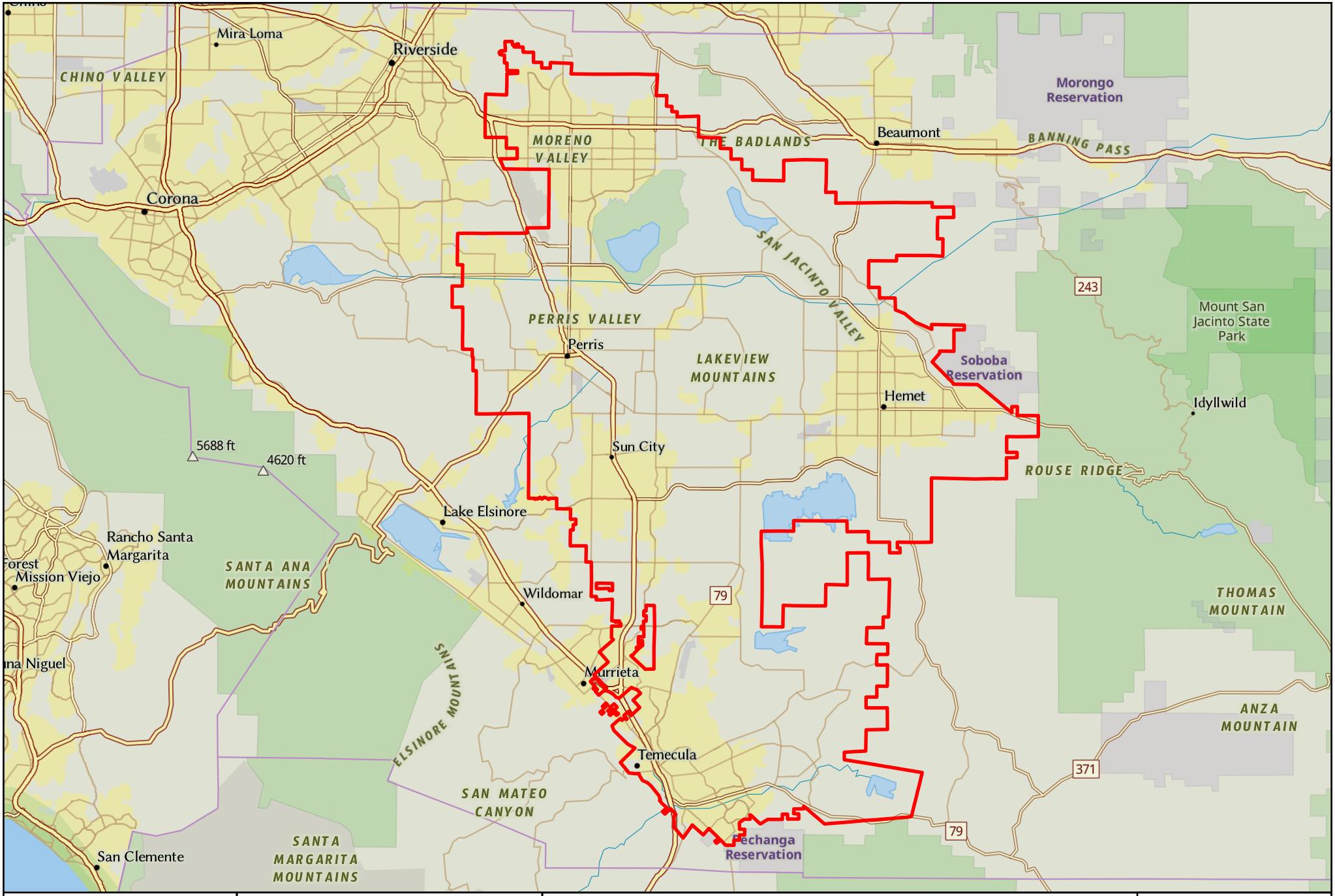
0 3,750 7,500 15,000 22,500 30,000 Feet

Map Created by Todd Jester (8-13-19). X:\GIS\Data - Inside\Project Specific\Director Division Map\Director Division Map\DIST_BOUNDARY.mxd
Projection: California State Plane NAD 83, Feet. Zone 6. Epoch 1991.35 Source: FPUD, ESRI

N W E S

G.I.S. FPUD Fallbrook Public Utility District

93



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EASTERN MUNICIPAL WATER DISTRICT BOUNDARY

EASTERN MUNICIPAL WATER AUTHORITY BOUNDARY

0 2 4 8 12 16 Miles

0 12,500 25,000 50,000 75,000 100,000 Feet

Map Created by Todd Jester (12-2-19). X:\GIS\Data - Inside\Project Specific\Figures for Jack\BOARD FIGURES\EASTERN_BOUNDARY_8X11.PDF
Projection: California State Plane NAD 83, Feet, Zone 6, Epoch 1991.35 Source: Riverside County Flood Control, ESRI

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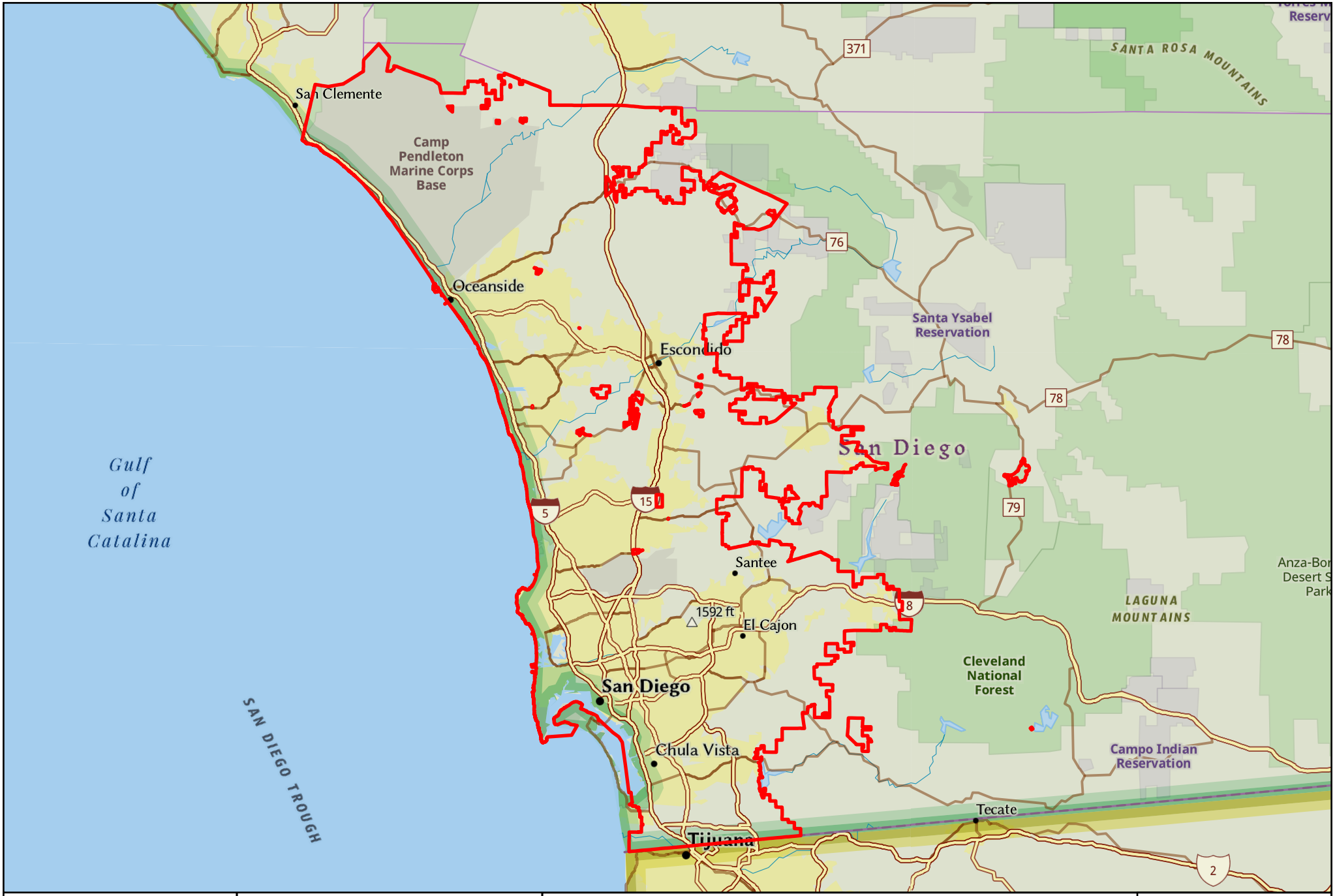

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SAN DIEGO COUNTY WATER AUTHORITY BOUNDARY

SAN DIEGO COUNTY WATER AUTHORITY BOUNDARY

0 3.75 7.5 15 22.5 30 Miles

0 25,000 50,000 100,000 150,000 200,000 Feet

Map Created by Todd Jester (12-2-19). X:\GIS\Data - Inside\Project Specific\Figures for Jack\BOARD FIGURES\SDCWA_BOUNDARY_8X11.PDF
Projection: California State Plane NAD 83, Feet, Zone 6, Epoch 1991.35 Source: SANGIS, ESRI

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G.I.S. FPUD Fallbrook Public Utility District

EXHIBIT D
TEXT OF COUNTY WATER AUTHORITY ACT SECTION 45-11 (a)(2)

Water Code Appendix Section 45-11 (a)(2) provides as follows:

(a) . . . .

(2) Any public agency whose corporate area as a unit has become or is a part of any county water authority may obtain the exclusion of the area therefrom in the following manner:

> The governing body of any public agency may submit to the electors thereof at any general or special election the proposition of excluding from the county water authority the corporate area of the public agency. Notice of the election shall be given in the manner provided in subdivision (c) of Section 10. The election shall be conducted and the returns thereof canvassed in the manner provided by law for the conduct of elections in the public agency. If a majority of electors voting thereon vote in favor of withdrawal, the result thereof shall be certified by the governing body of the public agency to the board of directors of the county water authority. A certificate of the proceedings shall be made by the secretary of the county water authority and filed with the Secretary of State. Upon the filing of the certificate, the corporate area of the public agency shall be excluded from the county water authority and shall no longer be a part thereof; provided, that the taxable property within the excluded area shall continue to be taxable by the county water authority for the purpose of paying the bonded and other indebtedness of the county water authority outstanding or contracted for at the time of the exclusion and until the bonded or other indebtedness has been satisfied; provided further, that if the taxable property within the excluded area or any part thereof is, at the time of the exclusion, subject to special taxes levied or to be levied by the county water authority pursuant to the terms and conditions previously fixed under subdivision (c) or (d) of Section 10 for the annexation of the excluded area or part thereof to the county water authority, the taxable property within the excluded area or part thereof so subject to the special taxes shall continue to be taxable by the county water authority for the purpose of raising the aggregate sums to be raised by the levy of special taxes upon taxable property within the respective annexing areas pursuant to the terms and conditions for the annexation or annexations as so fixed and until the aggregate sums have been so raised by the special tax levies. Upon the filing of the certificate of proceedings, the Secretary of State shall, within 10 days, issue a certificate reciting the filing of the papers in his or her office and the exclusion of the corporate area of the public agency from the county water authority. The Secretary of State shall transmit the original of the certificate to the secretary of the county water authority and shall forward a certified copy thereof to the county clerk of the county in which the county water authority is situated.

EXHIBIT "B"

LAFCO Certificate of Filing for District's Reorganization Application

May 26, 2023

Delivered Electronically:
Jack Bebee, General Manager
Fallbrook Public Utility District
990 East Mission Road
Fallbrook, CA 92028
jackb@fpud.com

SUBJECT: Certificate of Filing | "Fallbrook Public Utility District Reorganization: Wholesale Water Services" | Concurrent Annexation to Eastern MWD and Detachment from San Diego CWA with Related Actions (RO20-05)

Mr. Bebee:

The San Diego County Local Agency Formation Commission (LAFCO) has completed its administrative review of the above-referenced reorganization proposal and has deemed it complete. Accordingly, enclosed is a Certificate of Filing signed by the Executive Officer confirming the proposal will be considered by LAFCO at a Commission meeting set for Monday, June 5, 2023. Staff is recommending conditional approval without modification. The meeting agenda and proposal staff report are available for download from the San Diego County LAFCO website at www.sdlafco.org.

Should you have any questions please telephone or e-mail me at (858) 276-9414 or priscilla.mumpower@sdcounty.ca.gov.

Respectfully,

Priscilla Mumpower
Analyst II

cc: Tammy Luckett, LAFCO Commission Clerk
Keene Simonds, LAFCO Executive Officer

Administration:
Keene Simonds, Executive Officer
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City of Solana Beach
Dane White
City of Escondido
John McCann, Alt.
City of Chula Vista
Vice Chair Stephen Whitburn
City of San Diego
Marni von Wilpert, Alt.
City of San Diego
Jo MacKenzie
Vista Irrigation
Barry Willis
Alpine Fire Protection
David A. Drake, Alt.
Rincon del Diablo
Andy Vanderlaan
General Public
Harry Mathis, Alt.
General Public

CERTIFICATE OF FILING

"Fallbrook Public Utility District Reorganization: Wholesale Water Services"
(LAFCO File No. RO20-05)

I hereby certify that:

1. The reorganization proposal referenced above has been submitted to me and found to be in the form prescribed by the San Diego County Local Agency Formation Commission.

2. The associated application materials contain the information and data required by this Commission and the provisions of State law.

3. The reorganization proposal is accepted for filing on May 26, 2023.

4. A hearing has been scheduled for the Commission to consider the reorganization proposal on June 5, 2023.

This Certificate of Filing is issued pursuant to section 56658 of the Government Code. All time requirements and limitations for processing and consideration of the above-referenced proposal shall become effective and run from the date of issuance of this certificate.

Attest,

Keene Simonds
Executive Officer

Administration:
Keene Simonds, Executive Officer
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E lafco@sdcounty.ca.gov
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General Public
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General Public