DESERT WATER AGENCY
MAY 4, 2021

BOARD OF DIRECTORS
REGULAR MEETING AGENDA

8:00 A.M. OPERATIONS CENTER - 1200 SOUTH GENE AUTRY TRAIL – PALM SPRINGS – CALIFORNIA

Pursuant to the Governor's Executive Order N-29-20, there will be no public location for attending in person. Members of the public who wish to participate may do so by calling in at:

Toll Free: (866) 899-4679
Access Code: 188-809-261

or Via Computer:
https://www.gotomeeting.com/meeting/join-meeting
9-digit Meeting ID: 188809261

Members of the public who wish to comment on any item within the jurisdiction of the Agency or any item on the agenda should submit comments by emailing sbaca@dwa.org before 5:00 p.m. May 3. Comments will become part of the Board meeting record. Board members and staff will be participating in this meeting via teleconference.

In order to reduce feedback, please mute your audio when you are not speaking.

1. **CALL TO ORDER/PLEDGE OF ALLEGIANCE** — **BLOOMER**
2. **ROLL CALL** — **BACA**
3. **APPROVAL OF MINUTES -** April 20, 2021 — **BLOOMER**
4. **GENERAL MANAGER'S REPORT** — **KRAUSE**
5. **COMMITTEE REPORTS** – A. Executive – April 29, 2021 — **BLOOMER**
6. **PUBLIC COMMENT:** Members of the public may comment on any item not listed on the agenda, but within the jurisdiction of the Agency. In addition, members of the public may speak on any item listed on the agenda as that item comes up for consideration. Speakers are requested to keep their comments to no more than three (3) minutes. As provided in the Brown Act, the Board is prohibited from acting on items not listed on the agenda.
7. **ACTION ITEMS**
   - A. Request Adoption of Resolution No. 1255 Approving the 2021 Local Guidelines for Implementing the California Environmental Quality Act (CEQA) for Desert Water Agency — **RIDDELL**
   - B. Request Award of Contract for Construction of the 2020/2021 Replacement Pipeline Project — **TATE**
8. **DISCUSSION ITEMS**
   - A. Groundwater Replenishment Assessments 2021/2022 (DRAFT) — **KRAUSE**
   - B. Outreach & Conservation – Activities and Events (April) — **METZGER**
   - C. State Water Contractor's Meetings – April 15, 2021 — **RIDDELL**
9. **DIRECTORS COMMENTS/REQUESTS**
10. **CLOSED SESSION**
    - A. CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION
      Pursuant to Government Code Section 54956.9 (d) (1)
      Name of Case: Agua Caliente Band of Cahuilla Indians vs. Coachella Valley Water District, et al (Two Cases)
    - B. CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION
      Pursuant to Government Code Section 54956.9 (d) (1)
      Name of Case: Mission Springs Water District vs. Desert Water Agency

C. CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION
Pursuant to Government Code Section 54956.9 (d) (1)
Bonnie Kessner, et al vs. Desert Water Agency, et al

D. CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION
Pursuant to Government Code Section 54956.9 (d) (1)
Name of Case: AT&T vs. County of Riverside

E. CONFERENCE WITH LEGAL COUNSEL – PENDING ADMINISTRATIVE PROCEEDING
Pursuant to Government Code Section 54956.9 (d) (1)
Regional Water Quality Control Board Claim No. 7018 0680 0000 1010 7377

F. CONFERENCE WITH REAL PROPERTY NEGOTIATORS
Pursuant to Government Code Section 54956.8
Property: APN No. 522-070-027
Agency Negotiators: Mark S. Krause, General Manager and Steve Johnson, Asst. General Manager
Negotiating Parties: Desert Water Agency and Mountain View Power Partners and Gabrych Family L..P.
Under Negotiation: Permanent Pipeline and Access Easement and Encroachment Permit
Subject: Price and terms of possible easement purchase and Grant of Permanent Encroachment Permit

11. RECONVENE INTO OPEN SESSION – REPORT FROM CLOSED SESSION

12. ADJOURN

MINUTES
OF THE REGULAR MEETING
OF THE
DESERT WATER AGENCY
BOARD OF DIRECTORS

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April 20, 2021

DWA Board via Teleconference:	Kristin Bloomer, President	)
	James Cioffi, Vice President	)
	Joseph K. Stuart, Secretary-Treasurer	)
	Patricia G. Oygar, Director	)
	Paul Ortega, Director	)
DWA Staff via Teleconference:	Mark S. Krause, General Manager	)
	Steve Johnson, Assistant General Manager	)
	Esther Saenz, Finance Director	)
	Sylvia Baca, Asst. Secretary of the Board	)
	Kris Hopping, Human Resources Director	)
	Ashley Metzger, Outreach & Conserv. Mgr.	)
	Kim McCance, Senior Administrative Asst.	)
Consultants via Teleconference:	Michael T. Riddell, Best Best & Krieger	)
Public via Teleconference:	Randy Duncan, Mission Springs Water District	)
	David Freedman, Palm Springs Sustainability Comm.	)
	Steve Grasha, Desert Hot Springs Resident	)

Pledge of Allegiance

19107. President Bloomer opened the meeting at 8:00 a.m. and asked everyone to join her in the Pledge of Allegiance.

Roll Call

19108. President Bloomer called upon Assistant Secretary of the Board Baca to conduct the roll call:

Present: Ortega, Oygar, Stuart, Cioffi, Bloomer

Approval of 04/06/21 Regular Board Mtg. Minutes

19109. President Bloomer called for approval of the April 6, 2021 Regular Board Meeting Minutes.

Approval of 04/06/21 Regular Board Mtg. Minutes (Cont.)

Director Ortega moved for approval. After a second by Vice President Cioffi, the minutes were approved by the following roll call vote:

AYES: Ortega, Oygar, Stuart, Cioffi, Bloomer
NOES: None
ABSENT: None
ABSTAIN: None

General Manager's Report

19110. President Bloomer called upon General Manager Krause to provide an update on Agency operations.

Mr. Krause provided an update on Agency operations and noted his meetings and activities for the past several weeks.

In response to Secretary-Treasurer Stuart, Mr. Krause explained that the Agency has budgeted for new meters for the output flow in the Whitewater discharge area and Mission Creek subbasin for more accurate flow readings.

Committee Reports

Finance 04/13/21

19111. President Bloomer noted the minutes for the April 13, 2021 Finance Committee meeting were provided in the Board's packet.

Executive 04/15/21

19112. President Bloomer noted the minutes for the April 15, 2021 Executive Committee meeting were provided in the Board's packet.

Secretary-Treasurer's Report (March)

19113. President Bloomer called upon Secretary-Treasurer Stuart to present an overview of financial activities for the month of March 2021.

Operating Fund

Secretary-Treasurer Stuart reported that the Operating Fund received $2,538,372 in Water Sales Revenue and $43,447 in Reclamation Sales Revenue. $2,158,195 was paid out in Accounts Payable. Year-to-date Water Sales are 3% over budget, Year-to-date Total Revenues are 4% over budget; and Year-to-date Total Expenses are 12% under budget. There were a total of 23,065 active services as of March 31, compared to 23,004 active services as of February 28.

General Fund

Reporting on the General Fund, Mr. Stuart stated that $96,794 was received in Property Tax Receipts, $369,331 in Groundwater Assessments from Private Pumpers, and $99,033 from CVWD in Water Management Agreement Reimbursement. $1,102,427 was paid in State Water Project charges (YTD $15,454,453).

Wastewater Fund

Reporting on the Wastewater Fund, Mr. Stuart reported $6,140 was received in Sewer Capacity Charges from Jones Cree Ventures, $422 was received in Sewer Contract payments. There are a total of 3 Sewer Contracts, 1 paid in full, with total delinquents of 3 (100%) with $422 principal payments remaining. $72,933 was paid out in Accounts Payable.

19114. President Bloomer opened the meeting for public comment.

Public Comment

Mr. Grasha commented regarding the upcoming division elections and suggested increasing the DWA Board to seven members so the redistricting would not replace current experienced Board Directors.

Mr. Grasha

Mr. Freedman gave an update on the Palm Springs Airport Demonstration Garden.

Mr. Freedman

There being no one else from the public wishing to address the Board, President Bloomer closed the public comment period.

19115. President Bloomer called upon Outreach & Conservation Manager Metzger to present staff's Request for Authorization for General Manager to Enter into Updated MOU with United Way of the Desert.

Items for Action: Request Authorization for GM to Enter into Updated MOU with United Way of the Desert

Mrs. Metzger reported that our current Help2Others program gives customers the ability to apply through United Way of the Desert for $100 in credits per year. They are, except in special circumstances, required to apply twice per year to get a $50 credit each time. Historically, the program has not been not highly utilized. She noted that during the past year, the program has extended eligibility during COVID-19 to assist those financially impacted by the pandemic. The fund has seen an increase in use during this time but still has a balance of about $35,000 and expect this program to be used heavily when prohibitions on shut offs are lifted. Mrs. Metzger reported that to assist customers during this difficult time and to commemorate the Agency's 60th anniversary, the draft FY 2021-2022 budget includes an augmentation to the program to $60,000, noting that in past years, the Agency contributed $20,000 or $30,000 adding that all Agency contributions have been made with non-rate revenue and is also funded by vendor and employee contributions.

Mrs. Metzger explained that the Conservation & Public Affairs Committee discussed augmenting the credit customers can receive to $200 per year and if the first bill the credit is applied to is less than $200, customers will be able to draw the remaining credit amount down over multiple water bills until it is exhausted. Additionally, they only have to apply once per year which will save United Way, DWA and customers time and effort since multiple applications aren't necessary. Staff recommends that the Board of Directors authorize the General Manager to enter into the updated MOU with United Way of the Desert.

Items for Action: (Cont.) Request Authorization for GM to Enter into Updated MOU with United Way of the Desert

Director Oygar moved for approval of staff's request. After a second by Secretary-Treasurer Stuart the motion carried by the following roll call vote:

AYES:	Ortega, Oygar, Stuart, Cioffi, Bloomer
NOES:	None
ABSENT:	None
ABSTAIN:	None

In response to Director Ortega, Mrs. Metzger explained that the Agency is going to use bill inserts, door tagging on delinquent accounts, an auto-dialing campaign and as customers call in, staff will inform them of the program. Social media will also be used to inform customers of the additional funding.

Request Authorization to Enter into Funding Agreement with DWR for Perris Dam Seepage Recovery Project

19116. President Bloomer called upon General Manager Krause to present staff's Request for Authorization to Enter into Funding Agreement with Department of Water Resources (DWR) for the Perris Dam Seepage Recovery Project.

Mr. Krause noted that this project has been in the works for approximately 7-years and he gave a brief history of the project. Although the original intent of collecting the groundwater was to reduce the risk from liquefaction, it was determined that there was sufficient water that could be returned to the participating agencies and become a new water supply. This new water would be divided between MWD, DWA, and CVWD in proportion to their financial obligations to Lake Perris. DWA and CVWD's portion of the recovered water will be exchanged for an equal amount of MWD's Colorado River water and delivered to the Whitewater and Mission Creek Turnouts in accordance to the conditions set in the 2019 Amended and Restated Agreement between MWD, CVWD, and DWA for the Exchange and Advanced Delivery of Water.

Mr. Krause reported that DWR and MWD entered into a Funding Agreement on May 15, 2017 for the Costs of Environmental Analysis, Planning and Preliminary Design of the Lake Perris Seepage Recovery Project (SWPAO #17601). Although the original Preconstruction funding agreement was between MWD and DWR, it allowed DWA and CVWD the opportunity to participate in the Project to receive water supply benefits. The Recovery System Preconstruction agreement establishes the terms and conditions under which the parties will cost-share in environmental analysis, planning, and preliminary design of the Project. Once approved, the agreement provides DWA access to 328 af/yr of the water supply benefits of the project and confirms DWA's financial participation in its 4.37% share of the pre-construction costs. This phase is estimated to cost $12.575 M, with DWA's share of approximately $550K, and terminates by December 31, 2023 or when all the tasks are completed.

Items for Action: (Cont.) Request Authorization to Enter into Funding Agreement with DWR for Perris Dam Seepage Recovery Project

Staff recommends that the Board authorize the General Manager to execute the Agreement for Funding Between DWR and DWA for the Environmental Analysis, Planning and Design of the Perris Dam Seepage Recovery Project (SWPAO #21608), and to authorize the advance payment of DWA's share of the preconstruction costs in an amount not to exceed $549,159.

Director Oygar moved for approval of staff's request. After a second by Secretary-Treasurer Stuart, the motion carried by the following roll call vote:

AYES:	Ortega, Oygar, Stuart, Cioffi, Bloomer
NOES:	None
ABSENT:	None
ABSTAIN:	None

Request Authorization to Execute Energy Services Agreement with Golden GSRE for BESS Installation at Acanto Booster Site

19117. President Bloomer called upon Assistant General Manager Johnson to present staff's Request for Authorization to Execute Energy Services Agreement with Golden State Renewable Energy (GSRE) for Commercial Battery Energy Storage System (BESS) Installation at Acanto Booster Site.

Mr. Johnson reported that in October 2020, Golden State Renewable Energy (GSRE) submitted two applications to the SCE SGIP program to reserve funding for commercial energy storage system installation at DWA well site 17 and Acanto Booster site. In late January 2021, the SCE SGIP Program Administrator issued a Conditional Reservation Letter for both sites, reserving $668,500 per site. He noted that with the funding reserved, GSRE has been working with the Agency on an Energy Services Agreement, outlining the conditions and terms of the purchase and sale of the services provided from the battery storage system. As part of the review of this agreement it was discovered that there was potential risk associated with keeping the well 17 site operational over the next 15 years. This scenario would prevent the battery storage system from meeting the designed power benefits so, with this uncertainty, GSRE removed well 17 from the SCE SGIP program. He noted that since Acanto Booster is low risk of not operating over the next 15 years, it was decided by both GSRE and the Agency to move forward with the Energy Service Agreement.

Staff and Counsel have reviewed the agreement and all requested changes have been made by GSRE; therefore, staff recommends the Board's authorization to execute the Energy Service Agreement with Golden State Renewable Energy for commercial battery energy storage system installation at Acanto Booster site.

Director Oygar expressed her opposition with the complicated contract for a small backup battery system, the dependability of the

Items for Action: (Cont.) Request Authorization to Execute Energy Services Agreement with Golden GSRE for BESS Installation at Acanto Booster Site

equipment for 15-years, the overall cost per kilowatt hours and that the termination payments are severe.

Vice President Cioffi made a motion to approve staff's recommendation. Director Oygar seconded the motion for discussion purposes.

The Board discussed Director Oygar's concerns and reached a consensus that there is a need for a battery backup system at the Acanto booster and requested staff explore the possibility for a system the Agency can pay for itself. Staff's recommendation failed based on the following roll call vote:

AYES:	Ortega
NOES:	Oygar, Stuart, Cioffi, Bloomer
ABSENT:	None
ABSTAIN:	None

Discussion Items: March Water Use Reduction Figures

19118. President Bloomer called upon Outreach & Conservation Manager Metzger to provide a report on the March Water Use Reduction Figures.

Mrs. Metzger reported that the Agency and its customers achieved a 11% reduction in potable water production compared to the same month in 2013.

Delta Conveyance Project Update

19119. President Bloomer called upon General Manager Krause to provide an update on the Delta Conveyance Project.

Mr. Krause gave an update on the Delta Conveyance Project on the following items; 1) February 2021, the DCA completed its first year long phase: Phase 1 Information Gathering, 2) The geophysical test program was completed to evaluate the potential to reduce reliance on more invasive exploration methods, 3) DWR and the DCA have started soil investigations under the Initial Study/Mitigated Negative Declaration for Soil Investigations in the Delta that was adopted on July 9, 4) The DCA completed geophysical surveys and soil borings on Bouldin Island that started on October 5, 5) DWR has released a survey to collect information on how low-income, minority and other underserved communities rely on resources in the Delta, 6) The 15th meeting of the Stakeholder Engagement Committee (SEC) was held via video conference on February 24, 2021, 7) DWR is continuing to develop an Environmental Impact Report (EIR), 8) The U.S. Army Corps of Engineers (USACE) initiated compliance with the National Environmental Policy Act (NEPA) by issuing a Notice of Intent (NOI) to develop an Environmental Impact Statement (EIS), and 9) The program management team continues to

Discussion Items: (Cont.) Delta Conveyance Project Update

focus on processing contract changes to accommodate the 2020-2021 budget reduction.

In response to Director Ortega, Mr. Krause noted that he will provide a summary of the comments and concerns from people and groups who oppose the DCA.

In response to Vice President Cioffi, Mr. Krause stated he will continue to provide updates on the Delta Conveyance Project.

Director's Comments/Requests

19120. Vice President Cioffi requested a study for a back-up battery facility at the Acanto booster as discussed previously.

Closed Session: A. Existing Litigation – ACBCI vs. CVWD, et al. (2 Cases) B. Existing Litigation – MSWD vs. DWA C. Existing Litigation- Bonnie Kessner, et al vs. Desert Water Agency et al D. Existing Litigation - Possible Intervention in Case: AT&T vs. County of Riverside E. Pending Admin. Proceeding, RWQCB Claim

19121. At 9:48 a.m., President Bloomer convened into a Teleconference Closed Session for the purpose of Conference with Legal Counsel, (A) Existing Litigation, pursuant to Government Code Section 54956.9 (d) (1), Agua Caliente Band of Cahuilla Indians vs. Coachella Valley Water District, et al (2 Cases); (B) Existing Litigation, pursuant to Government Code Section 54956.9 (d) (1), Mission Springs Water District vs. Desert Water Agency; (C) Existing Litigation, pursuant to Government Code Section 54956.9 (d) (1) Bonnie Kessner, et al vs. Desert Water Agency, et al; (D) Existing Litigation, Pursuant to Government Code Section 54956.9 (d) (2), Possible Intervention in Case: AT&T vs. County of Riverside; (E) Pending Administrative Proceeding Pursuant to Government Code Section 54956.9 (d) (1) Regional Water Quality Control Board Claim No. 7018 0680 0000 1010 7377.

Secretary-Treasurer Stuart left Closed Session at 10:30 a.m.

Reconvene – No Reportable Action

19122. At 11:03 a.m., General Manager Krause reconvened the meeting into open session and announced there was no reportable action taken.

Adjournment

19123. In the absence of any further business, General Manager Krause adjourned the meeting at 11:04 a.m.

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Sylvia Baca
Assistant Secretary of the Board

GENERAL MANAGER'S REPORT
May 4, 2021

End of Negotiations for State Water Project Contract Amendment for Delta Conveyance

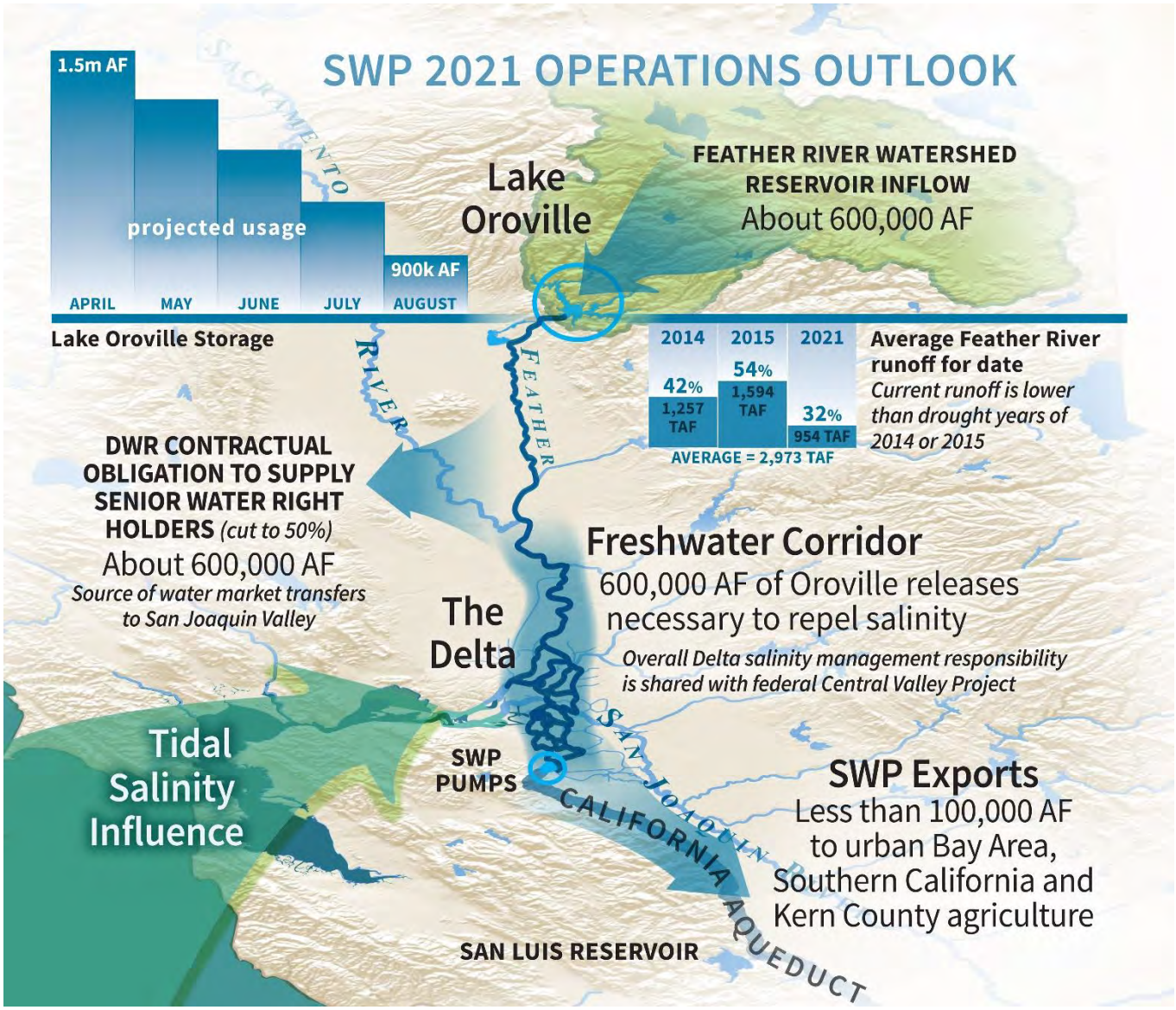
On March 29, 2021, the Department of Water Resources and Public Water Agency negotiators finalized an Agreement in Principle (AIP) for the State Water Project Contract Amendment for Delta Conveyance. The Documents are available at:
https://cadwr.app.box.com/s/irusyewojv4nwzmxfznghzmgli9sswcw/ .

Governor Announces Action to Bolster Drought Resilience

On Wednesday, April 21 at a press conference at Lake Mendocino, Governor Newsom declared a drought state of emergency in Mendocino and Sonoma counties. He pointed to low Sierra snowpack and dwindling reservoir levels and noted that the California and the entire west coast are experiencing drought conditions, this being the second consecutive dry year. Governor Newsom also indicated that the State would be working with water agencies across California to prepare for the possibility of a statewide drought emergency. He made it very clear that the State is not taking a one-size-fits-all approach at this time and doesn't have any restrictions planned in the immediate future.

As part of the effort to boost drought resilience, the Governor is also looking to allocate funding for water conservation projects during the May budget revision. This surplus funding is available because the impact of COVID-19 on the state economy was less than expected. Staff will keep an eye out for funding opportunities for local conservation efforts and will continue to monitor drought conditions and potential regulations.

Newly Released DWR Fact Sheet Explaining Water Use in the Delta this Year



Drought Year State Water Project Operations – April 2021

This graphic illustrates a moment in time, while water project operations are evolving constantly based upon the interplay of runoff, temperatures, demand for water, and many other factors.

Lake Oroville is the largest reservoir of the State Water Project, which supplies water to 29 public water agencies serving more than 27 million Californians.

Lake Oroville last filled in 2019. The current historically low State Water Project water supply allocation is primarily due to extremely dry conditions that have occurred over the past two years. This year the Sacramento Valley runoff is the third driest in the historical record.

Lake Oroville storage is trending toward 900,000 acre-feet at the end of August, likely falling below the 1977 historic low of 880,000 acre-feet in late summer or early fall.

Next winter may be dry, too. Lake Oroville currently is being operated to conserve storage to meet public health and safety needs. Operators are making minimum releases necessary to primarily 1) supply senior water-right holders in the Sacramento Valley who have first rights to Feather River flow and 2) repel salty tides so that water exported to cities and farms south of the Delta via State Water Project pumps remains fresh.

Increased releases from Lake Oroville would further reduce storage needed later in the season for health and safety purposes.

South of the Delta, San Luis Reservoir is currently at 58 percent of average for the date. The State Water Project share of the storage is 640,000 acre-feet.

State Water Project operators are using Delta and California Aqueduct facilities to help water districts cope with low allocations by facilitating water transfers and moving water withdrawn from south-of-Delta groundwater storage banks.

SYSTEM LEAK DATA

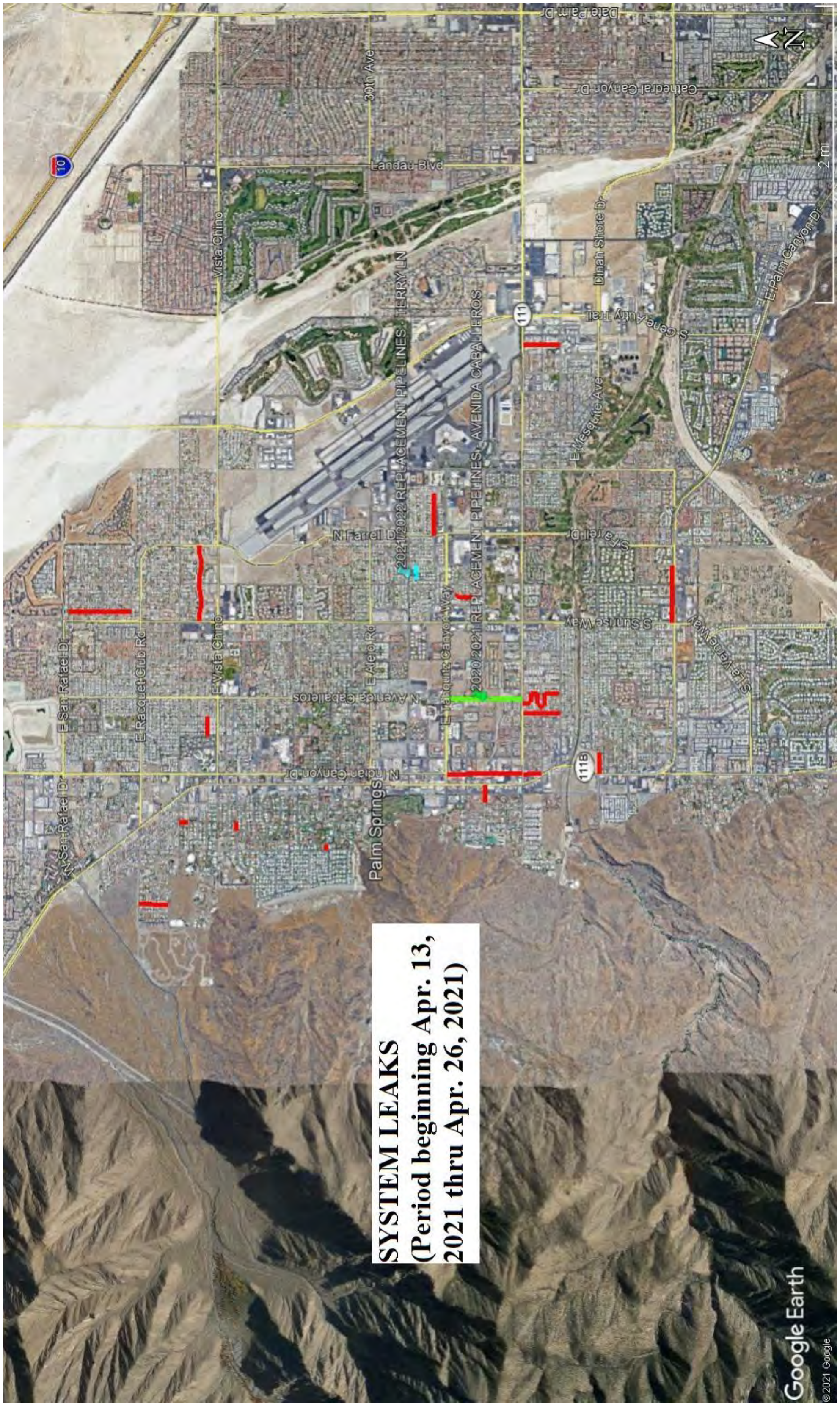
(PERIOD BEGINNING APRIL 13, 2021 THRU APRIL 26, 2021)

STREET NAME	NUMBER OF LEAKS	PIPE DIAMETER (INCHES)	YEAR INSTALLED	PIPE MATERIAL	PIPE CONSTRUCTION
AVENIDA CABALLEROS	3	14	1953	STEEL	BARE/UNLINED
INDIAN CANYON DR	3	6	1951	STEEL	BARE/UNLINED
MOUNTAIN VIEW PL	3	6	1953	STEEL	BARE/UNLINED
STEVENS RD	2	8	1951	STEEL	BARE/UNLINED
BARISTO RD	2	4	1936	STEEL	BARE/UNLINED
CAMINO REAL	1	12	1953	STEEL	BARE/UNLINED
E PALM CANYON DR	1	12	1958	STEEL	BARE/UNLINED
INDIAN CANYON DR	1	10	1938	STEEL	BARE/UNLINED
INDIAN CANYON DR	1	8	1938	STEEL	BARE/UNLINED
DESERT PARK AVE	1	6	1955	STEEL	BARE/UNLINED
MESQUITE AVE	1	6	1956	STEEL	BARE/UNLINED
BISKRA RD	1	6	1957	STEEL	BARE/UNLINED
JANIS WY	1	6	1958	STEEL	BARE/UNLINED
ANDREAS RD	1	6	1958	STEEL	BARE/UNLINED
LOUISE DR	1	6	1959	STEEL	BARE/UNLINED
VIA DEL NORTE	1	4	1945	STEEL	BARE/UNLINED
WARM SANDS DR	1	4	1946	STEEL	BARE/UNLINED
AVENIDA ELENORA	1	4	1946	STEEL	BARE/UNLINED
OLEANDER RD	1	4	1946	STEEL	BARE/UNLINED
TERRY LN	1	4	1956	STEEL	BARE/UNLINED
TOTAL LEAKS IN SYSTEM:	**28**				

Streets highlighted in green are included as part of the
2020/2021 Replacement Pipeline Project
Streets highlighted in blue are being proposed as part of the
2021/2022 Replacement Pipeline Project
Estimate for design portion of Vista Chino 20" mainline replacement is being developed

SYSTEM INFORMATION:	
OLDEST PIPE IN THE SYSTEM (YEAR OF INSTALLATION):	1935
AVERAGE YEAR OF INSTALLATION OF UNLINED STEEL PIPE (SYSTEMWIDE):	1952
AVERAGE AGE OF UNLINED STEEL PIPE (SYSTEMWIDE):	66 YEARS
AVERAGE AGE OF PIPELINE AT THE TIME OF REPLACEMENT:	68 YEARS
TOTAL LENGTH OF PIPE IN SYSTEM OLDER THAN 70 YEARS (LINEAR FEET):	**128,186**
TOTAL LENGTH OF UNLINED PIPE SYSTEMWIDE (LINEAR FEET):	297,672
*AVERAGE LENGTH OF PIPE REPLACED ANNUALLY (LINEAR FEET):	14,500
PROJECTED TIME FRAME FOR 100% REPLACEMENT OF UNLINED STEEL PIPE:	21 YEARS
PROJECTED TIME FRAME FOR 100% REPLACEMENT OF PIPE OLDER THAN 70 YEARS:	**9 YEARS**
YEAR AGENCY TRANSITIONED TO CEMENT LINED STEEL PIPE:	1960

***PLEASE NOTE THIS FIGURE REPRESENTS THE AVERAGE LINEAR FOOTAGE OF PIPELINE REPLACED ANNUALLY GIVEN AN AVERAGE ANNUAL BUDGET OF $3 MILLION.**


SYSTEM LEAKS
(Period beginning Apr. 13, 2021 thru Apr. 26, 2021)
2021/2022 REPLACEMENT PIPELINES, TERRY LN
2020/2021 REPLACEMENT PIPELINES, AVENIDA CABALLEROS
Palm Springs
Dinah Shore Dr
Landau Blvd
Vista Chino
N Farrell Dr
S Sunrise Way
N Indian Canyon Dr
N Avenida Caballeros
E Racquet Club Rd
E San Rafael Dr
Cathedral Canyon Dr
Date Palm Dr
30th Ave
E Palm Canyon Dr
S Gene Autry Trail
E Mesquite Ave
Google Earth

General Manager's Meetings and Activities

Meetings:

04/20/21	DWA Bi-Monthly Board Mtg.	Conf Call
04/20/21	SGMA – Mission Creek Subbasin Mtg	Conf Call
04/20/21	WWRF-BLM Permit Cooperators Mtg	Conf Call
04/21/21	SGMA – Indio Subbasin Mtg	Conf Call
04/22/21	DWA In-Person Safety Mtg	Conf Call
04/22/21	WWRF-BLM Permit All Team Mtg	Conf Call
04/23/21	Sites Reservoir Joint Financial Workshop #2	Conf Call
04/23/21	SWC Key Issue Update Call	Conf Call
04/23/21	DWA/K&S Engineer's Report Review	Conf Call
04/26/21	DWR Oroville Spillway FEMA Funding Update	Conf Call
04/26/21	DWA Wkly Staff Mtgs	Conf Call
04/26/21	Tribal Technical Cmte Salinity Control Mtg.	Conf Call
04/27/21	SGMA – SGP External GW Extraction Discussion	Conf Call
04/28/21	Agua Caliente Water Authority Board Mtg	Conf Call
04/29/21	DWA Executive Cmte Mtg	Conf Call
05/03/21	DWA Wkly Staff Mtgs	Conf Call
05/03/21	DWA Employee Assoc. Negotiation Mtg	Conf Call
05/04/21	WWRF – BLM Permit Cooperators Mtg	Conf Call
05/04/21	DWA Bi-Monthly Board Meeting	Conf Call

Activities:

1) SWP Contract Extension Amendment
2) DWA Remote Meter Reading Fixed Network
3) Whitewater Hydro – Automatic Re-start
4) State and Federal Contractors Water Authority and Delta Specific Project Committee (Standing)
5) Whitewater River Surface Water Recharge
6) Lake Oroville Spillway FEMA funding
7) Replacement Pipelines 2020-2021
8) DC Project – Finance JPA Committee (Standing)
9) DWA/CVWD/MWD Operations Coordination/Article 21/Pool A/Pool B/Yuba Water (Standing)
10) DWA/CVWD/MWD Exchange Agreement Coordination Committee (Standing)
11) SWP 2020 Water Supply
12) ACBCI Water Rights Lawsuit
13) Whitewater Hydro Operations Coordination with Recharge Basin O&M
14) SGMA Tribal Stakeholder Meetings
15) Whitewater Spreading Basins – BLM Permits
16) Delta Conveyance Project Cost Allocation
17) DWA Surface Water Filtration Feasibility Snow Creek Village/Palm Oasis

Activities Cont.:

18) MCSB Delivery Updates
19) Well 6 Meaders Cleaners RWQB Meetings
20) SWP East Branch Enlargement Cost Allocation
21) UWMP Population Calculation Update/Valley-Wide UWMP
22) RWQCB Update to the SNMP
23) SGMA – San Gorgonio Pass Subbasin

Executive Committee Meeting

April 29, 2021

Directors Present: Kristin Bloomer, James Cioffi
Staff Present: Mark Krause, Esther Saenz, Sylvia Baca, Kim McCance

1. Discussion Items

   A. Review Agenda for May 4, 2021 Regular Board Meeting
   The proposed agenda for the May 4, 2021 meeting was reviewed.

2. Adjourn

7- A

STAFF REPORT
TO
DESERT WATER AGENCY
BOARD OF DIRECTORS

MAY 4, 2021

RE: REQUEST ADOPTION OF RESOLUTION NO. 1255 APPROVING THE 2021 LOCAL GUIDELINES FOR IMPLEMENTING THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) FOR DESERT WATER AGENCY

The California Environmental Quality Act (CEQA), codified at Public Resources Code section 21000 et seq., is California's most comprehensive environmental law. It generally requires public agencies to evaluate the environmental effects of their actions before they are taken. CEQA also aims to prevent significant environmental effects from occurring as a result of agency actions by requiring agencies to avoid or reduce, when feasible, the significant environmental impacts of their decisions.

CEQA requires public agencies to adopt specific objectives, criteria and procedures for evaluating public and private projects that are undertaken or approved by such agencies. The Agency's CEQA Guidelines have been prepared by the Agency's legal counsel, Best Best & Krieger. These Guidelines reflect recent changes in the State CEQA Guidelines and relevant court opinions These Local CEQA Guidelines also provide instructions and forms for preparing all environmental documents required under CEQA.

Fiscal Impact: No fiscal impact is anticipated from amending the Local CEQA Guidelines.

Environmental Impact: No environmental impact is anticipated from amending the Local CEQA Guidelines. Desert Water Agency's adoption of the attached Resolution is not a project under State CEQA Guidelines section 15378(b)(5) because it involves an administrative activity involving process only and would not result in any environmental impacts.

Staff recommends that the Board adopt Resolution No. 1255 regarding the adoption of the 2021 Local Guidelines for Implementing the California Environmental Quality Act for Desert Water Agency. The changes are detailed in a memo prepared by Best Best & Krieger, also attached.

RESOLUTION NO. 1255

A RESOLUTION OF THE BOARD OF DIRECTORS OF DESERT WATER AGENCY AMENDING AND ADOPTING LOCAL GUIDELINES FOR IMPLEMENTING THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (PUBLIC RESOURCES CODE §§ 21000 ET SEQ.)

WHEREAS, the California Legislature has amended the California Environmental Quality Act ("CEQA") (Pub. Resources Code §§ 21000 et seq.), the Natural Resources Agency has amended the State CEQA Guidelines (Cal. Code Regs, tit. 14, §§ 15000 et seq.), and the California courts have interpreted specific provisions of CEQA; and

WHEREAS, Public Resources Code section 21082 requires all public agencies to adopt objectives, criteria and procedures for (1) the evaluation of public and private projects undertaken or approved by such public agencies, and (2) the preparation, if required, of environmental impact reports and negative declarations in connection with that evaluation; and

WHEREAS, the Desert Water Agency must revise its local guidelines for implementing CEQA to make them consistent with the current provisions and interpretations of CEQA and the State CEQA Guidelines.

NOW, THEREFORE, be it resolved by the Board of Directors of Desert Water Agency ("Agency") as follows:

SECTION 1. The Agency hereby adopts the "2021 Local Guidelines for Implementing the California Environmental Quality Act," a copy of which is on file at the offices of the Agency and is available for inspection by the public.

SECTION 2. The Guidelines adopted herein shall supersede all earlier adopted versions thereof.

ADOPTED this 4th day of May, 2021.

_____
Kristin Bloomer, President

ATTEST:

_____
Joseph K. Stuart, Secretary-Treasurer

Memorandum

TO: Project 5 Agency Client

FROM: Best Best & Krieger LLP

DATE: April 5, 2021

RE: 2021 Summary of Changes to Local CEQA Guidelines

REVISIONS TO LOCAL GUIDELINES

Revised and New Sections

1. SECTION 3.02(G) MINISTERIAL ACTIONS

The Local Guidelines include a list of ministerial actions not subject to CEQA review, and we have supplemented this list to reflect the California Legislature's adoption of AB 2421. Specifically, we added a subdivision (g) to Section 3.02 of the Local Guidelines to reflect that an application to install an emergency standby generator to serve a macro cell tower must be reviewed on an administrative, nondiscretionary basis where certain conditions are met. Because such an application requires only a ministerial approval, its approval is not subject to CEQA.

2. SECTION 3.21 TRANSIT PRIORITIZATION PROJECTS

Section 3.21 has been added to the Local Guidelines to reflect the Legislature's adoption of SB 288, which exempts certain transit prioritization and other transportation projects from CEQA, including projects relating to pedestrian and bicycle facilities; projects relating to signal coordination, signal modifications, the installation of ramp meters, the installation of dedicated transit or very high occupancy vehicle lanes; the installation of shared turning lanes; and projects carried out by a city or county to reduce minimum parking requirements. A full list of the projects exempt from CEQA under SB 288 is set forth in Section 3.21.

3. SECTION 3.22 RESTRIPING STREETS AND HIGHWAYS FOR BICYCLE LANES

Section 3.22 has been added to the Local Guidelines to reflect codification of Public Resources Code section 21080.20. This section exempts from CEQA a bicycle transportation plan for an urbanized area for the restriping of streets and highways, bicycle parking and storage, signal timing to improve street and highway intersection operations, and the related signage for bicycles, pedestrians, and vehicles.

4. SECTION 3.23 SMALL DISADVANTAGED COMMUNITY WATER SYSTEM AND STATE SMALL WATER SYSTEM

With its adoption of SB 974, the Legislature has exempted from CEQA certain projects consisting solely of the installation, repair, or reconstruction of water infrastructure for small disadvantaged community water systems or state small water systems that (1) improve the water system's water quality, water supply, or water reliability; (2) encourage water conservation; or (3) provide safe drinking water service to existing residences within a disadvantaged community.

We have added Section 3.23 to the Local Guidelines to reflect these exemptions.

5. SECTION 5.09 DETERMINING THE SIGNIFICANCE OF TRANSPORTATION IMPACTS

In December 2018, the Office of Administrative Law adopted State CEQA Guidelines section 15064.3, which codified a change in how transportation impacts must be analyzed under CEQA. Section 15064.3 of the State CEQA Guidelines provides that "vehicle miles traveled," or VMT, shall be the most appropriate measure of transportation impacts under CEQA. VMT refers to the amount and distance of automobile travel attributable to a project. Under Section 15064.3, VMT shall replace a proposed project's effect on automobile delay—generally measured by "level of service" or LOS—as the appropriate measure for transportation impacts. Accordingly, a project's effect on automobile delay shall no longer constitute a significant transportation environmental impact under CEQA.

Section 15064.3, however, provided that its provisions would not go into effect until July 1, 2020, unless a lead agency elected to be governed by its provisions earlier. In last year's 2020 Local CEQA Guidelines, we made clear that unless the Agency established otherwise via a separate action, the Agency did not elect to be governed by the provisions of Section 15064.3 before July 1, 2020.

This year, we have amended the Local CEQA Guidelines to remove the language providing that the Agency has not elected to be governed by the provisions of Section 15064.3. Whether the Agency takes separate action or not, the Agency must now consider Section 15064.3 when addressing a project's transportation impacts. This does not mean, however, that the Agency must necessarily adopt any new thresholds of significance relating to VMT, though the Agency may seek to adopt a threshold of significance if it is so inclined.

6. SECTIONS 6.04 & 7.28 PUBLIC REVIEW FOR NEGATIVE DECLARATION OR EIR

Sections 6.04 and 7.28 of the Local Guidelines discuss the length of the public review period for a negative declaration or EIR. We have revised these sections to clarify that the ending date for the relevant public review period may not fall on a weekend, legal holiday, or other day on which the lead agency's offices are closed.

We understand that in response to the Covid-19 pandemic, many public agencies have closed their physical offices to the public; we are not suggesting that in such circumstance, the public review period should continue indefinitely until the agency opens its offices to the public. Accordingly, we have made clear that a public agency's office is not considered closed for purposes of calculating the relevant public review period where the agency's office may be physically closed, but the agency is nonetheless open for business and is operating remotely or virtually.

7. SECTIONS 6.11, 7.25 & 7.26 SUBMISSION OF DOCUMENTS TO STATE CLEARINGHOUSE

As of November 3, 2020, the State Clearinghouse no longer accepts printed copies of CEQA documents. Rather, all CEQA documents submitted to the State Clearinghouse must be

submitted electronically via the State Clearinghouse's "CEQA Submit" database. A step-by-step discussion of how to submit documents to the State Clearinghouse can be found at http://www.opr.ca.gov/clearinghouse/ceqa/document-submission.html.

These developments have been memorialized in Sections 6.11, 7.25 and 7.26 of the Local Guidelines.

8. SECTION 9.01 STREAMLINED MINISTERIAL APPROVAL PROCESS FOR AFFORDABLE HOUSING PROJECTS

The Legislature has provided for a streamlined, ministerial approval process for certain affordable housing projects satisfying various conditions. This process is not new, and it is already included in the Local Guidelines in Section 9.01. The Legislature, however, has amended this process to provide for more robust tribal consultation and to provide for increased protection of tribal cultural resources. The new provisions relating to tribal cultural resources are set forth in Section 9.01(b) of the Local Guidelines.

Other Changes

Effective January 1, 2021, the Department of Fish and Wildlife has increased its fees. For a Negative Declaration or a Mitigated Negative Declaration, the new filing fee is $2,480.25. For an EIR, the new filing fee is $3,445.25. For an environmental document pursuant to a Certified Regulatory Program, the filing fee has been increased to $1,171.25.

Conclusion

As always, CEQA remains complicated and, at times, challenging to apply. The only constant in this area of law is how quickly the rules change. Should you have questions about any of the provisions discussed above, or about the environmental review of any of your Agency's projects, please contact a BB&K attorney for assistance.

BEST BEST & KRIEGER LLP

STAFF REPORT
TO
DESERT WATER AGENCY
BOARD OF DIRECTORS

MAY 4, 2021

RE: RECOMMENDATION OF CONTRACT AWARD FOR CONSTRUCTION OF 2020/2021 REPLACEMENT PIPELINES (E. SONORA ROAD, E. AVENIDA PALMERA, E. AVENIDA HOKONA, E. AVENIDA OLANCHA, AVENIDA ORTEGA, S. VIA ENTRADA, VIA SOLEDAD, VIA SALIDA, S. CALLE PALO FIERRO, AND S. ARABY DRIVE)

On April 27, 2021, Desert Water Agency received eight bids for the 2020/2021 Replacement Pipelines Project (see attached exhibits). The bid amounts and Engineer's Estimate are as follows:

Contractor	Bid Amount
Borden Excavating Inc.	$1,827,060.00
Downing Construction, Inc.	$2,187,193.00
Desert Concepts Construction, Inc.	$2,451,931.00
T.E. Roberts, Inc.	$2,466,957.00
Weka, Inc.	$2,539,272.00
The Van Dyke Corporation	$2,551,536.00
Christensen Brothers General Engineering Inc.	$3,423,460.00
Dominguez General Engineering, Inc.	$3,433,675.00
Average Bid	$2,610,135.50
ENGINEER'S ESTIMATE	$2,440,000.00

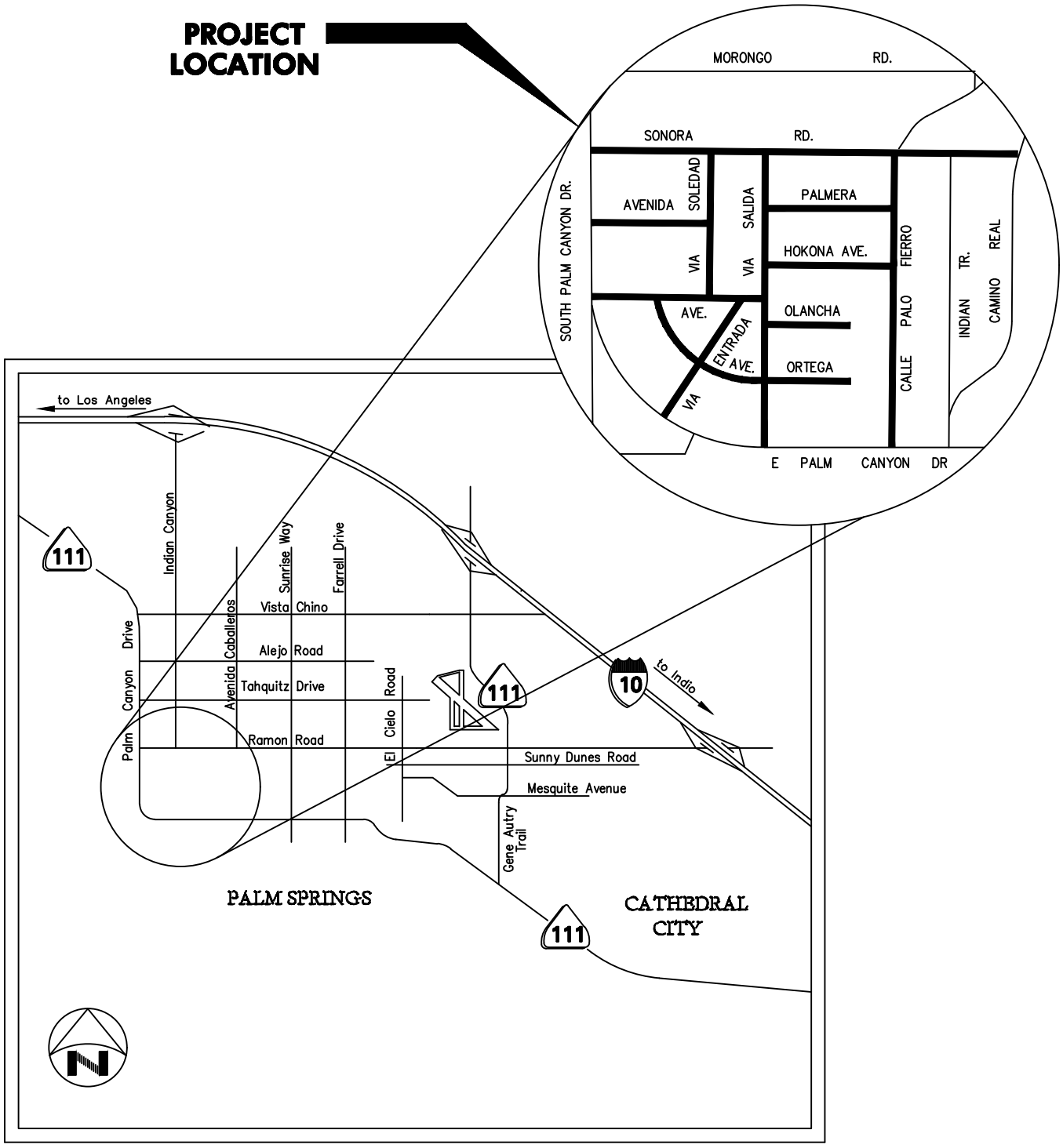
Borden Excavating Inc. submitted the lowest responsive bid for this project. Borden Excavating Inc. low bid is approximately 16.5% lower than the second low bid from Downing Construction, Inc. Borden Excavating Inc. is considered a capable contractor with a current Class A Contractor's License, #741879.

The 2020/2021 Capital Improvement Budget includes Work Order No. 20-161--12, -08 in the original amount of $2,550,000 for project engineering, overheads, construction and inspection and an approved budget augmentation amount of $350,000, for a total budget amount of $2,900,000. Staff requested the augmentation as part of the request to

advertise to cover the anticipated cost of the project that included additional lineal feet of pipe to be installed within Sonora Road and Araby Drive as well as additional street paving. The bids received on April 27 included the cost for the additional linear feet of pipe and the additional street paving.

As a result of the low bid received from Borden Excavating Inc., staff estimates that the Agency will have approximately $675,000 additional funds remaining in this year's work order.

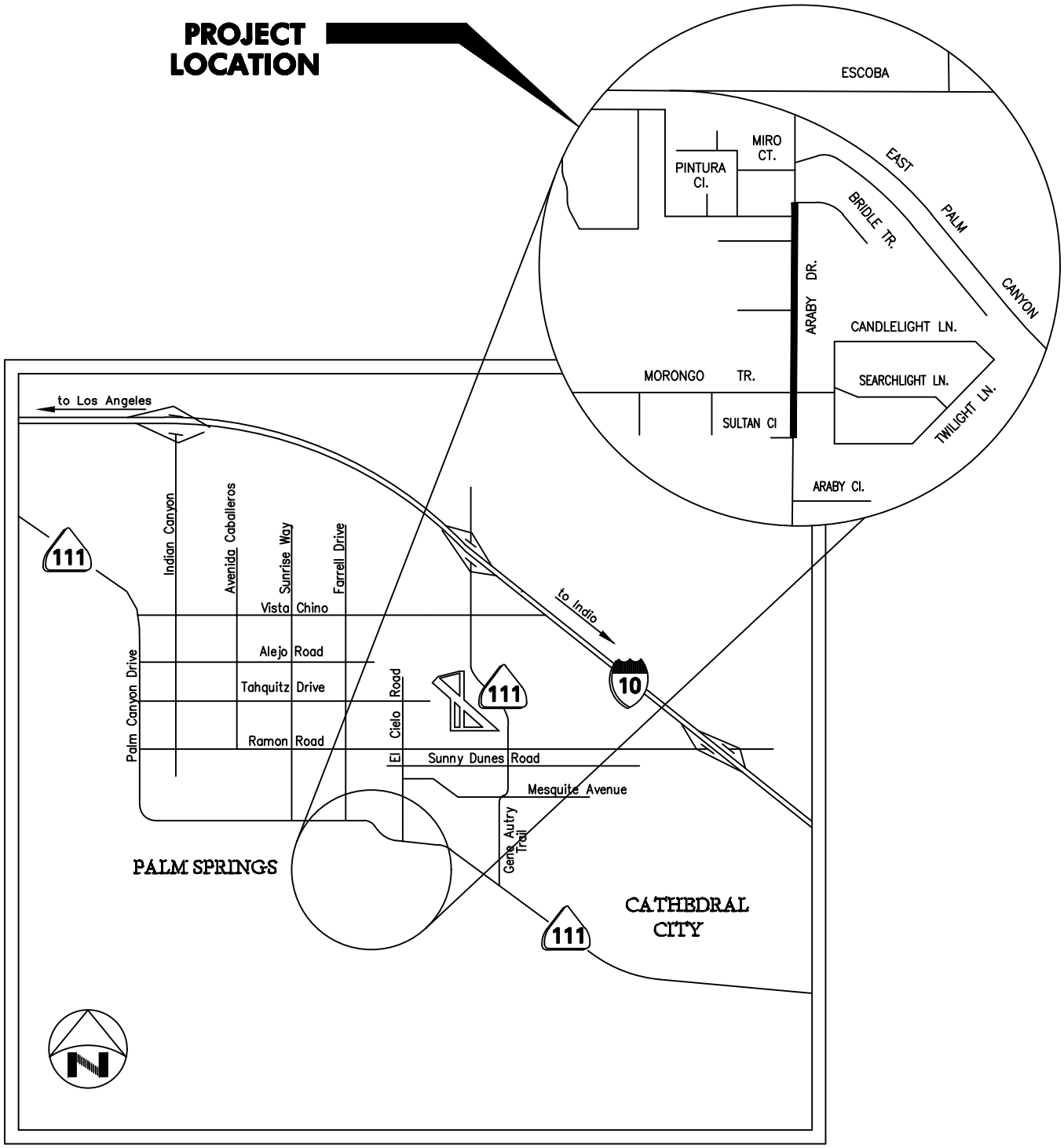
Staff recommends award of contract for the 2020/2021 Replacement Pipelines Project to Borden Excavating Inc. in the amount of $1,827,060.00. Based on bidding documents, the project is estimated to be completed by the end of October 2021.



LOCATION MAP

NOT TO SCALE

FY 2020/2021	**DWG. BY** ML	**DATE** 2-22-21	**SCALE** N.T.S.	**W.O. NO.** 20-161
REPLACEMENT PIPELINES				
AREA 1	**APP'D BY** MK	**REVISED**	**PERMIT**	**FILE NO.**
DESERT WATER AGENCY PALM SPRINGS, CALIFORNIA	**CHK'D BY** DT			**SHEET** 1 OF 2



LOCATION MAP

NOT TO SCALE

FY 2020/2021	**DWG. BY** ML	**DATE** 2-22-21	**SCALE** N.T.S.	**W.O. NO.** 20-161
REPLACEMENT PIPELINES				
AREA 2	**APP'D BY** MK	**REVISED**	**PERMIT**	**FILE NO.**
DESERT WATER AGENCY PALM SPRINGS, CALIFORNIA	**CHK'D BY** DT			**SHEET** 2 OF 2

STAFF REPORT TO
DESERT WATER AGENCY
BOARD OF DIRECTORS

MAY 04, 2021

RE: DRAFT GROUNDWATER REPLENISHMENT ASSESSMENT ENGINEERING SURVEY AND REPORTS FOR WEST WHITEWATER RIVER AND MISSION CREEK SUBBASINS

Section 15.4(b) of Desert Water Agency Law, which pertains to replenishment assessments, provides that:

> "By May 1 of each year the Board shall cause to be prepared and presented to it an engineering survey and report concerning the groundwater supplies within the Agency. Such report shall include the condition of such groundwater supplies, the need for replenishment, and recommendations for any replenishment program, including the source and amount of replenishment water and the cost of purchasing, transporting and spreading such water. In connection with any proposed replenishment program, the report shall describe the area or areas benefited, either directly or indirectly, the amount of water production in each such area during the prior year, and shall recommend the amount of assessment to be levied upon all production within such area or areas of benefit."

Section 15.4(c) provides that:

> "If the Board determines that funds should be raised by a replenishment assessment, it shall call a public hearing, and shall publish notice at least 10 days in advance thereof pursuant to Section 6061 of the Government Code. Notice shall also be mailed by the Agency to all producers as disclosed by the records of the Agency who may be affected by the recommended assessment. Failure of any affected producers to receive such notice shall not affect the validity of any subsequent replenishment assessment. The notice shall contain a description of each area of benefit, the amount of each recommended replenishment assessment, and an invitation to all interested parties to attend and be heard in support of or in opposition to the proposed assessment. The notice shall also state that a copy of the engineering report is available for inspection at the office of the Agency."

Consulting Engineer Krieger & Stewart has prepared a Draft Engineer's Report on Groundwater Replenishment and Assessment Program for Desert Water Agency 2021/2022, which is enclosed herewith. This draft is presented today for discussion purposes only. A final report will be presented at the meeting set for May 18, 2021 and a determination made that funds should be raised by a replenishment assessment for Board acceptance. Staff will request authorization to set a public hearing for the June 15, 2021 Board meeting. A Notice of Public Hearing will be published in The Public Record on May 27, 2021 and a Notice of Public Hearing will be sent to all producers (over 10 acre feet production) who will be affected by the recommended assessment.

DWA's proposed replenishment assessment rate for 2021/2022 is $175.00 per acre-foot for West Whitewater River and Mission Creek Subbasin Areas of Benefit.

CVWD's proposed replenishment assessment rate for 2021/2022 is $165.37 per acre-foot for West Whitewater River Subbasin Area of Benefit.

CVWD’s proposed replenishment assessment rate for 2021/2022 is $135.52 per acre-foot for Mission Creek Subbasin Area of Benefit.

It should be noted that the Garnet Hill Subbasin area of benefit is now included in the West Whitewater River area of benefit.

Due to recent dramatic increases in the charges for imported water, replenishment costs have risen significantly. State Water Project variable charges are estimated to increase 25% over charges in the year 2015. The Delta Water Charge is estimated to increase by 59% over the Delta Water Charge in the year 2015. This level of spending is expected to continue and increase steadily into the future. Over the last year water production has declined approximately 13% due to conservation using 2013 water production as a baseline.

The 5-year rate study completed in 2016 and the subsequent Prop 218 approved rates have taken into account Delta charge increases and increased conservation. The Rate Study incorporated the proposed replenishment rates taken from the 2016/2017 Engineers Report on Groundwater Replenishment and Assessment.

The current estimated effective Table A Assessment Rate has increased from $243/AF to $247/AF this year and remains beyond what was expected in setting the 2016 Prop 218 rates, due, in part, to the removal of the Call Back Factor for the 100,000 AF exchange with MWD and the increased reliability of Table A from 58% to 62%. This increase is also due to significant increases in cost in all applicable State Water Charges (Delta Water Charge, Variable Transportation Charge, and Off-Aqueduct Power Charge), as estimated by DWR for 2021.

The proposed assessment rate is $175/AF and is intended to stabilize water rates. The increase from $165/AF to $175/AF is expected to increase DWA operation fund expenses by an estimated $338,800. We will continue to rely on using our State Water Project reserve account to make up the difference and gradually increase the replenishment assessment until such time that the revenues cover each year’s charges for imported water with no further shortfall accrual.

DESERT WATER

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ENGINEER'S REPORT

GROUNDWATER REPLENISHMENT AND ASSESSMENT PROGRAM FOR THE WEST WHITEWATER RIVER SUBBASIN, AND MISSION CREEK SUBBASIN AREAS OF BENEFIT

DESERT WATER AGENCY 2021/2022

MAY 2021

Prepared by

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R.C.E. No. 42922

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(REPORTS/101-33P45RPT)

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ABBREVIATIONS

2013-2014 Multi-Year Water Pool ..... MYWP
acre feet per year ..... AF/Yr
Applicable State Water Project Charges ..... Applicable SWP Charges
Area of Benefit ..... AOB
Bay Delta Conservation Plan ..... BDC
California Department of Water Resources ..... CDWR
Coachella Valley Water District ..... CVWD
degrees Fahrenheit ..... °F
Desert Water Agency ..... DWA
Garnet Hill Subarea ..... GH
Metropolitan Water District of Southern California ..... MWD
Mission Creek/Garnet Hill Water Management Plan ..... MC/GH WMP
Mission Creek Subbasin ..... MC
Mission Springs Water District ..... MSWD
Montgomery Watson Harza ..... MWH
Off-Aqueduct Power Component of the State Water Project Transportation Charge ..... Off-Aqueduct Power Charge
State Water Resources Control Board ..... SWRCB
State Water Project ..... SWP
United States Geological Survey ..... USGS
Variable OMP&R Component of the State Water Project Transportation Charge ..... Variable Transportation Charge
West Whitewater River Subbasin ..... WWR

DEFINITIONS

Term	Definition
Natural Inflow	Water flowing into a groundwater unit from natural sources such as surface water runoff or subsurface underflow from other groundwater units
Natural Outflow	Water flowing out of a groundwater unit by drainage or subsurface underflow into other groundwater units
Net Natural Inflow	Natural Inflow minus Natural Outflow
Production	Either extraction of groundwater from a Management Area or Area of Benefit (including its upstream tributaries), or diversion of surface water that would otherwise naturally replenish the groundwater within the Management Area or Area of Benefit (including its upstream tributaries)
Consumptive Use	Use of groundwater that does not return the water to the groundwater unit from which it was extracted, e.g. evaporation, evapotranspiration, export

Term	Definition
Non-Consumptive Return	Pumped groundwater that is returned to the groundwater unit after pumping, e.g. irrigation return, wastewater percolation, septic tank percolation
Net Production	Production minus Non-Consumptive Return
Assessable Production	Production within an Area of Benefit that does not include groundwater extracted by minimal pumpers and minimal diverters
Minimal Pumper	A groundwater pumper that extracts 10 AF of water or less in any one year
Minimal Diverter	A surface water diverter that diverts 10 AF of water or less in any one year
Gross (Groundwater) Overdraft	Total Net Production in excess of Net Natural Inflow
Net (Groundwater) Overdraft	Gross Groundwater Overdraft offset by artificial replenishment
Cumulative Gross Overdraft	Total Gross Overdraft that has accumulated since the specific year that marks estimated commencement of gross overdraft conditions
Cumulative Net Overdraft	Cumulative Gross Overdraft offset by Cumulative Artificial Replenishment
Whitewater River (Indio) Subbasin	The entire Indio Subbasin, as defined by the California Department of Water Resources, *Bulletin No. 108: Coachella Valley Investigation* (1964).
Mission Creek Subbasin or MC	The entire Mission Creek Groundwater Subbasin as defined by the California Department of Water Resources, *Bulletin No. 108: Coachella Valley Investigation (1964) and by* the United States Geological Survey in *Geological Survey Water-Supply Paper 2027* (1974)
Garnet Hill Subarea or GH	The entire Garnet Hill Subarea of the Indio Subbasin, as defined by the California Department of Water Resources, *Bulletin No. 108: Coachella Valley Investigation (1964).* Also known as the Garnet Hill Groundwater Subbasin as defined by the United States Geological Survey in *Geological Survey Water-Supply Paper 2027* (1974)

Term	Definition
Palm Springs Subarea	The entire Palm Springs Subarea of the Indio Subbasin, as defined by the California Department of Water Resources, *Bulletin No. 108: Coachella Valley Investigation (1964).* Also known as the Whitewater River Groundwater Subbasin as defined by the United States Geological Survey in *Geological Survey Water-Supply Paper 2027* (1974)
West Whitewater River Subbasin Management Area or WWR Management Area	The westerly portion of the Whitewater River (Indio) Subbasin, including the Palm Springs and Garnet Hill Subareas, and a portion of the San Gorgonio Pass Subbasin tributary to the Whitewater River (Indio) Subbasin, as specifically defined in Chapter II
West Whitewater River Subbasin Area of Benefit or WWR AOB	The portion of the WWR Management Area that is within DWA's service area and is managed by DWA
CVWD's West Whitewater River Subbasin Area of Benefit or CVWD's WWR AOB	The portion of the WWR Management Area that is within CVWD's service area and is managed by CVWD
Mission Creek Subbasin Management Area or MC Management Area	The portion of the Mission Creek Subbasin that lies within the service areas of DWA and CVWD, as specifically defined in Chapter II
Mission Creek Subbasin Area of Benefit or MC AOB	The portion of the MC Management Area that is within DWA's service area and is managed by DWA
CVWD's Mission Creek Subbasin Area of Benefit or CVWD's MC AOB	The portion of the MC Management Area that is within CVWD's service area and is managed by CVWD

CHAPTER I
EXECUTIVE SUMMARY

CHAPTER I
EXECUTIVE SUMMARY

Since 1973, Coachella Valley Water District (CVWD) and Desert Water Agency (DWA) have been using Colorado River water exchanged for State Water Project (SWP) water to replenish groundwater in the West Whitewater River Subbasin (WWR) and Mission Creek Subbasin (MC) Management Areas of the Coachella Valley Groundwater Basin.

Through the 2019/2020 Engineer's Reports, the portion of the Garnet Hill Subarea (GH) within DWA's service area was considered by DWA to be a separate subbasin and Management Area. However, CVWD considered the portion of the Garnet Hill Subarea within CVWD's service area to be part of the WWR Management Area. In addition, since the Sustainable Groundwater Management Act (SGMA) is administered by the California Department of Water Resources (CDWR), SGMA plans and reports are required to use the CDWR basin and subbasin definitions. CDWR does not consider the Garnet Hill Subarea to be a separate subbasin.

For these reasons, since the 2020/2021 Engineer's Report, the Garnet Hill Subarea has been referred to as such, rather than as the Garnet Hill Subbasin, it is included as a portion of the WWR Management Area, and the following terms and definitions apply:

- "Whitewater River (Indio) Subbasin" – the entire Indio Groundwater Subbasin as defined by CDWR.
- "West Whitewater River Subbasin Management Area" or "WWR Management Area" – the westerly portion of the Whitewater River (Indio) Subbasin, including the GH, as specifically defined in **Chapter II**.
- "West Whitewater River Subbasin Area of Benefit" or "WWR AOB" – the portion of the WWR Management Area that is within DWA's service area and is managed by DWA. The portion of the WWR Management Area that is within CVWD's service area and is managed by CVWD will be referred to as "CVWD's West Whitewater River Subbasin Area of Benefit" or "CVWD's WWR AOB".

Groundwater production continues to exceed natural groundwater replenishment. If groundwater replenishment with imported water (artificial replenishment) is excluded, gross groundwater overdraft (defined herein as groundwater extractions or water production in excess of natural groundwater

replenishment and/or recharge) within the WWR and MC Management Areas of the Coachella Valley Groundwater Basin (see **Figure 1**) would continue to increase at a steady rate. The five-year average gross overdraft (total net production minus net natural inflow) in the WWR Management Area is currently estimated to be about 73,000 acre feet per year (AF/Yr), while gross overdraft in the MC Management Area is currently estimated at about 6,000 AF/Yr. Supplementing natural groundwater recharge resulting from rainfall runoff with artificial replenishment using imported water supplies is therefore necessary to offset annual and cumulative gross overdraft.

Increases in cumulative gross overdraft, without artificial replenishment, will result in declining groundwater levels and increasing pump lifts, thereby increasing energy consumption for groundwater extraction. Extreme cumulative gross overdraft has the potential of causing ground surface settlement, and could also have an adverse impact upon groundwater quality and storage volume. Artificial replenishment offsets annual groundwater overdraft and the concerns associated therewith and arrests or reduces the effects of cumulative gross groundwater overdraft.

The Areas of Benefit (AOBs) for DWA's portion of the groundwater replenishment program are those portions of the WWR and MC Management Areas, including tributary subbasins (e.g. the San Gorgonio Pass Subbasin), rivers, or streams--which lie within the boundaries of DWA (**Figure 2**). The costs involved in carrying out DWA's groundwater replenishment program are essentially recovered through water replenishment assessments applied to all groundwater and surface water production within each AOB, aside from specifically exempted production.

Desert Water Agency Law defines *production* as "the extraction of groundwater by pumping or any other method within the boundaries of the agency, or the diversion within the agency of surface supplies which naturally replenish the groundwater supplies within the agency and are used therein." The following producers are specifically exempted from assessment: producers extracting groundwater from all three subbasins and upstream tributaries at rates of 10 AF/Yr or less; and producers diverting surface water without diminishing stream flow and groundwater recharge of the subbasins and upstream tributaries by 10 AF/Yr or less. Therefore, *production*, as used herein, is understood as either extraction of groundwater from a Management Area or AOB (including its upstream tributaries), or diversion of surface water that would otherwise naturally replenish the groundwater within the Management Area or AOB (including its upstream tributaries). *Assessable production*, as used herein, is understood as production that does not include water produced by minimal pumpers and minimal diverters at rates of 10 AF/Yr or less.

As a result of the implementation of the Mission Creek Groundwater Replenishment Agreement, dated April 8, 2003, between CVWD and DWA to replenish and jointly manage groundwater in the MC, the Mission Springs Water District (MSWD) filed an action in the Superior Court of California challenging the replenishment assessments levied on MSWD groundwater extractions or production. The three parties settled the dispute as documented in a Settlement Agreement and Addendum in December 2004. The Settlement Agreement stipulated that the three parties would form the Mission Creek/Garnet Hill Subbasin Management Committee to collectively discuss water management in the Whitewater River, Mission Creek, and Garnet Hill hydrologic units. The three parties also agreed to investigate whether the Garnet Hill Subarea was in fact benefitting from the artificial replenishment programs within the WWR and MC Management Areas and to prepare the MC/GH Water Management Plan (MC/GH WMP).

The MC/GH WMP determined that, although some natural replenishment to this subarea may come from Mission Creek and other streams that pass through during periods of high flood flows, the chemical character of the groundwater (and its direction of movement) indicate that the main source of natural replenishment to the subbasin comes from the Whitewater River through the permeable deposits which underlie Whitewater Hill. With respect to artificial replenishment, the MC/GH WMP determined that since artificial replenishment activities began, the Garnet Hill Subarea has benefitted from artificial replenishment in both the WWR and the MC: the former by means of infiltration from the Whitewater River channel, from subsurface flow across the Garnet Hill Fault (which does not reach the surface, and is probably only effective as a barrier to lateral groundwater movement below a depth of about 100 feet) from the WWR into the upper and central portions of the GH, and by retardation of subsurface outflow from the lower portion of the Garnet Hill Subarea during high groundwater levels resulting from recharge operations within the Whitewater River Replenishment Facility; and the latter by means of subsurface flow across the Banning Fault from the MC resulting from recharge operations at the Mission Creek Replenishment Facility, as evidenced by the groundwater contours observed on either side of the Banning Fault.

The MC/GH WMP did not specifically quantify the recharge contributions to the Garnet Hill Subarea from either the Palm Springs Subarea of the Whitewater River Subbasin or the MC, due to insufficient hydrologic data. Based on data available, it is unclear and uncertain as to the exact relative contribution from these sources to the replenishment of the Garnet Hill Subarea.

The benefits resulting from artificial groundwater infiltration from the Whitewater River channel and subsurface flow of groundwater from the MC and from the WWR is evidenced by the response observed by groundwater levels in wells within the GH. Historic groundwater levels within the Garnet Hill Subarea

and historic quantities of imported water delivered to the Whitewater River and Mission Creek Groundwater Replenishment Facilities are shown in **Exhibit 3**. The rising groundwater levels correlate with the large quantities of groundwater replenishment, particularly in those groundwater wells located in the westerly and central portions of the Garnet Hill Subarea, especially for the periods 1985 through 1987, 1995 through 2000, and 2009 through 2012.

Since the Garnet Hill Subarea benefits from CVWD's and DWA's replenishment programs in the WWR and MC Management Areas, CVWD and DWA have the authority to levy replenishment assessment charges on production within the Garnet Hill Subarea under the provisions set forth in the Settlement Agreement and Desert Water Agency Law.

Since preparation of the MC/GH WMP, both CVWD and DWA have recognized the Garnet Hill Subarea as part of the Whitewater (Indio) Subbasin, in accordance with CDWR Bulletin 118 (Update 2003).

Because groundwater production continues to exceed natural groundwater replenishment and cumulative gross overdraft persists within each subbasin, continued artificial replenishment in the WWR and MC Management Areas is necessary to either eliminate or reduce the effects of cumulative gross overdraft, and to reduce the resultant threat to the groundwater supply.

DWA has requested its maximum 2021 Table A SWP water allocation of 55,750 AF pursuant to its SWP Contract, for the purpose of groundwater replenishment. CVWD plans to do the same with its maximum 2021 Table A water allocation.

By virtue of the 2003 Exchange Agreement, The Metropolitan Water District of Southern California (MWD) temporarily transferred 11,900 AF of its annual Table A allocation to DWA and 88,100 AF of its annual Table A allocation to CVWD; however, MWD retained the option to call-back or recall the assigned annual Table A water allocations, in accordance with specific conditions, in any year. In implementing the 2003 Exchange Agreement, MWD advised CVWD and DWA that it would probably recall the 100,000 AF assigned to the two Coachella Valley agencies from 2005 through 2009. In fact, MWD did recall 100,000 AF in 2005 but has not recalled any water since then. The 2019 amendments to, and restatement of, the 2003 Exchange Agreement have eliminated the call-back provision.

According to the most recent update from CDWR (CDWR Notification 21-06 to State Water Project Contractors for 2021, dated March 23, 2021), CDWR will deliver only 5% of Table A water allocation

requests, resulting in deliveries of 9,705 AF of Table A water to MWD on behalf of the Coachella Valley agencies (2,788 AF on behalf of DWA). Of the aforesaid quantity, 9,705 AF is scheduled for delivery during 2021 and none is currently scheduled to be carried over to 2022. No Article 56 water from 2020 is scheduled for delivery in 2021. For 2021, no SWP surplus water under Pool A or Pool B of the Turn-Back Water Pool Program has been offered. It is not likely that any Article 21 water will be available in 2021. DWA and CVWD may be able to jointly obtain up to 2,193 AF of water under the Yuba River Accord. MWD is obligated to deliver 69,000 AF of non-SWP water to CVWD in 2021. Said delivery may occur as deliveries of Colorado River water to the Whitewater River Replenishment Facility, or as transfers from the Advance Delivery account, or a combination of both.

Pursuant to current Desert Water Agency Law, the maximum permissible replenishment assessment rate that can be established for fiscal year 2021/2022 is approximately $263/AF, based on DWA's estimated Applicable Charges (Delta Water Charge, Variable Transportation Charge, and Off-Aqueduct Power Charge) of $11,956,580 (average of estimated 2021 and 2022 Applicable Charges) and estimated 2021/2022 combined assessable production of 45,450 AF within the WWR and MC AOBs (see **Table 2**).

The effective replenishment assessment rate for Table A water is based on DWA's estimated Allocated SWP Charges for the current year (based on CDWR's projections for the assessment period) divided by the estimated assessable production for the assessment period, as set forth in **Table 6**. In the past, DWA has utilized two bases for estimating assessable production, either assessable production for the previous year, or, when statewide conservation mandates are in effect, a specified year's assessable production minus a water conservation factor. Since the 2019/2020 report, the estimated assessable production for both AOBs has been based on the assessable production for the previous year (for this report, 2020), since the statewide conservation mandate was satisfied in 2017.

Pursuant to the terms of the Water Management Agreement between DWA and CVWD, and based on DWA's estimated 2021/2022 Allocated Charges of $11,231,587 and projected 2021 calendar year assessable production (shown in **Table 6** as estimated 2021/2022 assessable production) of 45,450 AF within the WWR and MC, the effective replenishment assessment rate component for Table A water for the 2021/2022 fiscal year is $247/AF. **Table 7** includes DWA's historical estimated, actual effective, and estimated projected replenishment assessment rates.

During the Proposition 218 proceedings held in Fall 2016, DWA elected to adopt anticipated rate ranges for fiscal years 2017/2018 through 2021/2022, based on estimated projections of expenses and revenues at

the time of adoption. Since rates were, at the time, anticipated to increase sharply over the subsequent several years and then stabilize, the rate ranges adopted for the transitional period of fiscal years 2017/2018 through 2021/2022 were calculated to incorporate a diminishing deficit, to be recovered in subsequent years. The rate range adopted for the 2021/2022 fiscal year was $130 to $175. It should be noted that at the time these rate ranges were adopted, the rates were being estimated using a SWP reliability factor of 58%; and a factor of 35% was being applied to future MWD transfers to account for potential call-back by MWD. Since the 2021/2022 effective rate exceeds the maximum Proposition 218 rate of the specified range for 2021/2022, DWA will levy a rate of $175/AF for FY 2021/2022, which is the maximum of the specified Proposition 218 range.

At that rate, DWA's replenishment assessment for the entire Replenishment Program will be about $7,953,750, based on estimated assessable production of 45,450 AF (35,860 AF for the WWR AOB, and 9,590 AF for the MC AOB). Accordingly, DWA will bill approximately $6,275,500 for the WWR AOB, and approximately $1,678,250 for the MC AOB.

Due to significant increases in the Delta Water Charge beginning in 2015 that could result in large future increases in the replenishment assessment rate, DWA elected in 2016 to transfer the existing cumulative deficit in the Replenishment Assessment Account to reserve account(s), rather than continue to attempt to recover past deficits by future increases in the replenishment assessment rate. Deficits that result from the current and future assessments will be recovered by adding surcharges, as shown in the "Other Charges and Costs" column for each subbasin in **Table 7**.

In summary, gross overdraft persists in the westerly portion of the Coachella Valley Groundwater Basin even though groundwater levels have generally stabilized. Cumulative net overdraft (cumulative gross overdraft offset by artificial replenishment) is currently estimated to be approximately 375,000 AF in the WWR Management Area (since 1956) and 115,500 AF in the MC Management Area (since 1978). Thus, there is a continuing need for groundwater replenishment to maintain stable groundwater levels for sustainability. Even though DWA has requested of CDWR its full SWP Table A allocation of 55,750 AF, CDWR has approved delivery of only 5% of this allocation during the coming year, and DWA has elected to adopt a groundwater replenishment assessment rate for 2021/2022 of $175.00/AF.

CHAPTER II
INTRODUCTION

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INTRODUCTION

A. THE COACHELLA VALLEY AND ITS GROUNDWATER

1. The Coachella Valley

The Coachella Valley is a desert valley in Riverside County, California. It extends approximately 45 miles southeast from the San Bernardino Mountains to the northern shore of the Salton Sea. Cities of the Coachella Valley include Cathedral City, Coachella, Desert Hot Springs, Indian Wells, Indio, La Quinta, Palm Desert, Palm Springs, and Rancho Mirage, and the unincorporated communities of Thousand Palms, Thermal, Bermuda Dunes, Oasis, and Mecca. The Coachella Valley is bordered on the north by Mount San Gorgonio of the San Bernardino Mountains, on the west by the San Jacinto and Santa Rosa Mountains, on the east by the Little San Bernardino Mountains, and on the south by the Salton Sea.

The Coachella Valley lies within the northwesterly portion of California's Colorado Desert, an extension of the Sonoran Desert. The San Bernardino, San Jacinto, and Santa Rosa Mountains provide an effective barrier against coastal storms, and greatly reduce the contribution of direct precipitation to replenish the Coachella Valley's groundwater basin, resulting in an arid climate. The bulk of natural groundwater replenishment comes from runoff from the adjacent mountains.

Climate in the Coachella Valley is characterized by low humidity, high summer temperatures, and mild dry winters. Average annual precipitation in the Coachella Valley varies from 4 inches on the Valley floor to more than 30 inches in the surrounding mountains. Most of the precipitation occurs during December through February (except for summer thundershowers). The low rainfall is inadequate to supply sufficient water supply for the valley, thus the need for the importation of Colorado River water. Precipitation data recorded at nine rain gauge stations in the Upper Coachella Valley by Riverside County Flood Control and Water Conservation District is included in **Appendix A**.

Prevailing winds in the area are usually gentle, but occasionally increase to velocities of 30 miles per hour or more. Midsummer temperatures commonly exceed 100 degrees Fahrenheit (°F), frequently reach 110°F, and periodically reach 120°F. The average winter temperature is approximately 60°F.

2. The Coachella Valley Groundwater Basin

The Coachella Valley Groundwater Basin, as described in CDWR Bulletins 108 and 118, is bounded on the north and east by non-water-bearing crystalline rocks of the San Bernardino and Little San Bernardino Mountains and on the south and west by the crystalline rocks of the Santa Rosa and San Jacinto Mountains. At the west end of the San Gorgonio Pass, between Beaumont and Banning, the basin boundary is defined by a surface drainage divide separating the Coachella Valley Groundwater Basin from the Beaumont Groundwater Basin of the Upper Santa Ana Drainage Area.

The southern boundary is formed primarily by the watershed of the Mecca Hills and by the northwest shoreline of the Salton Sea running between the Santa Rosa Mountains and Mortmar. Between the Salton Sea and Travertine Rock, at the base of the Santa Rosa Mountains, the lower boundary coincides with the Riverside/Imperial County Line.

Southerly of the southern boundary, at Mortmar and at Travertine Rock, the subsurface materials are predominantly fine grained and low in permeability; although groundwater is present, it is not readily extractable. A zone of transition exists at these boundaries; to the north the subsurface materials are coarser and more readily yield groundwater.

Although there is interflow of groundwater throughout the groundwater basin, fault barriers, constrictions in the basin profile, and areas of low permeability limit and control movement of groundwater. Based on these factors, the groundwater basin has been divided into subbasins and subareas as described by CDWR in 1964 and the United States Geological Survey (USGS) in 1971.

3. Subbasins and Subareas

The San Andreas Fault drives a complex pattern of branching fault lines within the Coachella Valley which define the boundaries of the subbasins that make up the Coachella Valley Groundwater Basin (CDWR 2003). According to CDWR, there are four subbasins within the Coachella Valley Groundwater Basin: the Indio Subbasin (referred to herein as the Whitewater Subbasin), MC, San Gorgonio Pass Subbasin, and Desert Hot Springs Subbasin. USGS includes a fifth subbasin, the Garnet Hill Subbasin, which CDWR considers to be a subarea of the Indio Subbasin.

The subbasins, with their groundwater storage reservoirs, are defined without regard to water quantity or quality. They delineate areas underlain by formations which readily yield the stored water through water wells and offer natural reservoirs for the regulation of water supplies.

The boundaries between subbasins within the groundwater basin are generally defined by faults that serve as effective barriers to the lateral movement of groundwater. Minor subareas have also been delineated, based on one or more of the following geologic or hydrologic characteristics: type of water bearing formations, water quality, areas of confined groundwater, forebay areas, groundwater divides and surface drainage divides.

The following is a list of the subbasins and associated subareas, based on the CDWR and USGS designations:

- MC (Subbasin 7-21.02 per CDWR Bulletin 118, Update 2003)
- Desert Hot Springs Subbasin (Subbasin 7-21.03 per CDWR Bulletin 118, Update 2003)
    - Miracle Hill Subarea
    - Sky Valley Subarea
    - Fargo Canyon Subarea
- San Gorgonio Pass Subbasin (Subbasin 7-21.04 per CDWR Bulletin 118, Update 2003)

- Whitewater River (Indio) Subbasin (Subbasin 7-21.01 per CDWR Bulletin 118, Update 2003, referred to therein as the Indio Subbasin)
    - Palm Springs Subarea
    - Garnet Hill (considered a separate subbasin by USGS)
    - Thermal Subarea
    - Thousand Palms Subarea
    - Oasis Subarea

DWA's groundwater replenishment program encompasses portions of three of the four subbasins (Whitewater River (Indio), Mission Creek, and San Gorgonio Pass). DWA's replenishment program does not include the Desert Hot Springs Subbasin. **Figure 2** illustrates the subbasin boundaries per the MC/GH WMP, CDWR Bulletin 118, Update 2003, and DWA's AOBs of the groundwater replenishment program.

The boundaries (based on faults, barriers, constrictions in basin profile, and changes in permeability of water-bearing units), geology, hydrogeology, water supply, and groundwater storage of these subbasins are further described in the following sections.

a. Mission Creek Subbasin (MC)

Water-bearing materials underlying the Mission Creek upland comprise the MC. This subbasin is designated Number 7-21.02 in CDWR's Bulletin 118, Update 2003. The subbasin is bounded on the south by the Banning Fault and on the north and east by the Mission Creek Fault, both of which are branches of the San Andreas Fault. The subbasin is bordered on the west by relatively impermeable rocks of the San Bernardino Mountains. The Indio Hills are located in the easterly portion of the subbasin, and consist of the semi-water-bearing Palm Springs Formation. The area within this boundary northwesterly of the Indio Hills reflects the estimated geographic limit of effective storage within the subbasin (CDWR 1964).

Both the Mission Creek Fault and the Banning Fault are partially effective barriers to lateral groundwater movement, as evidenced by offset water levels, fault

springs, and changes in vegetation. Water level differences across the Banning Fault, between the MC and the Garnet Hill Subarea of the WWR, are on the order of 200 feet to 250 feet. Similar water level differences exist across the Mission Creek Fault between the MC and Desert Hot Springs Subbasin (MWH 2013).

This subbasin relies on the same imported SWP/Colorado River Exchange Water source for replenishment, as does the westerly portion of the Whitewater River (Indio) Subbasin. CVWD, DWA, and MSWD manage this subbasin under the terms of the 2004 Mission Creek Settlement Agreement. This agreement and the 2014 Mission Creek Water Management Agreement between CVWD and DWA specify that the available SWP water will be allocated between the MC and WWR Management Areas in proportion to the amount of water produced or diverted from each subbasin during the preceding year.

b. Desert Hot Springs Subbasin

The Desert Hot Springs Subbasin is designated Number 7-21.03 in CDWR's Bulletin 118 (2003). It is bounded on the north by the Little San Bernardino Mountains and on the southeast by the Mission Creek and San Andreas Faults. The Mission Creek Fault separates the Desert Hot Springs Subbasin from the MC, and the San Andreas Fault separates the Desert Hot Springs Subbasin from the Whitewater River Subbasin. Both faults serve as effective barriers to lateral groundwater flow. The subbasin has been divided into three subareas: Miracle Hill, Sky Valley, and Fargo Canyon (CDWR 1964).

The Desert Hot Springs Subbasin is not extensively developed, except in the Desert Hot Springs area. Relatively poor groundwater quality has limited the use of this subbasin for groundwater supply. The Miracle Hill Subarea underlies portions of the City of Desert Hot Springs and is characterized by hot mineralized groundwater, which supplies a number of spas in that area. The Fargo Canyon Subarea underlies a portion of the planning area along Dillon Road north of Interstate 10. This area is characterized by coarse alluvial fans and stream channels flowing out of Joshua Tree National Park. Based on limited groundwater data for this area, flow is generally to the southeast. Water quality is relatively poor with

salinities in the range of 700 milligrams per liter (mg/L) to over 1,000 mg/L (CDWR 1964).

c. San Gorgonio Pass Subbasin

The San Gorgonio Pass Subbasin lies entirely within the San Gorgonio Pass area, bounded by the San Bernardino Mountains on the north and the San Jacinto Mountains on the south (CDWR 2003). This subbasin is designated Number 7 21.04 in CDWR's Bulletin 118 (2003).

The San Gorgonio Pass Subbasin is hydrologically connected to the Whitewater River Subbasin on the east. Groundwater within the San Gorgonio Pass Subbasin moves from west to east and spills out into the Whitewater River Subbasin over the suballuvial bedrock constriction at the east end of the pass (CDWR 1964).

DWA's service area includes three square miles of the San Gorgonio Pass Subbasin.

d. Whitewater River (Indio) Subbasin

The Whitewater River Subbasin, as defined herein, is the same as the Indio Subbasin (Number 7 21.01) as described in CDWR Bulletin No. 118 (2003). It underlies the major portion of the Coachella Valley floor and encompasses approximately 400 square miles. Beginning approximately one mile west of the junction of State Highway 111 and Interstate 10, the Whitewater River Subbasin extends southeast approximately 70 miles to the Salton Sea.

The Subbasin is bordered on the southwest by the Santa Rosa and San Jacinto Mountains and is separated from the Mission Creek and Desert Hot Springs Subbasins to the north and east by the Banning Fault (CDWR 1964). The Garnet Hill Fault, which extends southeasterly from the north side of San Gorgonio Pass to the Indio Hills, is a partially effective barrier to lateral groundwater movement from the Garnet Hill Subarea into the Palm Springs Subarea of the Whitewater River Subbasin, with some portions in the shallower zones more permeable. The

San Andreas Fault, extending southeasterly from the junction of the Mission Creek and Banning Faults in the Indio Hills and continuing out of the basin on the east flank of the Salton Sea, is also an effective barrier to lateral groundwater movement from the northeast (CDWR 1964).

The subbasin underlies the cities of Palm Springs, Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, La Quinta, Indio, and Coachella, and the unincorporated communities of Thousand Palms, Thermal, Bermuda Dunes, Oasis, and Mecca. From about Indio southeasterly to the Salton Sea, the subbasin contains increasingly thick layers of silt and clay, especially in the shallower portions of the subbasin. These silt and clay layers, which are remnants of ancient lake bed deposits, impede the percolation of water applied for irrigation and limit groundwater replenishment opportunities to the westerly fringe of the subbasin (CDWR 1964).

In 1964, CDWR estimated that the four subbasins that make up the Coachella Valley Groundwater Basin contained a total of approximately 39.2 million AF of water in the first 1,000 feet below the ground surface; much of this water originated as runoff from the adjacent mountains. Of this amount, approximately 28.8 million AF of water was stored in the overall Whitewater River Subbasin (CDWR 1964). However, the amount of water in the Whitewater River Subbasin has decreased over the years because it has developed to the point where significant groundwater production occurs (CVWD 2012). The natural supply of water to the northwestern part of the Coachella Valley is not keeping pace with the basin outflow, due mainly to large consumptive uses created by the resort-recreation economy and permanent resident population in the northwestern Whitewater River Subbasin, and large agricultural economy in the southeastern Whitewater River Subbasin. Imported SWP water allocations are exchanged for Colorado River water and utilized for replenishment in the westerly portion of the Whitewater River (Indio) Subbasin to replace consumptive uses created by the resort recreation economy and permanent resident population.

The Whitewater River (Indio) Subbasin is not currently adjudicated. From a management perspective, CVWD divides the portion of the subbasin within its

service area into two AOBs designated the West Whitewater River Subbasin AOB and the East Whitewater River Subbasin AOB. The dividing line between these two areas is an irregular line trending northeast to southwest between the Indio Hills north of the City of Indio and Point Happy in La Quinta (see paragraph e.5 below for the history of this division). The WWR Management Area is jointly managed by CVWD and DWA under the terms of the 2014 Whitewater Water Management Agreement. The East Whitewater River Subbasin AOB is managed by CVWD (CVWD 2012).

Hydrogeologically, the Whitewater River (Indio) Subbasin is divided into five subareas: Palm Springs, Garnet Hill, Thermal, Thousand Palms, and Oasis Subareas. The Palm Springs Subarea is the forebay or main area of replenishment to the subbasin, and the Thermal Subarea is the pressure or confined area within the basin. The other three subareas are peripheral areas having unconfined groundwater conditions.

1) Palm Springs Subarea

The triangular area between the Garnet Hill Fault and the east slope of the San Jacinto Mountains southeast to Cathedral City is designated the Palm Springs Subarea. Groundwater is unconfined in this area. The Coachella Valley fill materials within the Palm Springs Subarea are essentially heterogeneous alluvial fan deposits with little sorting and little fine grained material content. The thickness of these water-bearing materials is not known; however, it exceeds 1,000 feet. Although no lithologic distinction is apparent from well drillers' logs, the probable thickness of recent deposits suggests that Ocotillo conglomerate underlies recent fanglomerate in the subarea at depths ranging from 300 feet to 400 feet.

Natural replenishment to the aquifer in the Whitewater River Subbasin occurs primarily in the Palm Springs Subarea. The major natural sources include infiltration of stream runoff from the San Jacinto Mountains and the Whitewater River, and subsurface inflow from the San Gorgonio Pass Subbasin. Deep percolation of direct precipitation on the Palm Springs

Subarea is considered negligible as it is consumed by evapotranspiration (CDWR 1964).

2) Garnet Hill Subarea

The area between the Garnet Hill Fault and the Banning Fault, named the Garnet Hill Subarea (GH) of the Whitewater River (Indio) Subbasin by CDWR (1964), was considered a distinct subbasin by the USGS because of the partially effective Banning and Garnet Hill Faults as barriers to lateral groundwater movement. This is demonstrated by a difference of 170 feet in groundwater level elevation in a horizontal distance of 3,200 feet across the Garnet Hill Fault, as measured in the spring of 1961. However, the Garnet Hill Fault does not reach the surface, and is probably only effective as a barrier to lateral groundwater movement below a depth of about 100 feet below ground surface (MWH 2013).

The 2013 MC/GH WMP states groundwater production is low in the Garnet Hill Subarea and is not expected to increase significantly in the future due to relatively low well yields compared to those in the MC. Water levels in the western and central portions of the subbasin show a positive response to large replenishment quantities from the Whitewater River Replenishment Facility, while levels are relatively flat in the easterly portion of the subbasin. The small number of wells in the subarea limits the hydrogeologic understanding of how this subbasin operates relative to the MC and the neighboring Palm Springs Subarea of the Whitewater River Subbasin.

Although some natural replenishment to this subarea may come from Mission Creek and other streams that pass through during periods of high flood flows, the chemical character of the groundwater (and its direction of movement) indicate that the main source of natural replenishment to the subbasin comes from the Whitewater River through the permeable deposits which underlie Whitewater Hill (MWH 2013).

This subarea is considered a separate subbasin by USGS; however, it is considered part of the Whitewater River (Indio) Subbasin in CDWR's Bulletin 118 (2003) and, therefore, was not designated with a separate subbasin number therein. CVWD and (as of 2020) DWA, both consider the Garnet Hill Subarea to be a part of the WWR Management Area. There are no assessable groundwater pumpers within CVWD's portion of the Garnet Hill Subarea, and two assessable groundwater pumpers within DWA's portion of the Garnet Hill Subarea, which together produced a total of approximately 274 AF of groundwater from the subarea in 2020.

3) Thermal Subarea

Groundwater of the Palm Springs Subarea moves southeastward into the interbedded sands, silts, and clays underlying the central portion of the Coachella Valley. The division between the Palm Springs Subarea and the Thermal Subarea is near Cathedral City. The permeabilities parallel to the bedding of the deposits in the Thermal Subarea are several times the permeabilities perpendicular to the bedding and, therefore, movement of groundwater parallel to the bedding predominates. Confined or semi confined groundwater conditions are present in the major portion of the Thermal Subarea. Movement of groundwater under these conditions is present in the major portion of the Thermal Subarea and is caused by differences in piezometric (pressure) level or head. Unconfined or free water conditions are present in the alluvial fans at the base of the Santa Rosa Mountains, such as the fans at the mouth of Deep Canyon and in the La Quinta area.

Sand and gravel lenses underlying this subarea are discontinuous, and clay beds are not extensive. However, two aquifer zones separated by a zone of finer-grained materials were identified from well logs. The fine grained materials within the intervening horizontal plane are not tight enough or persistent enough to completely restrict the vertical interflow of water, or to warrant the use of the term "aquiclude". Therefore, the term "aquitard"

is used for this zone of less permeable material that separates the upper and lower aquifer zones in the southeastern part of the Valley.

The lower aquifer zone, composed of part of the Ocotillo conglomerate, consists of silty sands and gravels with interbeds of silt and clay. It contains the greatest quantity of stored groundwater in the Coachella Valley Groundwater Basin, but serves only that portion of the Valley easterly of Washington Street. The top of the lower aquifer zone is present at a depth ranging from 300 feet to 600 feet below the surface. The thickness of the zone is undetermined, as the deepest wells present in the Coachella Valley have not penetrated it in its entirety. The available data indicate that the zone is at least 500 feet thick and may be in excess of 1,000 feet thick.

The aquitard overlying the lower aquifer zone is generally 100 feet to 200 feet thick, although in small areas on the periphery of the Salton Sea it is more than 500 feet thick. North and west of Indio, in a curved zone approximately one mile wide, the aquitard is apparently lacking and no distinction is made between the upper and lower aquifer zones.

Capping the upper aquifer zone in the Thermal Subarea is a shallow fine grained zone in which semi-perched groundwater is present. This zone consists of recent silts, clays, and fine sands and is relatively persistent southeast of Indio. It ranges from zero to 100 feet thick and is generally an effective barrier to deep percolation. However, north and west of Indio, the zone is composed mainly of clayey sands and silts, and its effect in retarding deep percolation is limited. The low permeability of the materials southeast of Indio has contributed to irrigation drainage problems in the area. Semi-perched groundwater has been maintained by irrigation water applied to agricultural lands south of Point Happy, necessitating the construction of an extensive subsurface tile drain system (CDWR 1964).

The Thermal Subarea contains the division between CVWD's west and east AOBs of the Whitewater River (Indio) Subbasin, which is more fully described in paragraph e.5 below.

The imported Colorado River supply through the Coachella Canal is used mainly for irrigation in the easterly portion of the Whitewater River Subbasin. Annual deliveries of Colorado River water through the Coachella Canal of approximately 300,000 AF are a significant component of southeastern Coachella Valley hydrology. A smaller portion of the Coachella Canal water supply is used to offset groundwater pumping by golf courses in the westerly portion of the Whitewater River (Indio) Subbasin.

CVWD recently completed a study to evaluate the entire Coachella Valley Groundwater Basin. This led to the development and adoption of the 2010 Update to the Coachella Valley Water Management Plan. Using state-of-the-art technology, CVWD developed and calibrated a peer-reviewed, three-dimensional groundwater model (Fogg 2000) that is based on data from over 2,500 wells, and includes an extensive database of well chemistry reports, well completion reports, electric logs, and specific capacity tests. This model improved on previous groundwater models, and incorporates the latest hydrological evaluations from previous studies conducted by CDWR and USGS to gain a better understanding of the hydrogeology in this subbasin and the benefits of water management practices identified in the Coachella Valley Water Management Plan.

4) Thousand Palms Subarea

The small area along the southwest flank of the Indio Hills is named the Thousand Palms Subarea. The southwest boundary of the subarea was determined by tracing the limits of distinctive groundwater chemical characteristics. The major aquifers of the Whitewater River Subbasin are characterized by calcium bicarbonate; but water in the Thousand Palms Subarea is characterized by sodium sulfate (CDWR 1964).

The differences in water quality suggest that replenishment to the Thousand Palms Subarea comes primarily from the Indio Hills and is limited in supply. The relatively sharp boundary between chemical characteristics of water derived from the Indio Hills and groundwater in the Thermal Subarea suggests there is little intermixing of the two waters.

The configuration of the water table north of the community of Thousand Palms is such that the generally uniform, southeasterly gradient in the Palm Springs Subarea diverges and steepens to the east along the base of Edom Hill. This steepened gradient suggests a barrier to the movement of groundwater: possibly a reduction in permeability of the water-bearing materials, or possibly a southeast extension of the Garnet Hill Fault. However, such an extension of the Garnet Hill Fault is unlikely. There is no surface expression of such a fault, and the gravity measurements taken during the 1964 CDWR investigation do not suggest a subsurface fault. The residual gravity profile across this area supports these observations. The sharp increase in gradient is therefore attributed to lower permeability of the materials to the east.

Most of the Thousand Palms Subarea is located within the westerly portion of the Whitewater River (Indio) Subbasin. Groundwater levels in this area show similar patterns to those of the adjacent Thermal Subarea, suggesting a hydraulic connectivity (CDWR 1964).

5) Oasis Subarea

Another peripheral zone of unconfined groundwater that is different in chemical characteristics from water in the major aquifers of the Whitewater River Subbasin is found underlying the Oasis Piedmont slope. This zone, named the Oasis Subarea, extends along the base of the Santa Rosa Mountains. Water-bearing materials underlying the subarea consist of highly permeable fan deposits. Although groundwater data suggest that the boundary between the Oasis and Thermal Subareas may be a buried fault extending from Travertine Rock to the community of Oasis, the

remainder of the boundary is a lithologic change from the coarse fan deposits of the Oasis Subarea to the interbedded sands, gravel, and silts of the Thermal Subarea. Little information is available as to the thickness of the water-bearing materials, but it is estimated to be in excess of 1,000 feet. Groundwater levels in the Oasis Subarea have exhibited similar declines as elsewhere in the subbasin due to increased groundwater pumping to meet agricultural demands on the Oasis slope (CDWR 1964).

6) East/West AOB Division

The Thermal Subarea (see paragraph e.2 above) contains the division between the westerly and easterly portions of the Whitewater River Subbasin (CVWD's WWR AOB and East Whitewater River Subbasin AOB). This division constitutes the southern boundary of the management area governed by the Management Agreement between CVWD and DWA.

The boundary between these two Management Areas extends from Point Happy (a promontory of the Santa Rosa Mountains between Indian Wells and La Quinta) northeasterly, generally along Washington Street, to a point on the San Andreas Fault intersecting the northerly prolongation of Jefferson Street in Indio.

The boundary was originally defined primarily on the basis of differing groundwater levels resulting from differences in groundwater use and management northerly and southerly of the boundary. Primarily due to the application of imported water from the Coachella Canal, and an attendant reduction in groundwater pumpage, the water levels in the area southeasterly from Point Happy (the East Whitewater River Subbasin Management Area) rose until the early 1970s, while groundwater levels northwesterly from Point Happy (the WWR Management Area) were dropping due to continued development and pumping. This was stated by Tyley (USGS 1974) as follows:

"The south boundary is an imaginary line extending from Point Happy northeast to the Little San Bernardino Mountains and was chosen for the following reasons: (1) North of the boundary, water levels have been declining while south of the boundary, water levels have been rising since 1949 and (2) north of the boundary, ground water is the major source of irrigation water while south of the boundary, imported water from the Colorado River is the major source of irrigation water."

In addition, according to CDWR (1964) and as discussed above, the easterly portion of the Thermal Subarea is distinguished from area north and west of Indio within the Thermal Subarea by the presence of several relatively impervious clay layers (aquitards) lying between the ground surface and the main groundwater aquifer, creating confined and semi-confined aquifer conditions (see Figure 2). These conditions were characterized by Tyley as "artesian conditions" southerly of the south boundary.

Groundwater levels northerly of the boundary have been stable or increasing since the 1970s (per recorded measurements of USGS, DWA, and CVWD wells), except in the greater Palm Desert area, largely due to the commencement of replenishment activities at the Whitewater River Replenishment Facility in 1973. Groundwater levels in the greater Palm Desert area continue to decline, but at a reduced rate as a result of the groundwater replenishment program. Differences between the East Whitewater River Subbasin Management Area and WWR Management Area also persist in terms of management of the groundwater replenishment program and by groundwater usage (there is significantly more agricultural use in CVWD's East Whitewater River Subbasin AOB than in the WWR Management Area).

7) Summary

The Whitewater River (Indio) Subbasin consists of five subareas: Palm Springs, Garnet Hill, Thermal, Thousand Palms, and Oasis Subareas. The

Palm Springs Subarea is the forebay or main area of replenishment to the subbasin. The Garnet Hill Subarea lies to the North and adjacent to the Palm Springs Subarea. The Thermal Subarea includes the pressure or confined area within the basin. The Thousand Palms and Oasis Subareas are peripheral areas having unconfined groundwater conditions. From a management perspective, the Whitewater River Subbasin is divided into a westerly and easterly portion, with the dividing line extending from Point Happy in La Quinta to the northeast, terminating at the San Andreas Fault and the Indio Hills at Jefferson Street.

Potable groundwater is not readily available within the following areas in the Coachella Valley: Indio Hills, Mecca Hills, Barton Canyon, Bombay Beach, and Salton City. Water service to these areas is derived from groundwater pumped from adjacent basins.

B. THE GROUNDWATER REPLENISHMENT AND ASSESSMENT PROGRAM

DWA's Groundwater Replenishment and Assessment Program was established to augment groundwater supplies and arrest or retard declining water table conditions within the Coachella Valley Groundwater Basin, specifically within the WWR and MC AOBs (see **Figure 1**).

1. Water Management Areas

Pursuant to the Water Management Agreements between CVWD and DWA, the Water Management Areas encompass the Westerly Portion of the Whitewater River (Indio) Subbasin, a portion of the San Gorgonio Pass Subbasin, and the entire MC (except three square miles in the Painted Hills area and a small portion that lies within San Bernardino County) within the Coachella Valley Groundwater Basin (see **Figure 1**).

- The West Whitewater River Subbasin (WWR) Management Area

  CVWD and DWA have recognized the need to manage the westerly portion of the Whitewater River (Indio) Subbasin as a complete unit rather than as individual segments underlying the individual agencies' boundaries. This management area

consists of the Palm Springs, Garnet Hill, and Thousand Palms Subareas, a portion of the San Gorgonio Pass Subbasin (tributary to the Whitewater River (Indio) Subbasin), and the westerly portion of the Thermal Subarea, which is experiencing significantly declining water levels. The management area was established to encompass the area of groundwater overdraft as evidenced by declining water level conditions, and includes areas within both CVWD and DWA boundaries. The easterly boundary of the WWR Management Area extends from Point Happy (a promontory of the Santa Rosa Mountains between Indian Wells and La Quinta) northeasterly, generally along Washington Street, to a point on the San Andreas Fault intersecting the northerly prolongation of Jefferson Street in Indio.

CVWD has long considered the portion of the Garnet Hill Subarea within its boundaries to be a part of its WWR AOB. Prior to 2020, DWA considered the portion of the Garnet Hill Subarea within its service area to be a separate management area and AOB, but now considers it to be a part of its WWR AOB.

DWA's WWR AOB is located entirely within the WWR Management Area.

- The Mission Creek Subbasin (MC) Management Area

CVWD and DWA have recognized the need to manage the MC as a complete unit rather than as individual segments underlying the individual agency's boundaries. This management area consists of the entire MC. DWA's MC AOB is located entirely within the MC Management Area.

2. Areas of Benefit

The Areas of Benefit (AOBs) for DWA's replenishment program consist of the westerly portion of the Coachella Valley Groundwater Basin, including portions of the Whitewater River (Indio) Subbasin (including the Garnet Hill Subarea), MC, and tributaries thereto (such as the San Gorgonio Pass Subbasin), situated within DWA's service area boundary (see **Figure 2**). DWA has two AOBs within its replenishment program: the WWR AOB and the MC AOB.

DWA's **WWR AOB** consists of that portion of the WWR Management Area situated within DWA's service area boundary (including portions of the Garnet Hill Subarea and the San Gorgonio Pass Subbasin).

DWA's **MC AOB** consists of that portion of the MC Management Area situated within DWA's service area boundary.

The AOBs for CVWD's replenishment program consist of the portions of the Whitewater River Subbasin and MC within CVWD's boundary. CVWD has a total of three AOBs within its groundwater replenishment program: the CVWD MC AOB; the CVWD WWR AOB; and the East Whitewater River Subbasin AOB (see **Figure 1**).

Within DWA's WWR AOB, there are seven stream diversions on the Whitewater River and its tributaries, five by DWA (two on Chino Creek, one on Snow Creek, one on Falls Creek, and one by the former Whitewater Mutual Water Company, which was acquired by DWA in 2009), one by the Wildlands Conservancy (formerly the Whitewater Trout Farm) which is used for conservation and educational purposes, and one by CVWD at the Whitewater River Replenishment Facility; the latter three being on the Whitewater River itself. There are no stream diversions within the MC AOB. DWA's WWR AOB also includes subsurface tributary flows from the San Gorgonio Pass Subbasin located to the west.

While the replenishment assessments outlined on the following pages are based on and limited to water production within DWA's AOBs, available water supply, estimated water requirements, and groundwater replenishment are referenced herein to the entire WWR Management Area and MC Management Area. The WWR and MC Management Areas are replenished jointly by CVWD and DWA for water supply purposes, and the two agencies jointly manage the imported water supplies within said Management Areas.

3. Water Management Agreements

The replenishment program was implemented pursuant to a joint Water Management Agreement for the WWR Management Area ("Whitewater River Subbasin Water Management Agreement", executed July 1, 1976 and amended December 15, 1992 and

July 15, 2014) between CVWD and DWA. Later, a similar program was implemented within the MC Management Area pursuant to a similar joint Water Management Agreement ("Mission Creek Subbasin Water Management Agreement", executed April 8, 2003 and amended July 15, 2014).

CVWD and DWA entered into a Settlement Agreement with MSWD in December 2004, which affirmed the water allocation procedure that had been established earlier by CVWD and DWA, and which established a Management Committee, consisting of the General Managers of CVWD, DWA, and MSWD, to review production and recharge activities. The Addendum to the Settlement Agreement states that the water available for recharge each year shall be divided between the WWR Management Area and the MC Management Area proportionate to the previous year's production from within each management area (see **Appendix B)**.

Conditions of the Settlement Agreement and Addendum between DWA, CVWD, and MSWD state that DWA and CVWD have the authority to levy replenishment assessments on water produced from subbasins of the Upper (Western) Coachella Valley Groundwater Basin within DWA and CVWD's AOBs, if found that recharge activities benefit those subbasins.

The Water Management Agreements call for maximum importation of SWP Contract Table A water allocations by CVWD and DWA for replenishment of groundwater basins or subbasins within defined Water Management Areas. The Agreement also requires collection of data necessary for sound management of water resources within these same Water Management Areas.

4. Groundwater Overdraft

CDWR Bulletin 160-09 (2009 California Water Plan Update) defines "Groundwater overdraft" as:

> *"…the condition of a groundwater basin in which the amount of water withdrawn by pumping exceeds the amount of water that recharges the basin*

over a period of years, during which the water supply conditions approximate average conditions."

According to CDWR Bulletin 118-80 (Groundwater Basins in California, 1980):

"Overdraft is characterized by groundwater levels that decline over a period of years and never fully recover, even in wet years. Overdraft can lead to increased extraction costs, land subsidence, water quality degradation, and environmental impacts."

For purposes of this report, the term "gross overdraft" refers to groundwater extractions or water production in excess of natural groundwater replenishment or recharge, as an annual rate in AF/Yr, and "cumulative overdraft" refers to the cumulative gross overdraft in AF over the recorded history of an aquifer (since 1956 for WWR and since 1978 for MC). The term "net overdraft" refers herein to gross overdraft offset by artificial replenishment.

The initial Water Management Agreement was developed following numerous investigations regarding the groundwater supply within the Coachella Valley; said investigations are addressed in DWA's previous reports (*Engineer's Report on Groundwater Replenishment and Assessment Program for the Whitewater River Subbasin* for the years 1978/1979 through 1983/1984). These investigations all concluded that gross overdraft (groundwater extractions or water production in excess of natural groundwater replenishment and/or recharge) existed within the Coachella Valley Groundwater Basin and its subbasins.

5. Groundwater Replenishment

a. Summary

Since 1973, CVWD and DWA have been using Colorado River water exchanged for SWP water (Table A water allocations and supplemental water as available) to replenish groundwater in the Coachella Valley Groundwater Basin within the WWR Management Area (including a portion of the San Gorgonio Pass Subbasin and the Garnet Hill Subarea, and, since 2002, within the MC Management Area.

The two agencies are permitted by law to replenish the groundwater basins and to levy and collect water replenishment assessments from any groundwater extractor or surface water diverter (aside from exempt producers) within their jurisdictions who benefits, such as those within the Garnet Hill Subarea and San Gorgonio Pass Subbasin, from replenishment of groundwater.

b. History

DWA and CVWD completed construction of the Whitewater River Replenishment Facility in 1973 and the Mission Creek Replenishment Facility in 2002, and recharge activities commenced within each respective subbasin upon completion of the facilities. Annual recharge quantities are set forth in **Exhibit 6**.

From 1973 through 2020, CVWD and DWA have replenished the WWR and MC Management Areas with approximately 3,977,422 AF (3,810.378 AF to WWR Management Area and 167,044 AF to MC Management Area). Of this total, 3,719,757 AF consisted of exchange deliveries (Colorado River water exchanged for SWP water, including advance deliveries) and 995,081 AF consisted of advance deliveries converted to exchange deliveries, but excluding advance deliveries not yet converted to exchange deliveries (see **Exhibit 7)**. Of the above totals, excluding non-SWP and MWD's advance deliveries, DWA is responsible for approximately 756,777 AF of the artificial replenishment to WWR and approximately 115,537 AF of the artificial replenishment to MC; a total of approximately 872,315 AF.

Between October 1984 and December 1986, MWD initially provided about 466,000 AF of advance delivered water for future exchange with CVWD and DWA that was used to replenish the WWR Management Area. This initial quantity of advanced delivered water has been augmented several times since then (with a portion on the augmented supply delivered to the Mission Creek Replenishment Facility), and the total quantity of advance delivered water is currently 1,308,481 AF. During drought conditions, MWD has periodically met exchange delivery obligations with water from its advance delivery account. By December 2020, MWD had converted approximately 995,081 AF of advance

delivered water to exchange water deliveries, leaving a balance of approximately 313,400 AF in MWD's advance delivery account (see **Exhibit 7**, included at the end of this report, for an accounting of exchange and advance deliveries).

c. Table A Water Allocations and Deliveries

SWP Table A water allocations are based primarily on hydrologic conditions and legal constraints, and vary considerably from year to year. In 2020, the final allocation was 20% of maximum Table A allocations, with no Article 56 carry-over to 2021. As of the writing of this report, Table A water deliveries in 2021 are projected to be only 5% of maximum Table A allocations. Long-term average Table A allocations are currently predicted to be approximately 58% of maximum Table A allocations.

A portion of Table A allocations for a given year are occasionally carried over into the following year under Article 56 of the SWP Contract. No Article 56 water has been carried over from 2020, and no Article 56 water is scheduled to be carried over from 2021 to 2022.

Even though CVWD and DWA have requested and will continue to request their maximum annual Table A allocations, the "Probable Table A Water Allocations" and "Probable Table A Water Deliveries" have been adjusted herein for long-term reliability for estimating purposes. In past reports, the Probable Table A Water Allocations have been assumed herein to be equal to the maximum Table A Water allocations with the MWD transfer portion reduced by a calculated factor to represent a long-term average transfer quantity with possible recalls by MWD pursuant to the original 2003 Exchange Agreement and its implementation. By 2016, MWD management had advised DWA that it would be unlikely for MWD to make any additional recalls for the foreseeable future, and the 2019 amendments to, and restatement of, the 2003 Exchange Agreement have eliminated the call-back provision. Therefore, this factor has not been applied to projected estimates since 2018. "Probable Table A Water Deliveries" are herein assumed to be 58% of the aforementioned Probable Table A Water Allocations, based on currently estimated SWP delivery capability.

From 1973 through 2003, CVWD and DWA had SWP maximum annual Table A allocations of 23,100 AF and 38,100 AF, respectively. To meet projected water demands and to alleviate cumulative gross overdraft conditions, CVWD and DWA have secured additional SWP Table A water allocations, increasing their combined maximum Table A water allocations from 61,200 AF/Yr in 2003 to 194,100 AF/Yr beginning in 2010. CVWD and DWA's current Table A allocations are described in additional detail in the following paragraphs.

1) Tulare Lake Purchase

CVWD obtained an additional 9,900 AF/Yr of Table A water allocation from Tulare Lake Basin Water Storage District, another State Water Contractor, thus increasing its annual Table A water allocation to 33,000 AF/Yr, effective January 1, 2004.

2) 2003 and 2019 Exchange Agreements

In 2003, CVWD and DWA obtained a further 100,000 AF/Yr (88,100 AF/Yr for CVWD and 11,900 AF/Yr for DWA) of Table A water allocation through a new exchange agreement (the 2003 Exchange Agreement) among CVWD, DWA, and MWD (all State Water Contractors). The 2003 Exchange Agreement, which became effective January 1, 2005, permitted MWD to call-back or recall the assigned annual Table A water allocation of 100,000 AF/Yr in 50,000 AF/Yr increments during periods of constrained, limited, or low water supply conditions; however, it gave CVWD and DWA the opportunity to secure increased quantities of surplus water in addition to increased quantities of Table A water during normal or high water supply conditions. MWD was required to notify CVWD and DWA of its intentions regarding call-back or recall of the 100,000 AF or 50,000 AF increment thereof. By 2016, MWD management had advised DWA that it would be unlikely for MWD to make any additional recalls for the foreseeable future.

The 2003 Exchange Agreement was substantially amended, restated, and consolidated in 2019 as the 2019 Exchange Agreement. The 2019 Exchange Agreement provides more certainty of water supplies for DWA and CVWD, and more operational flexibility to MWD. Key elements of the 2019 Exchange Agreement include:

1) Ending MWD's right to call back 100,000 AF of the Table A Quantity,

2) Preserving MWD's ability to advance deliver water to the Whitewater River and Mission Creek Groundwater Replenishment Facilities when conditions allow,

3) Enabling MWD to conditionally defer Colorado River water deliveries during drier periods,

4) Increasing reliability of supplemental State Water Project and non-State Water Project water deliveries,

5) Allowing DWA and CVWD access to Article 21 supplies when available (in proportion to Table A Quantities), and

6) Allowing DWA and CVWD access to MWD's water storage accounts, and defining the cost-sharing structure.

3) Kern County/Tulare Lake Purchase

In 2010, CVWD and DWA negotiated transfer of an additional 16,000 AF/Yr (12,000 AF/Yr for CVWD and 4,000 AF/Yr for DWA) of Table A water allocation from Kern County Water Agency and an additional 7,000 AF/Yr (5,250 AF/Yr for CVWD and 1,750 AF/Yr for DWA) from Tulare Lake Basin Water Storage District, both State Water Contractors.

d. Supplemental Water

Any surplus water secured by CVWD and DWA is exchanged for a like quantity of Colorado River Water. Charges for surplus water are allocated between CVWD and DWA in accordance with the terms of the Water Management Agreements. DWA secures funds for its allocated charges for surplus water payments from its Reserve for Additional Water Reserve Account.

1) Turn-Back Water Pool Water

From 1996 through 2017, CVWD and DWA jointly obtained 297,841 AF of water under CDWR's Turn-Back Water Pool Program, which was exchanged for a like quantity of Colorado River Water and delivered to the Whitewater River and Mission Creek Replenishment Facilities.

Turn-Back Water Pool water was originally Table A water scheduled for delivery to other State Water Contractors, but those Contractors subsequently determined that the water was surplus to their needs. Surplus water in the Turn-Back Water Pool Program is allocated between two pools based on time: Pool A water must be secured by March 1 of each year and Pool B water must be secured between March 1 and April 1 of each year. The charge for Pool A water is higher than the charge for Pool B water.

Since fiscal year 1999/2000, requests for Turn-Back Water Pool water have exceeded water available. Quantities of Pool A and Pool B water purchased by CVWD and DWA are shown in **Exhibit 7**.

In 2020, DWA and CVWD were not allocated any SWP surplus water under the Turn-Back Water Pool Program. Based on current projections, CVWD and DWA will not receive any Turn-Back Water Pool water in 2021.

2) Flood Water

In 1997 and 1998, CVWD and DWA jointly obtained 47,286 AF of Kaweah River, Tule River, and Kings River flood flow water, which was also exchanged for a like quantity of Colorado River water delivered to the Whitewater River Replenishment Facility. Currently, the availability of flood water in 2021 is uncertain.

3) Article 21 Surplus Water

From 2000 through 2011, CVWD and DWA obtained 42,272 AF of Article 21 surplus water and, similarly, that water was also exchanged for a like quantity of Colorado River water which was delivered to the Whitewater River Replenishment Facility. No Article 21 water has been delivered to the Coachella Valley since 2011. It is unlikely that DWA and CVWD will receive Article 21 water in 2021.

4) Yuba River Accord and Other Water

In 2008, CVWD and DWA obtained 1,836 AF of water under the terms of the Yuba River Accord (then newly-ratified). In 2009 and 2012, CVWD and DWA obtained 3,482 AF and 1,188 AF, respectively, of water under the Yuba River Accord and other conservation/transfer agreements. No water was obtained in 2010 or 2011 under the Yuba River Accord. In 2014 and 2015, respectively, CVWD and DWA jointly obtained 1,213 AF and 426 AF of water under the Yuba River Accord. In 2018, CVWD and DWA jointly obtained 1,246 AF of water under the Yuba River Accord, but did not obtain any water under the Yuba River Accord in 2019 or 2020. Up to 2,193 AF of water under the Yuba River Accord may be available for purchase by DWA and CVWD in 2021. DWA and CVWD have applied for the maximum quantity of Yuba water available, but that exact quantity is yet to be determined by CDWR.

e. Past Year Water Deliveries

Total artificial replenishment (to both the Whitewater River and Mission Creek Replenishment Facilities) for 2020 was 128,255 AF 126,487 AF was delivered to the Whitewater River Replenishment Facility and 1,768 AF was delivered to the Mission Creek Replenishment Facility(see **Exhibit 7**). Water delivered by MWD to CVWD under this agreement is only delivered to the Whitewater River Replenishment Facility, not to the Mission Creek Replenishment Facility.

f. Water Available in Current Year

The estimated quantity of water available to MWD on behalf of DWA and CVWD for exchange deliveries of Colorado River Aqueduct water for artificial replenishment in the Upper Coachella Valley during 2021, is as follows:

- Table A water: 9,705 AF (based on delivery of 5% of the maximum Table A allocation; 2,788 AF on behalf of DWA)
- Article 56 Carry-over water from 2020: None

- Estimated supplemental water:
  - 0 AF of Turn-Back Pool water
  - 0 AF of Article 21 water
  - Potentially up to 2,193 AF of Yuba water (630 AF available for DWA purchase)
  - 19,000 AF of Rosedale/Glorious Land water (CVWD)
  - 50,000 AF of Quantitative Settlement Agreement water (CVWD)

The grand total is approximately 197,358 AF (maximum). MWD will deliver a portion of the above quantities to DWA and CVWD by exchange of Colorado River water, and a portion via credit from the Advance Delivery account. During the first three months of 2021, a total of 2,174 AF of Colorado River water has already been delivered to the Whitewater River Replenishment Facility (1,550 AF apportioned to CVWD and 624 AF apportioned to DWA), and 0 AF of Colorado River water has been delivered to the Mission Creek Replenishment Facility.

g. Historic Effects of Artificial Replenishment on Aquifer

Prior to recharge activities in the Whitewater River Subbasin and MC, water levels were declining steadily in those subbasins. As shown in **Exhibits 1, 2, and 3**, after recharge activities commenced in 1973, and specifically after the three large recharge events listed below, groundwater levels in all three subbasins have risen substantially.

- 1985 - 1987: 655,000 AF Recharged (192,000 AF by DWA)
- 1995 - 2000: 609,000 AF Recharged (157,000 AF by DWA)
- 2009 - 2012: 775,000 AF Recharged (176,000 AF by DWA)

Exhibit 1 includes hydrographs for a collection of groundwater wells within the Palm Springs Subarea of the WWR Management Area (see **Figure 2** for the locations of the wells) in comparison with the total annual quantities of water delivered to the Whitewater River Replenishment Facility. This comparison clearly indicates that the recharge program has benefitted wells within the subarea.

Water levels in the wells closest to the Whitewater River Replenishment Facility rose approximately 400 feet in the late 1980s and nearly 200 feet following each significant recharge event to the Whitewater River Replenishment Facility. The most significant response to groundwater recharge in the WWR Management Area is observed in the wells located closest to the Replenishment Facility. The degree of benefit observed from recharge decreases the farther the well is from the Replenishment Facility, as shown by the diminishing intensity of the colors of the hydrographs. Well locations are shown on **Figure 2**.

Exhibit 2 includes hydrographs for MSWD's Wells 25 and 26, which are located upstream of the Whitewater River Replenishment Facility within the San Gorgonio Pass Subbasin (a tributary to the Palm Springs Subarea of the WWR Management Area). Similar to other wells in the management area, water levels in these wells were also declining prior to groundwater recharge, and water levels in these wells rose by about 80 feet each after recharge commenced in the 1980s. Water levels

in these wells also rose following the other significant recharge events, such as 1995-97 and 2010-12, thus demonstrating that these wells were benefitted by groundwater replenishment activities at the Whitewater River Replenishment Facility.

Exhibit 3 includes hydrographs from a collection of groundwater wells within the Garnet Hill Subarea of the WWR Management Area (see **Figure 2** for the locations of the wells) including one well owned by MSWD in comparison with both the replenishment quantities replenished by the Whitewater River and Mission Creek Replenishment Facilities. Groundwater levels in the Garnet Hill Subarea responded rapidly when replenishment activities commenced at the Whitewater River Replenishment Facility in the 1970s. The magnitude of the response to the groundwater recharge is inversely proportional to the distance the wells are located from the Replenishment Facility, as shown by the diminishing intensity of the colors of the hydrographs.

Exhibit 4 includes hydrographs for a selection of groundwater wells owned and operated by MSWD and the Mission Creek Monitoring Well located at the Mission Creek Replenishment Facility (see **Figure 2** for the locations of the wells), in comparison with the total annual quantities of water delivered to the Mission Creek Replenishment Facility. The comparison clearly indicates that the recharge program has benefitted the wells within the subbasin, especially the wells near the groundwater replenishment facility. The magnitude of the response to the groundwater recharge is inversely proportional to the distance the wells are located from the Replenishment Facility, as shown by the diminishing intensity of the colors of the hydrographs.

Although artificial replenishment with imported water, augmenting natural replenishment, has met increasing average annual groundwater demands during the past 30 years, it has not, for all practical purposes, reduced or diminished cumulative gross groundwater overdraft within the Coachella Valley Groundwater Basin, which existed prior to artificial replenishment of the groundwater basin. In effect, the groundwater overdraft condition that existed prior to imported water becoming available for groundwater replenishment has not been significantly

altered, but the trend has been arrested. Although current groundwater levels have generally stabilized in the subbasins within the management areas, current cumulative gross overdraft (not yet offset by cumulative artificial replenishment) is estimated at roughly 4,109,000 AF in the WWR Management Area (since 1956) and 279,000 AF in the MC Management Area (since 1978). Cumulative net overdraft, (cumulative gross overdraft offset by artificial replenishment) is currently estimated at 374,969 AF in the WWR Management Area and 115,500 AF in the MC Management Area.

CDWR has been unable to deliver full annual Table A water allocations for over two decades, with the exception of 2006 where 100% was delivered to Contractors. Had CVWD and DWA been able to obtain and exchange their maximum Table A quantities during that time period, cumulative groundwater overdraft would be significantly less and groundwater levels would be correspondingly higher.

h. Meeting Future Water Requirements

Historic and projected water supplies and water requirements for the WWR and MC Management Areas are set forth in **Figures 3 and 4**. Projected water supplies include SWP supplies, estimated natural inflow, and estimated non-consumptive return. Historic and projected water requirements include historic and projected groundwater production, and estimated natural outflow.

The projected water supply curves shown in **Figures 3 and 4**, are based on the estimates for the natural inflow to the WWR and MC Management Areas, continuing artificial replenishment, non-consumptive return, and groundwater in storage, if necessary. Artificial replenishment is based on the 2019 SWP deliverability projections excluding all potential surplus water deliveries which may become available during any particular year.

Projected water requirements (demands) through 2035 for the WWR and MC Management Areas (also shown in **Figures 3 and 4**) are based on the water balance model utilized in the 2010 Update to the Coachella Valley Water Management Plan and the 2014 Status Report prepared by MWH (and others), and the

Groundwater Flow Model for the MC/GH WMP prepared by Psomas. As shown in the figures, the projected requirements are largely offset by probable supplies; however, the cumulative annual change in storage will remain in the negative through at least 2030 under currently projected conditions.

Based on the production relationship between the WWR Management Area and the MC Management Area, in accordance with the Mission Creek Groundwater Replenishment Agreement, about 91.5% of imported water deliveries in 2021 will be directed to the WWR Management Area and 8.5% to the MC Management Area based on 2020 production (see **Exhibit 6**). For future years, the percentage of the total production is expected to range from 87% to 81% in the WWR Management Area and 12% to 19% in the MC Management Area through 2035 due to increased production (increased demands) in the MC Management Area due to anticipated population growth (MWH 2011, MWH 2013).

i. Adequacy of Current Supplies, Water Conservation, and Future Prospects

1) State Water Project Improvements

As discussed in previous reports, the State of California is proposing a program of improvements to the SWP. The program was originally called *California WaterFix*, and is now called the *Delta Conveyance Project.*

The California WaterFix program originally involved the construction and operation of new water diversion facilities near Courtland to convey water from the Sacramento River through two tunnels to the existing state and federal pumping facilities near Tracy. In addition to other federal, state, and local approvals, California WaterFix required changes to the water rights permits for the SWP and the federal Central Valley Project to authorize the proposed new points of water diversion and rediversion.

The capital cost of the full California WaterFix Project was estimated at about $17 billion for two tunnels. However, in his first State of the State address on February 12, 2019, Governor Gavin Newsom announced that

he supports only the single-tunnel alternative, known as the "Delta Conveyance Project", or DCP, and the California WaterFix project was officially halted in May, 2019.

The planning and environmental review process for the DCP commenced on January 15, 2020 with the release of the Notice of Preparation (NOP) for the development of an Environmental Impact Report (EIR), which would evaluate several project alternatives. Scoping for the EIR has been completed. The remainder of the environmental review process is anticipated to take at least an additional two years. Cost estimates for the DCP have not yet been put forth.

Eventually, SWP water supply reliability, quality, and delivered quantities and the overall health of the Delta may improve upon implementation of the DCP; however, it is unlikely that the costs for Delta improvements will be allocated to the State Water Contractors before 2030.

2) California Drought

In addition to the existing restrictions on water supplies from the SWP, California recently experienced over four consecutive years of severe drought, and is again facing drought conditions.

The four-year period between fall 2011 and fall 2015 was the State's driest since record keeping began in 1895. The statewide drought emergency was declared at an end in early 2017 due to a series of winter storms producing record-level rainfall.

During the course of the drought, the state implemented a number of mandatory water conservation measures, which are discussed in detail in previous reports, along with the efforts of DWA and CVWD to comply with said measures.

At the end of the process, DWA elected to retain a 10% to 13% conservation target for its customers for the purposes of long-term sustainability.

The winter storms of 2018-2019 nearly completely ended the drought conditions in California. According to the California Drought Monitor website, as of March 2019, no parts of California were listed as being in moderate or higher drought conditions.

However, significant drought conditions have recently returned to California. As of April 1, 2021, 5.4% of the state is listed as being in exceptional drought, 32% of the state is listed as being in extreme drought, 64% of the state is listed as being in severe drought, 91% of the state is listed as being in moderate drought, and 99% of the state is listed as being abnormally dry. The majority of the state, except San Diego, Northern San Luis Obispo, Monterey, San Benito, Santa Cruz, Humboldt, and Del Norte Counties, is listed as being in drought conditions.

3) State Water Project Long-Term Reliability Estimates

The 2013 *SWP Final Reliability Report*, dated December 2014, estimated the long-term reliability of SWP supplies at 58% of maximum Table A Amounts, projected through the year 2033.

In July of 2015, CDWR issued the 2015 SWP Deliverability Capability Report. Beginning with said Report, CDWR stopped making long-term future reliability projections, and instead evaluated the SWP's delivery capability ("deliverability") based on existing and historical conditions. Said report estimated the median deliverability of SWP supplies at approximately 64%, and long-term deliverability (82 year average value) at 62% of maximum Table A Amounts 50% of the time over the historic long-term (based on a computer model simulation of hydrologic conditions from 1922-2003). CDWR explicitly stated in the 2015 Report that said report's estimates were based on existing and historical conditions

and were not intended as future projections. For this reason, and also because the 2015 Report did not consider the very low water supply allocations that occurred during the drought years of 2013, 2014, and 2015, the long-term SWP reliability figure of 58% was cited in the 2015/2016, 2016/2017, and 2017/2018 Engineer's Reports rather than the 62% long-term deliverability figure presented in CDWR's 2015 Delivery Capability Report.

In March of 2018, CDWR issued its final 2017 Delivery Capability Report, which included an evaluation of deliveries through calendar year 2016. The 2017 Report continues to use the same 82-year hydrologic record used for the 2015 Report (1922 through 2003) for its computer model simulations of potential hydrologic conditions (runoff and precipitation patterns) for long-term average delivery, and deliveries during typical wet years and typical dry years. However, the analysis accounted for land use, upstream flow regulations, and sea levels characteristic of 2017, and CDWR judged this 82-year period to be sufficient to provide a reasonable range of potential hydrologic conditions from wet years to critically dry years. The 2017 Report estimated the long-term average deliverability at 62% of maximum Table A Amounts, the same figure as presented in the 2015 Report. Because the 2017 Report incorporated recent drought-related data pertaining to low allocations in the years 2013 through 2015, the 62% long-term average deliverability figure set forth in said report was used in the 2018/2019 and 2019/2020 Engineer's Reports.

In August of 2020, CDWR issued its final 2019 Delivery Capability Report, which includes an evaluation of deliveries through calendar year 2018. The 2019 Report continues to use the same 82-year hydrologic record used for the 2015 and 2017 Reports (1922 through 2003) for its computer model simulations. However, following the pattern of the 2017 Report, the analysis accounts for land use, upstream flow regulations, and sea levels characteristic of 2019. The 2019 Report estimates the long-term average deliverability at 58% of maximum Table A Amounts, essentially

returning to the figure presented in the 2013 Report. The 58% long-term average deliverability figure set forth in the 2019 report is used in this Engineer's Report.

4) Conclusion

In conclusion, the Coachella Valley Groundwater Basin (and its subbasins) is in an overdraft condition and will most likely remain so, even with the importation and exchange of available SWP water, until a higher proportion of the maximum SWP Table A allocations becomes available. With maximum Table A allocations, recharge in the WWR and MC Management Areas would offset the current annual overdraft, although overdraft in future years is virtually unpredictable, due to the difficulty of projecting long-term growth and reliability of SWP supplies.

6. Replenishment Assessment

For the WWR Management Area, DWA began its groundwater assessment program in fiscal year 1978/1979 and CVWD began its groundwater assessment program in fiscal year 1980/1981. For the MC Management Area, the two agencies initiated their groundwater assessment programs simultaneously in fiscal year 2003/2004. The two agencies are not required to implement the assessment procedure jointly or identically; however, they have each continuously levied an annual assessment on water produced within their respective jurisdictions since inception of their groundwater assessment programs.

Since the 2013 MC/GH WMP demonstrates that the Garnet Hill Subarea benefits from the groundwater replenishment activities in the two adjacent subbasins, pursuant to the 2004 Settlement Agreement between CVWD, DWA, and MSWD; DWA and CVWD have the authority establish a groundwater assessment program for the Garnet Hill Subarea. DWA's replenishment assessment program was initiated in this subarea in fiscal year 2015/2016. Currently, there is no assessable production in the Garnet Hill Subarea within CVWD's WWR AOB.

Desert Water Agency Law requires the filing of an engineer's report regarding the Replenishment Program before DWA can levy and collect groundwater replenishment assessments. The report must address the condition of groundwater supplies, the need for groundwater replenishment, the AOBs, water production within said AOBs, and replenishment assessments to be levied upon said water production. It must also contain recommendations regarding the replenishment program. This report has been prepared in accordance with these requirements.

CHAPTER III
WHITEWATER RIVER SUBBASIN
PRODUCTION AND REPLENISHMENT

CHAPTER III
WEST WHITEWATER RIVER SUBBASIN MANAGEMENT AREA PRODUCTION AND REPLENISHMENT

A. MANAGEMENT AREA

The WWR Management Area consists of two hydrologic subareas, the Palm Springs Subarea and the Garnet Hill Subarea. The Garnet Hill Subarea is separated from the Palm Springs Subarea by the Garnet Hill Fault, which is a reasonably effective barrier to horizontal groundwater movement, but only below about 100 feet below ground surface.

The Mission Creek/Garnet Hill Management Committee engaged MWH to prepare the MC/GH WMP, which was completed in January 2013. According to the MC/GH WMP, while the Garnet Hill Subarea receives no direct artificial replenishment, it benefits from the artificial replenishment activities in both the MC and Whitewater River Subbasin. It benefits from the replenishment activities in the MC via some subsurface flows across the Banning Fault, and from the replenishment activities in the westerly portion of the Whitewater River (Indio) Subbasin via: (a) infiltration from the Whitewater River channel, which carries imported water from the Colorado River Aqueduct to the replenishment facilities within the Whitewater River Subbasin, and (b) from subsurface flow across the Garnet Hill Fault at the northwesterly end of the Garnet Hill Subarea during major recharge events that significantly raise the groundwater level in the vicinity of the Whitewater River Replenishment Facility. Exact quantities of replenishment benefit from the MC and Whitewater River Subbasin to the Garnet Hill Subarea cannot be ascertained at this time with currently available hydrologic data.

From 2005 through 2018, the Garnet Hill Subarea within DWA's service area was treated as a separate Management Area and AOB. In 2019, the Garnet Hill Subbasin Management Area was consolidated into the WWR Management Area to conform to the subbasin delineations adopted by the CDWR. The information presented in this report reflects this change.

B. GROUNDWATER PRODUCTION

Annual water production (groundwater extractions plus surface water diversions) within the WWR Management Area averaged about 93,000 AF from 1965 through 1967, and then increased to approximately 187,000 AF in 1990. It then decreased to approximately 174,000 AF in 1991,

coincident with the initiation of significant deliveries of recycled water by CVWD and DWA to irrigation users within the Management Area (which had the effect of temporarily reversing the trend toward steadily increasing production of groundwater therein).

Due to development, production increased sharply to about 187,000 AF in 1997 and to about 208,000 AF in 1999. It then averaged about 211,000 AF during the three-year period 2000 through 2002 and remained relatively stable through 2007, probably as a result of water conservation and increased use of recycled water, and (within CVWD's AOB) conversion of agricultural land to residential development, which leveled off in 2000. Production has decreased following 2007 due to water conservation programs implemented by both agencies and also partly to poor economic conditions reducing demands.

During the past five calendar years (2016 through 2020), average annual water production within the WWR Management Area has been about 151,000 AF/Yr, approximately three-fourths of which took place within CVWD's AOB and approximately one-fourth within DWA's AOB.

Current (2020 calendar year) and historic groundwater production and surface water diversion data for the WWR Management Area is set forth in **Table 1**.

C. NATURAL RECHARGE

Natural recharge includes precipitation, surface water runoff, and subsurface inflow. It is currently estimated that natural inflow into the WWR Management Area is approximately 52,100 AF/Yr, while natural outflow is currently estimated at approximately 18,420 AF/Yr (MWH 2011). Thus, approximately 33,600 AF (2020 natural inflow less 2020 natural outflow) of natural, or native, groundwater is currently available for water supply.

D. NON-CONSUMPTIVE RETURN

Consumptive use of water represents the use of water that is not returned to the aquifer (for example: water that is subjected to evapotranspiration by vegetation, thus releasing it into the atmosphere; water that is incorporated into biomass or manufactured products; and water that is exported). Non-consumptive return water is water that is ultimately returned to the aquifer after use (for example, irrigation water percolating beyond the root zone or treated wastewater

discharged to percolation ponds or leach fields) or water used for public parks or golf course irrigation (wastewater recycled for irrigation use). Although non-consumptive return in the WWR Management Area has been estimated at approximately 40% (USGS 1974) and 35% (USGS 1992), CVWD's 2010 Update to the Coachella Valley Water Management Plan (and 2014 Status Report to that plan) incorporated groundwater modeling by MWH (now Stantec) which projected that non-consumptive return may decrease from 35% to approximately 30% through 2035 based on the effects of implementing water conservation measures, such as turf removal and more efficient irrigation practices. According to the model, the overall non-consumptive return for 2017 was projected to be approximately 33%. However, Stantec and Krieger & Stewart have recently conducted efforts to more accurately characterize non-consumptive return by quantifying water use categories; with estimates made for water percolated via agricultural and landscaping irrigation return, wastewater treatment plant and septic tank discharge, and water recycling activities within each Management Area of the Coachella Valley, and considering such factors as transfers of produced water between subbasins. This effort has resulted in a current estimate for non-consumptive use within the WWR Management Area of approximately 32% of total estimated groundwater production, which percentage is used herein.

E. ARTIFICIAL REPLENISHMENT

Total artificial replenishment (to both the WWR and MC Management Areas) for 2020 was 128,255AF. Of this quantity, 126,487 AF were delivered to the Whitewater River Replenishment Facility, and 1,768 AF were delivered to the Mission Creek Replenishment Facility (see **Exhibit 7**). DWA was responsible for delivery of approximately 48,000 AF to WWR and 1,200 AF to MC.

F. GROUNDWATER IN STORAGE

Average annual reported production within the WWR Management Area of 151,000 AF for the past five years (including approximately 500 AF of annual production by minimal pumpers) has been met with an average of approximately 30,700 AF of net natural recharge, an average of approximately 47,600 AF of non-consumptive return, and an average of 179,000AF of net artificial replenishment (less evaporative losses), resulting in a net increase in groundwater in storage of about 106,400 AF/Yr over the past five years.

G. OVERDRAFT STATUS

Based on information contained in USGS Water Resources Investigations 77-29 and 91-4142, average gross annual groundwater overdraft within the WWR Management Area of the Coachella Valley Groundwater Basin began in the 1950s and was estimated to be 30,000 AF/Yr during the late 1960s and early 1970s. It is now estimated to be as much as three times greater. Gross groundwater overdraft within the WWR Management Area (excluding artificial replenishment) is now estimated to have averaged approximately 73,000 AF/Yr over the last five years. Since 1956, cumulative gross overdraft (net pumpage minus net natural recharge) is currently estimated at approximately 4,109,000 AF, and cumulative net overdraft (cumulative gross overdraft offset by artificial replenishment) is currently estimated to be about 375,000 AF.

CHAPTER IV
MISSION CREEK SUBBASIN
PRODUCTION AND REPLENISHMENT

CHAPTER IV
MISSION CREEK SUBBASIN MANAGEMENT AREA
PRODUCTION AND REPLENISHMENT

A. GROUNDWATER PRODUCTION

Annual water production (groundwater extractions) within the MC Management Area increased from an average of approximately 500 AF/Yr in the late 1950s and 1960s to approximately 2,300 AF/Yr in 1978. Production increased relatively steadily since then to approximately 17,400 AF/Yr in 2006, then began dropping slightly as a result of declining economic conditions to about 16,400 AF/Yr in 2007, 15,800 AF/Yr in 2008, 15,100 AF/Yr in 2009, 14,300 in 2010, 14,200 in 2011, and 13,000 in 2015. Annual groundwater production within the MC Management Area has resulted in cumulative long-term groundwater overdraft, as evidenced by the steady decline of groundwater levels within the MC prior to commencement of recharge activities.

During the past five calendar years (2016 through 2020), average annual reportable water production within the MC Management Area has been about 14,000 AF/Yr; approximately two-thirds of which took place within DWA's AOB and approximately one-third within CVWD's AOB. Current (2020 calendar year) and historic groundwater production and surface water diversion data for the MC Management Area is set forth in **Table 1**.

B. NATURAL RECHARGE

Natural recharge includes precipitation, surface water runoff, and subsurface inflow. As discussed in past reports, it is currently estimated that natural inflow and surface recharge of the MC has averaged approximately 3,500 to 10,800 AF/Yr over the long term. Most estimates of natural outflow from the MC equal or exceed the corresponding estimates of natural inflow.

The most recent estimate for natural inflow into the MC was prepared by Psomas for the MC/GH WMP prepared by MWH in January 2013. Psomas estimated said natural inflow at approximately 9,340 AF/Yr, consisting of approximately 7,500 AF/Yr from mountain front runoff and precipitation under average conditions and approximately 1,840 AF/Yr from flows across the Mission Creek Fault from the Desert Hot Springs Subbasin. This estimate falls within the range of average natural inflow previously cited herein.

Psomas estimated natural outflow at approximately 6,000 AF/Yr, consisting of 4,000 AF/Yr of subsurface flow from the Banning Fault to the Garnet Hill Subarea, 900 AF/Yr of evapotranspiration, and 1,100 AF/Yr of flow through semi-water bearing rocks, known as the Indio Hills, at the southeastern end of the MC.

C. NON-CONSUMPTIVE RETURN

Consumptive use and non-consumptive return are discussed in **Chapter III, Section C**. Within the MC Management Area, non-consumptive return is currently estimated at approximately 31% of total estimated production, or about 4,600 AF/Yr (average for the past five years).

D. ARTIFICIAL REPLENISHMENT

Total artificial replenishment (to both the WWR and MC Management Areas) for 2020 was 128,255 AF. Of this quantity, 1,768 AF were delivered to the Mission Creek Replenishment Facility (see **Exhibit 7**). The numbers presented herein are based on DWA's reported quantity. DWA was responsible for delivery of approximately 1,200 AF to MC.

Based on the production relationship between the Whitewater River Subbasin and the MC, in accordance with the Mission Creek Groundwater Replenishment Agreement, about 91.5% of imported water deliveries in 2021 will be directed to the WWR Management Area and 8.5% to the MC Management Area, based on 2020 production (see **Exhibit 6**). For future years, the percentage of the total production is expected to range from 87% to 81% in the WWR Management Area and 12% to 19% in the MC Management Area through 2035 due to increased production (increased demands) in the MC Management Area due to anticipated population growth (MWH 2011, MWH 2013).

E. GROUNDWATER IN STORAGE

Average annual reported production within the entire MC Management Area of 14,000 AF for the past five years (including approximately 500 AF of annual production by minimal pumpers) has been met with approximately 3,550 AF of net natural recharge, approximately 4,600 AF of non-consumptive return, and 3,250 AF of net artificial replenishment (less evaporative losses), resulting in a net decrease in groundwater in storage of about 2,500 AF/Yr over the past five years.

The change in groundwater storage within DWA's MC AOB has also been estimated using changes in measured static water levels in wells within the AOB. Using the average static water levels in the wells in DWA's AOB, the average annual reduction in stored groundwater was 3,800 AF/Yr from 1955 through 2020, and 3,100 AF/Yr from 1998 through 2020 (see **Exhibit 5**).

F. OVERDRAFT STATUS

Gross groundwater overdraft within the MC (excluding artificial replenishment) is now estimated at approximately 6,000 AF/Yr during the last five years. Cumulative gross overdraft (net pumpage minus net natural recharge) since 1978 is currently estimated at approximately 279,000 AF, and cumulative net overdraft (cumulative gross overdraft offset by artificial replenishment) since 1978 is currently estimated to be about 115,500 AF.

CHAPTER V
REPLENISHMENT ASSESSMENT

CHAPTER V
REPLENISHMENT ASSESSMENT

Desert Water Agency Law, in addition to empowering DWA to replenish groundwater basins and to levy and collect water replenishment assessments within its areas of jurisdiction, defines production and producers for groundwater replenishment purposes as follows:

> Production: The extraction of groundwater by pumping or any other method within the Agency, or the diversion within the Agency of surface supplies which naturally replenish the groundwater supplies within the Agency and are used therein.
>
> Producer: Any individual, partnership, association, group, lessee, firm, private corporation, public corporation, or public agency including, but not limited to, the DWA, that extracts or diverts water as defined above.

Producers that extract or divert 10 AF of water or less in any one year are considered minimal pumpers or minimal diverters, and their production is exempt from assessment.

Desert Water Agency Law also states that assessments may be levied upon all water production within an AOB, provided assessment rates are uniform throughout. Pursuant to Desert Water Agency Law, the amount of any replenishment assessment cannot exceed the sum of certain SWP charges, specifically, the Delta Water Charge, the Variable OMP&R Component of the SWP Transportation Charge (Variable Transportation Charge), and the Off-Aqueduct Power Component of the SWP Transportation Charge (Off-Aqueduct Power Charge), pursuant to the Contract between DWA and the State of California. The aforesaid charges are set forth in each year's CDWR *Bulletin on the State Water Project* (CDWR Series 132, Appendix B, Tables B-16B, B-18, and B-21).

Prior to 2002, groundwater replenishment with Colorado River Water (exchanged for SWP water) had been limited to recharge of the WWR Management Area. In 2002, DWA and CVWD commenced recharge activities in the MC Management Area, in addition to continuing their ongoing activities in the WWR Management Area. The AOBs for Groundwater Replenishment and Assessment herein consist of those portions of the WWR Management Area (including a portion of the San Gorgonio Pass Subbasin and tributaries thereto) and the MC Management Area, situated within DWA's service area boundary (**Figure 2**).

The groundwater replenishment assessment and replenishment assessment rate for 2021/2022 is based on the following:

1. All groundwater production within DWA and MSWD, with certain exceptions, is metered, and all assessable surface water diversions within DWA are metered or measured. There are no surface water diversions within the MC AOB.

2. The Delta Water Charge, the Variable Transportation Charge, and the Off-Aqueduct Power Charge, as set forth in Appendix B of the most recent CDWR Bulletin Series 132 and hereafter referred to as Applicable SWP Charges.

3. The proportionate share of the Applicable SWP Charges allocable to CVWD and DWA in accordance with the Water Management Agreements between CVWD and DWA (Water Management Agreement for the Whitewater River Subbasin executed July 1, 1976 and amended December 15, 1992, and the Water Management Agreement for the Mission Creek Subbasin executed April 8, 2003; both amended July 15, 2014), hereafter referred to as Allocated SWP Charges. (The applicable charges are essentially apportioned between CVWD and DWA in accordance with relative water production within those portions of each entity lying within the applicable Water Management Areas, either the Whitewater River Subbasin (including the Garnet Hill Subarea and a portion of the San Gorgonio Pass Subbasin) or the MC.

4. Certain charges or costs other than those derived pursuant to items 1, 2, and 3 above. Such additional charges may be offset from time to time by discretionary reductions.

The replenishment assessment rate comprises two components: (1) the Allocated SWP Charges attributable to the estimated annual Table A allocation, and (2) certain other charges or costs related to groundwater recharge, such as those for reimbursement of past surplus water charges for which assessments had not been levied.

The replenishment assessment rate, when applied to estimated assessable production (all production, excluding that which is exempt, within the AOB), results in a replenishment assessment which must not exceed the maximum permitted by Desert Water Agency Law (the Applicable SWP Charges). Due to the interdependent nature of the imported water supply for the WWR Management Area (including the Garnet Hill Subarea and a portion of the San Gorgonio Pass Subbasin), and the MC Management Area, the

Allocated SWP Charges component of the replenishment assessment rate is uniform throughout the WWR AOB and MC AOB; however, due to the independent and separate nature of various other aspects of the groundwater replenishment program within the WWR AOB (including the Garnet Hill Subarea and a portion of the San Gorgonio Pass Subbasins), and MC AOB, the other charges and costs component need not be uniform; they are specific to each AOB.

A. ACTUAL 2020 WATER PRODUCTION AND ESTIMATED 2021/2022 ASSESSABLE WATER PRODUCTION

Estimated assessable production within DWA's WWR AOB (including a portion of the Garnet Hill Subarea and the San Gorgonio Pass Subbasin), and MC AOB consist of groundwater extractions from the groundwater subbasins and diversions from streams (Snow, Falls, and Chino Creeks) in the tributary watersheds. Estimated assessable groundwater production is based on metered water production. DWA staff read and record metered water production quantities with the exception of the wells owned by MSWD and the Indigo Power Plant, which are reported to DWA.

The effective replenishment assessment rate for Table A water is based on DWA's estimated Allocated SWP Charges for the current year (based on CDWR's projections for the assessment period) divided by the estimated assessable production for the assessment period, as set forth in **Table 6**. DWA has utilized two bases for estimating assessable production, either assessable production for the previous year, or, when statewide conservation mandates are in effect, a specified year's assessable production minus a water conservation factor. Since the 2019/2020 report, the estimated assessable production for both AOBs has been based on the assessable production for the previous year (for this report, 2020), since the statewide conservation mandate was satisfied in 2017.

Estimated assessable water production is set forth in **Table 2**.

In 2020, actual reported production within CVWD's AOB within the WWR Management Area was about 3.3 times that within DWA's AOB, 117,825 AF versus 35,855 AF, whereas actual production within DWA's AOB within the MC Management Area was about 2.1 times that within CVWD's AOB, 9,589 AF versus 4,655 AF. DWA's 2020 actual production accounts for approximately 27.1% of the 167.924 AF combined total of water produced within the Management Areas that year.

B. WATER REPLENISHMENT ASSESSMENT RATES

The water replenishment assessment rates consist of two components, one being attributable to SWP annual Table A water allocations, and the other being attributable to other charges or costs necessary for groundwater replenishment. Each component is discussed below.

1. Component Attributable to SWP Table A Water Allocation Charges

In accordance with the current 2014 Water Management Agreement, CVWD and DWA combine their SWP Table A water allocations, exchange them for Colorado River water, and replenish the WWR and MC Management Areas with exchanged Colorado River water. CVWD and DWA each assume the full burden for portions of their respective Fixed State Water Project Charges (Capital Cost Component and Minimum Operating Component of Transportation Charge); however, the two agencies share their Applicable SWP Charges (Delta Water, Variable Transportation, and Off-Aqueduct Power Charges) on the basis of relative production.

Although DWA could base its replenishment assessment rate on its Applicable SWP Charges, it only needs to recover its share (based on relative production) of the combined Applicable SWP Charges for both CVWD and DWA (i.e. its Allocated SWP Charges). CVWD makes up the difference in accordance with the Water Management Agreement.

The Applicable SWP Charges for CVWD and DWA for Table A water are set forth in **Tables 3 and 4**, respectively. Unit Charges for Delta Water, Variable Transportation, and Off-Aqueduct Power Charges are based on estimates presented in Appendix B of CDWR Bulletin 132-19.

Since CDWR has been unable to deliver maximum Table A allocations for 20 of the past 21 years, the amounts of the Applicable SWP Charges for 2021/2022 and future years are computed based on a long-term SWP reliability factor applied to the maximum SWP allocations. From 2013 through 2017, a factor of 58% was applied. A factor of 62% was applied in 2019 and 2020. A factor of 58% is being applied in 2021 and 2022.

Since the 2003 Exchange Agreement allowed MWD to call-back or recall the 100,000 AF of Table A allocation it transferred to CVWD and DWA, the amounts of the Applicable SWP Charges from 2004/2005 through 2017/2018 have been computed with the MWD transfer portion being further reduced by another long-term reliability factor to account for possible future recalls pursuant to the 2003 Exchange Agreement (typically 35%). However, the 2019 amendments to, and restatement of, the 2003 Exchange Agreement have eliminated the call-back provision. Therefore, commencing with the 2018/2019 report, it is assumed that MWD will not recall any of its transfer portion. This change has the effect of increasing the estimated delivery of SWP water for future years, including the 2021/2022 fiscal year, thus raising the replenishment assessment rate necessary to cover anticipated importation costs.

The derivations of the Applicable SWP Charges are set forth in **Tables 3 and 4**. The "Maximum Table A Water Allocation" shown in **Tables 3 and 4** is the currently existing Table A Water Allocation per CDWR Bulletin 132-19, Appendix B, Table B-4 (contractual quantities based on requests for same by CVWD and DWA) with no reliability factors being applied. The "Probable Table A Water Allocation" is the currently existing Table A Water Allocation. The MWD reliability factor was formerly applied to the Probable Table A Allocation column to reflect the long-term average with probable recalls by MWD, pursuant to the remaining years of the 2003 Exchange Agreement and its implementation. The "Probable Table A Water Delivery" is based on 58% reliability of the probable Table A Water allocation.

Applicable SWP Charges proportioned in accordance with the Water Management Agreement, more particularly in accordance with relative production within CVWD and DWA, yield Allocated SWP Charges. Over the past five years, 2016 through 2020, DWA has been responsible for approximately 22.52% of the water produced within the WWR Management Area, and 68.72% of water produced from the MC Management Area.

In the past, Allocated SWP Charges have been apportioned to CVWD and DWA based on production from the WWR Management Area. Since 2003/2004, Allocated SWP Charges have been apportioned to CVWD and DWA based on production from the combined WWR and MC Management Areas. In 2020, DWA was responsible for approximately 27.1% of the combined water production within the Management Areas. On the assumption that

DWA's relative production for 2021 and thereafter will be about the same as for 2020, DWA's share of the combined Applicable SWP Charges (i.e. Allocated Charges) for the next 15 years will be as set forth in **Table 5**.

Table 5 shows that DWA's estimated Allocated Charges (its share of combined Applicable Charges for Table A water) are anticipated to decrease by about 3% between 2020 and 2021, increase by about 18% between 2021 and 2022 and increase by about 6% between 2022 and 2023. DWA's estimated Allocated Charges will change as estimates presented in future annual editions of CDWR Bulletin 132 change.

Table 5 also shows that DWA's estimated 2021 Allocated Charges are about 94% of DWA's estimated Applicable Charges. Since water replenishment assessments must be used for groundwater replenishment purposes only, implementation of the maximum permissible replenishment assessment rate based on DWA's Applicable Charges would result in the collection of excess funds that would have to be applied to replenishment charges during subsequent years.

Rather than collect excess funds one year and apply the excess funds to replenishment charges in subsequent years, DWA attempts to establish from year to year the replenishment assessment rate that will result in collection of essentially the funds necessary to meet its annual groundwater replenishment charges. DWA therefore bases the Table A portion of its replenishment assessment on estimated Allocated Charges, rather than estimated Applicable Charges.

Pursuant to current Desert Water Agency Law, the maximum permissible replenishment assessment rate that can be established for fiscal year 2021/2022 is approximately $263/AF, based on DWA's estimated Applicable Charges (Delta Water Charge, Variable Transportation Charge, and Off-Aqueduct Power Charge) of $11,956,580 (average of estimated 2021 and 2022 Applicable Charges) and estimated 2021/2022 combined assessable production of 45,450 AF within the WWR and MC AOBs.

The effective replenishment rate is based on DWA's estimated Allocated SWP Charges for the current year, as computed using CDWR's projected Applicable SWP Charges, divided

by the estimated assessable production for the assessment period (based on the assessable production for the previous calendar year), as set for in **Table 6**.

Pursuant to the terms of the Water Management Agreement between DWA and CVWD, and based on DWA's estimated 2021/2022 Allocated Charges of $11,231,587 and estimated 2021 calendar year assessable production (shown in **Table 6** as estimated 2021/2022 assessable production) of 45,450 AF within the WWR and MC, the effective replenishment assessment rate component for Table A water for the 2021/2022 fiscal year is $247/AF. **Table 7** includes DWA's historical estimated, actual effective, and estimated projected replenishment assessment rates.

Tables 3 through 7 include future projections through 2035. These projections are based on a number of assumptions regarding factors that can be highly variable and difficult to predict, such as development, conservation, and, as mentioned, SWP reliability and cost factors. Actual values in the future may be substantially different than as shown in these tables.

2. Component Attributable to Other Charges and Costs Necessary for Groundwater Replenishment

Charges and costs necessary for groundwater replenishment could include the costs for reimbursement for past SWP Table A water allocations and surplus water allocations for which insufficient assessments had been levied, acquisition or purchases of water from sources other than the SWP, the cost of importing and recharging water from sources other than the SWP, and the cost of treatment and distribution of reclaimed water.

Currently, other charges and costs are being limited to past SWP water payments for which assessments have not been levied. Due to increases in SWP costs, DWA elected last year to transfer the deficit resulting from past payments for which assessments have not been levied to reserve account(s).

Since 1996, CVWD and DWA have obtained surplus SWP water, when available, to supplement deliveries of Table A water (see **Chapter II, Section B.5.d**). DWA currently pays charges for surplus water with funds from its Unscheduled State Water Project

Deliveries Reserve Account, rather than from funds raised directly through replenishment assessment levies.

3. Proposition 218 Proceedings

DWA held Proposition 218 proceedings in the winter of 2016, including a public hearing on December 15, 2016. During the public hearing, DWA received comments and tallied protests regarding the proposed replenishment assessment rate ranges for the following five years, as shown in the table below.

Fiscal Year	Anticipated Adoption Date	Rate Range ($/AF)
2017/2018	July 1, 2017	$110.00 to $130.00
2018/2019	July 1, 2018	$120.00 to $140.00
2019/2020	July 1, 2019	$125.00 to $155.00
2020/2021	July 1, 2020	$130.00 to $165.00
2021/2022	**July 1, 2021**	**$130.00 to $175.00**

Protests were received from less than 50% of the affected parcels.

On December 4, 2017, the California Supreme Court held, in the case of *City of San Buenaventura v. United Water Conservation District*, that groundwater pumping charges are not property-related charges subject to Proposition 218. However, current regulations developed to codify the SGMA still state that a Groundwater Sustainability Agency that adopts a groundwater sustainability plan may impose fees to fund the costs of groundwater management, but such fees "shall be adopted" in accordance with Proposition 218. If the SGMA regulations are amended to remove this requirement, future Proposition 218 proceedings for DWA's groundwater replenishment assessment may not be necessary.

Since 2021/2022 is the final year covered by the 2016 Proposition 218 proceedings, another set of Proposition 218 proceedings will be required for the ensuing five years. The following table sets forth recommended ranges for replenishment assessment rates for the following five years. The minimum rates shown account only for anticipated Table A allocation costs; the maximum rates shown include a factor for recovery of deficits incurred

since 2010/2011 due to the previously-discussed implementation of replenishment assessment rates lower than the Table A allocation costs:

Fiscal Year	Anticipated Adoption Date	Rate Range ($/AF)
2022/2023	July 1, 2022	$271.00 to $297.00
2023/2024	July 1, 2023	$278.00 to $304.00
2024/2025	July 1, 2024	$281.00 to $307.00
2025/2026	July 1, 2025	$286.00 to $312.00
2026/2027	July 1, 2026	$286.00 to $312.00

4. Proposed 2021/2022 Replenishment Assessment Rates

As shown in **Table 6**, the estimated effective Table A Assessment Rate is $247/AF, and the elimination of the separate MWD reliability factor (MWD reliability factor effectively set to 100%, but still subject to the 58% SWP reliability factor). However, this rate exceeds the maximum rate of $175/AF established in the Proposition 218 proceedings for 2021/2022. Therefore, as shown in **Table 7**, the recommended replenishment assessment rates proposed for 2021/2022 are:

- **$175.00/AF** for the WWR AOB
- **$175.00/AF** for the MC AOB

Historic replenishment assessment rates for both DWA and CVWD within the Whitewater River Subbasin are included in **Exhibit 8**.

C. ESTIMATED WATER REPLENISHMENT ASSESSMENTS FOR 2021/2022

The maximum replenishment assessment that can be levied by DWA for combined estimated production of 45,450 AF (see **Table 2**) within the WWR and MC AOBs based on a replenishment assessment rate of $175.00/AF is approximately $7,953,750 ($6,275,000 in the WWR AOB and $1,678,250 in the MC AOB).

DWA will continue to be the major producer within the WWR AOB, with assessable production of approximately 33,880 AF; twelve other producers will be responsible for the remaining 1,980 AF of estimated assessable production. DWA will also be the major assessee with an estimated replenishment assessment of $5,929,000. The twelve other producers will be responsible for the remaining $346,500. DWA will therefore be responsible for approximately 94.5% of both the estimated assessable water production and the estimated replenishment assessment for the WWR AOB; the other nine producers will be responsible for the remaining 5.5%.

MSWD will be the major producer within the MC AOB, with assessable production of approximately 7,830 AF; four other producers will be responsible for the remaining 1,760 AF of estimated assessable production. MSWD will also be the major assessee with an estimated replenishment assessment of $1,370,250. The four other producers will be responsible for the remaining $308,000. MSWD will be responsible for approximately 81.7% of both the estimated assessable water production and the estimated replenishment assessment in the MC AOB; the other four producers will be responsible for the remaining 18.3%.

CHAPTER VI
BIBLIOGRAPHY

CHAPTER VI
BIBLIOGRAPHY

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FIGURES

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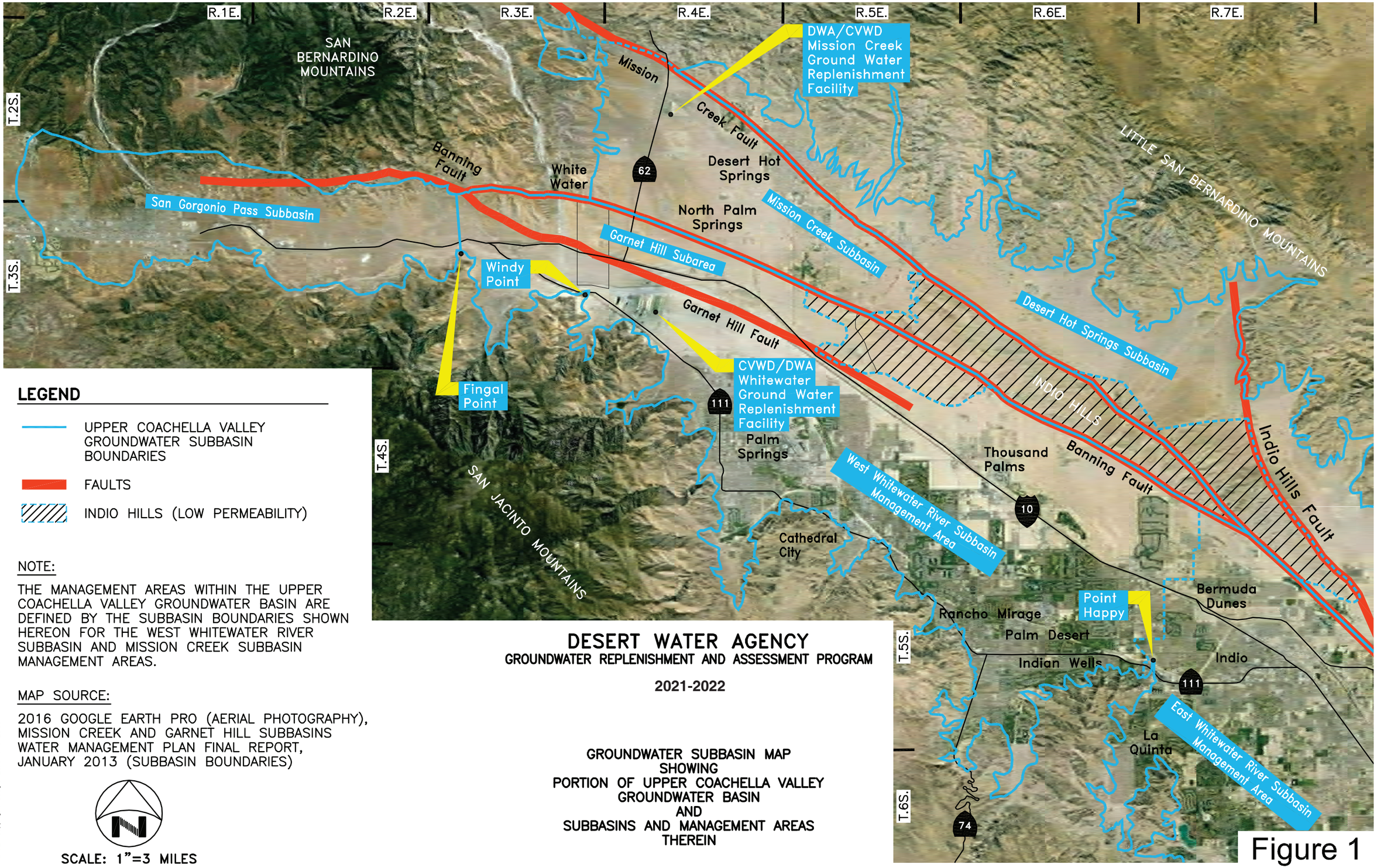

LEGEND

- UPPER COACHELLA VALLEY GROUNDWATER SUBBASIN BOUNDARIES
- FAULTS
- INDIO HILLS (LOW PERMEABILITY)

NOTE:

THE MANAGEMENT AREAS WITHIN THE UPPER COACHELLA VALLEY GROUNDWATER BASIN ARE DEFINED BY THE SUBBASIN BOUNDARIES SHOWN HEREON FOR THE WEST WHITEWATER RIVER SUBBASIN AND MISSION CREEK SUBBASIN MANAGEMENT AREAS.

MAP SOURCE:

2016 GOOGLE EARTH PRO (AERIAL PHOTOGRAPHY), MISSION CREEK AND GARNET HILL SUBBASINS WATER MANAGEMENT PLAN FINAL REPORT, JANUARY 2013 (SUBBASIN BOUNDARIES)

SCALE: 1"=3 MILES

DESERT WATER AGENCY

GROUNDWATER REPLENISHMENT AND ASSESSMENT PROGRAM

2021-2022

GROUNDWATER SUBBASIN MAP
SHOWING
PORTION OF UPPER COACHELLA VALLEY
GROUNDWATER BASIN
AND
SUBBASINS AND MANAGEMENT AREAS
THEREIN

Figure 1

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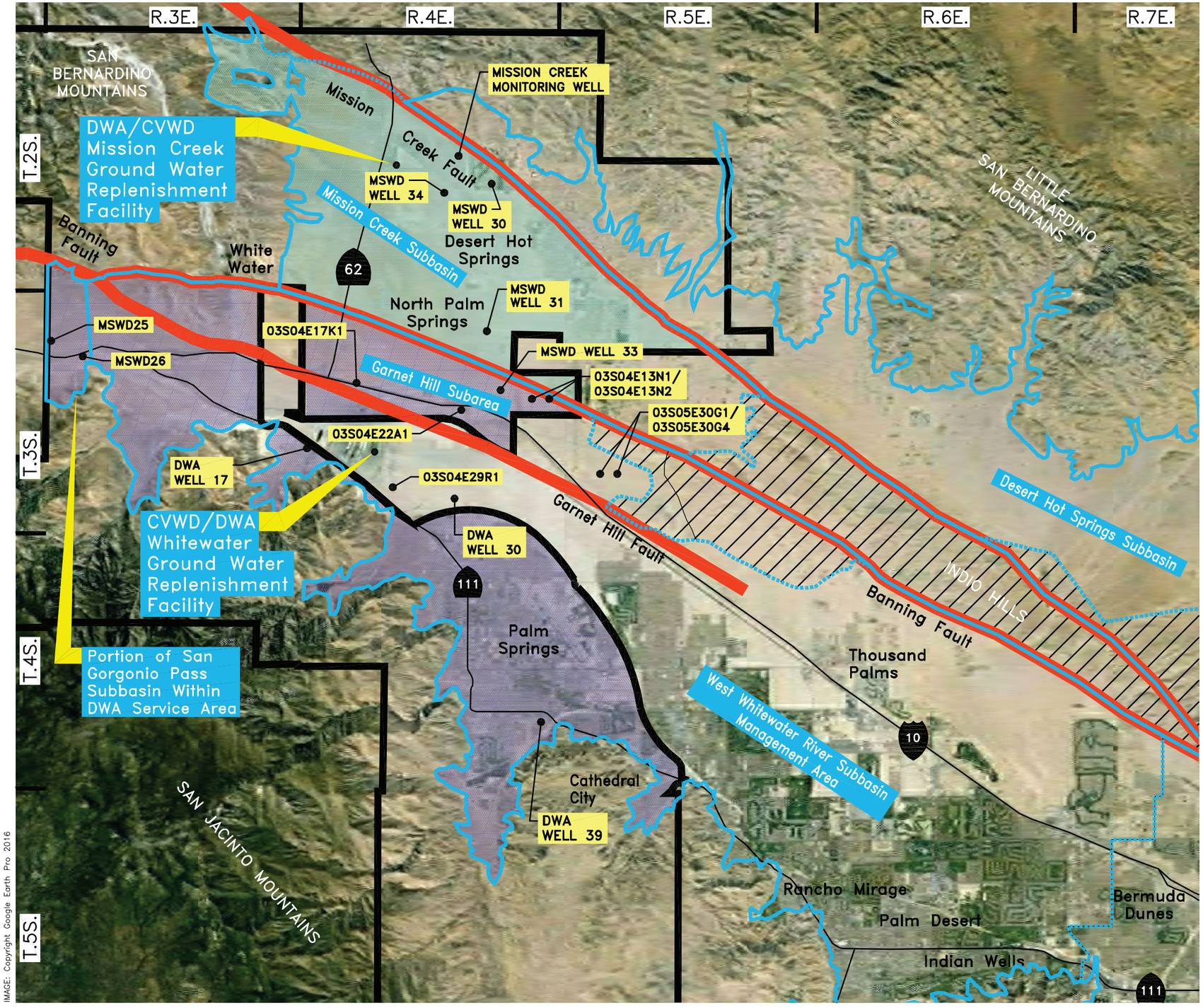
DESERT WATER AGENCY
GROUNDWATER REPLENISHMENT AND ASSESSMENT PROGRAM

2021-2022

GROUNDWATER SUBBASIN MAP SHOWING GROUNDWATER RECHARGE AREAS OF BENEFIT (EITHER DIRECT OR INDIRECT) AND SELECTED GROUNDWATER WELLS



LEGEND

- DWA BOUNDARY
- UPPER COACHELLA VALLEY GROUNDWATER SUBBASIN BOUNDARIES
- FAULTS

UPPER COACHELLA VALLEY GROUNDWATER SUBBASIN AREAS OF BENEFIT WITHIN DWA

- DWA WHITEWATER RIVER SUBBASIN AREA OF BENEFIT
- DWA MISSION CREEK SUBBASIN AREA OF BENEFIT
- INDIO HILLS (LOW PERMEABILITY)
- GROUNDWATER WELL

MAP SOURCE:

2016 GOOGLE EARTH PRO (AERIAL PHOTOGRAPHY), MISSION CREEK AND GARNET HILL SUBBASINS WATER MANAGEMENT PLAN FINAL REPORT, JANUARY 2013 (SUBBASIN/SUBAREA BOUNDARIES)

SCALE: 1"=2.5 MILES

Figure 2

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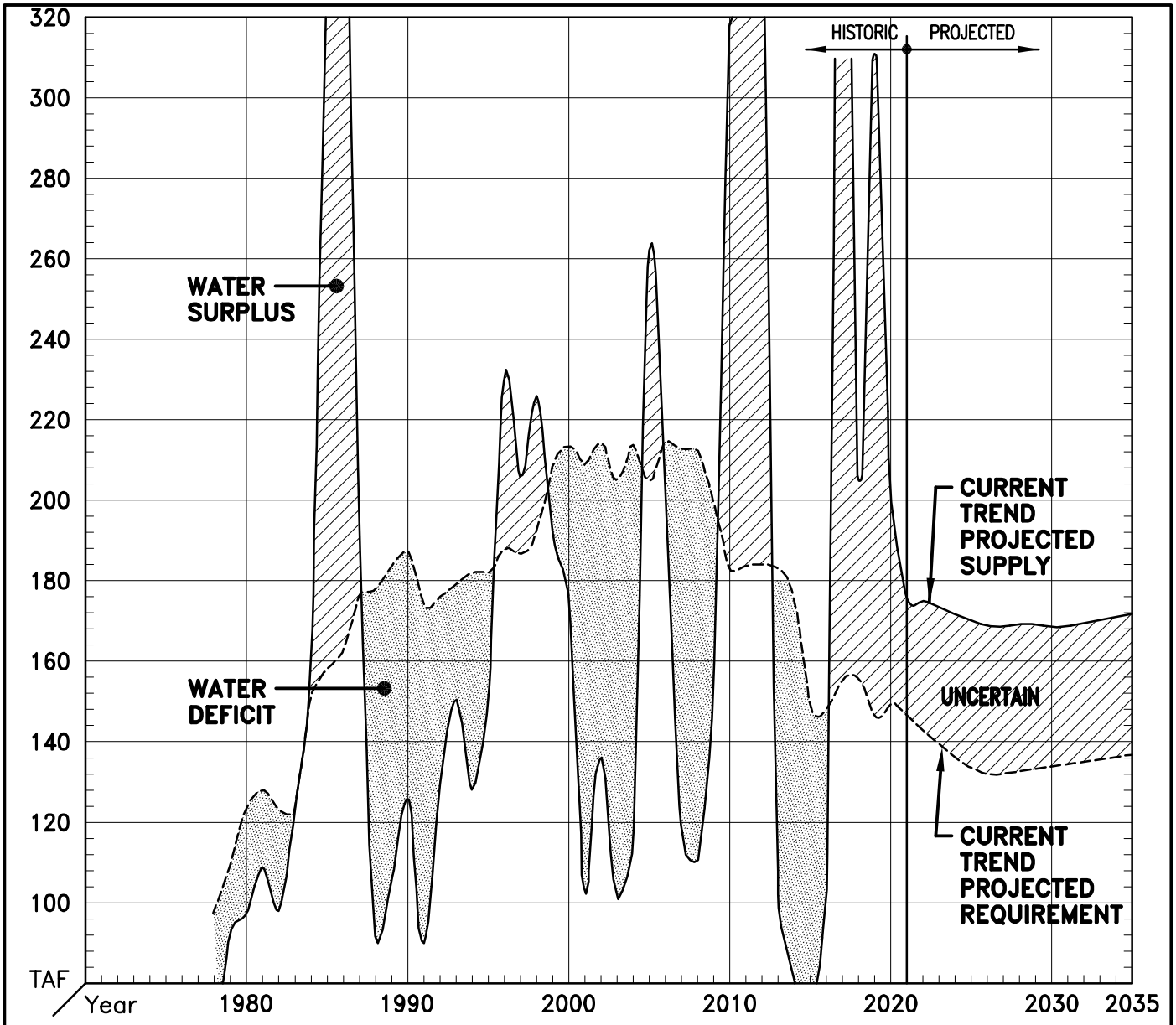

YEARS	1980	1990	2000	2010	2020	2030	2035
NET INFLOW (ACRE FEET)	98,000	125,800	174,500	317,100	205,639	168,509	171,583
NONCONSUMPTIVE RETURN	43,200	65,700	74,500	64,300	48,000	43,000	44,000
NET ARTIFICIAL RECHARGE	25,800	31,100	71,000	223,800	124,000	89,800	89,000
NET NATURAL INFLOW	29,000	29,000	29,000	29,000	33,639	35,709	38,583

NOTES:

1. PROJECTED WATER REQUIREMENTS ARE BASED ON THE PROJECTIONS SET FORTH IN THE 2010 UPDATE TO THE COACHELLA VALLEY WATER MANAGEMENT PLAN, AND THE 2014 STATUS UPDATE (CVWD & MWH).
2. PROJECTED ARTIFICIAL RECHARGE IS BASED ON PROBABLE DELIVERIES ESTIMATED USING 62% RELIABILITY OF STATE WATER PROJECT WATER BASED ON 2013 STATE WATER PROJECT RELIABILITY REPORT AND 100% LONG-TERM AVERAGE OF MWD TRANSFERS PURSUANT TO THE 2003 EXCHANGE AGREEMENT AND ITS IMPLEMENTATION.
3. WATER SUPPLY IS BASED ON NON-CONSUMPTIVE RETURN, NATURAL INFLOW AND PROBABLE DELIVERIES DESCRIBED ABOVE.

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DESERT WATER AGENCY

HISTORIC AND PROJECTED WATER REQUIREMENTS AND WATER SUPPLIES FOR THE WEST WHITEWATER RIVER SUBBASIN MANAGEMENT AREA

FIGURE 3

SCALE: N/A DATE: 03/30/21 DRAWN BY: SPK CHECKED BY: DFS W.O.: 101-33.45

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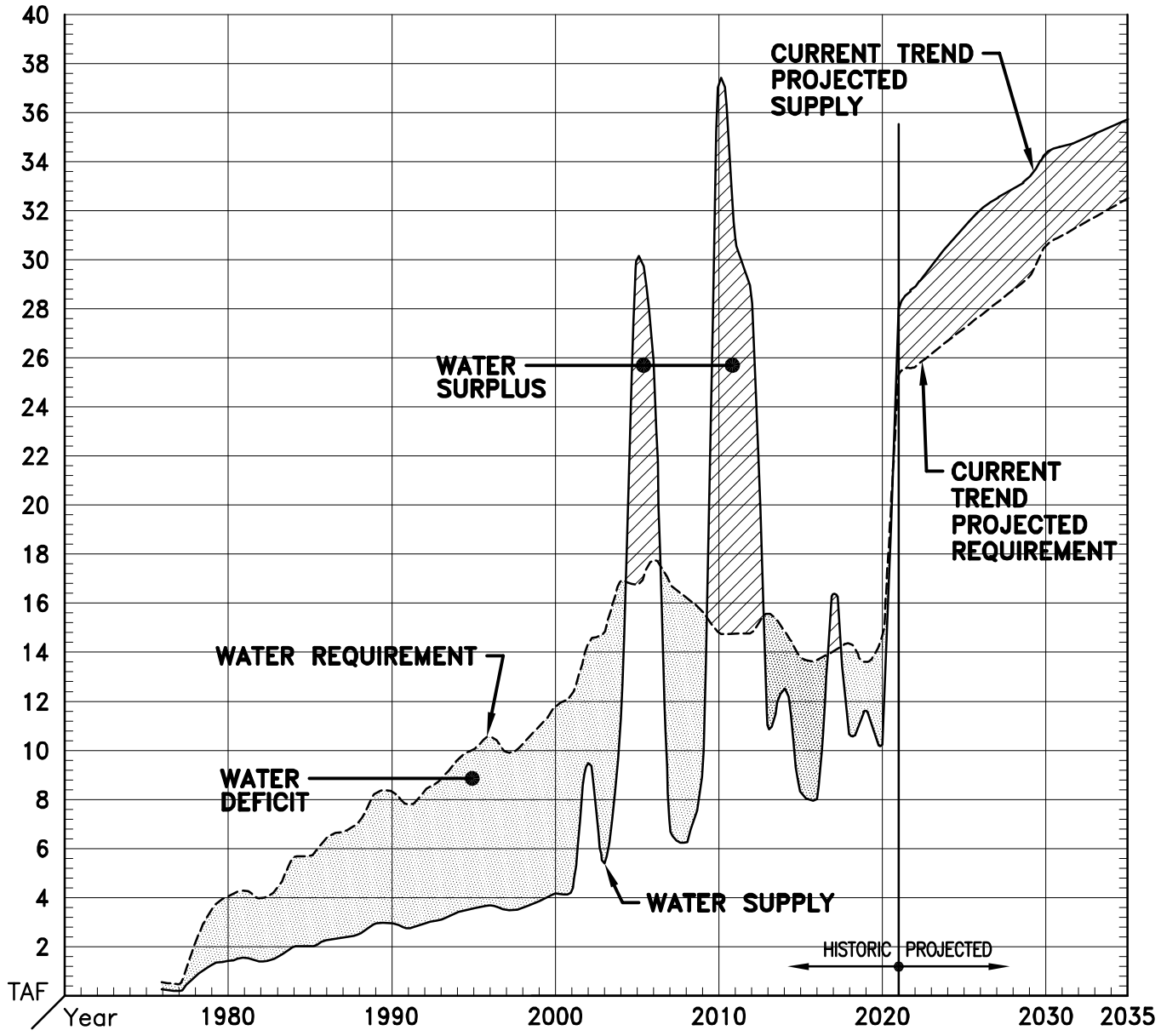

YEARS	1980	1990	2000	2010	2020	2030	2035
NET INFLOW (ACRE FEET)	1,400	2,900	4,100	37,700	10,300	34,400	35,700
NONCONSUMPTIVE RETURN	1,400	2,900	4,100	5,200	4,600	9,500	10,100
NET ARTIFICIAL RECHARGE	0	0	0	32,500	1,700	20,600	21,300
NET NATURAL INFLOW	–	–	–	–	4,000	4,300	4,300

NOTES:

1. PROJECTED WATER REQUIREMENTS ARE BASED ON PROJECTIONS PER THE 2013 MISSION CREEK/GARNET HILL SUBBASIN WATER MANAGEMENT PLAN BY MWH.
2. PROJECTED ARTIFICIAL RECHARGE IS BASED ON PROBABLE DELIVERIES ESTIMATED USING 62% RELIABILITY OF STATE WATER PROJECT WATER BASED ON 2013 STATE WATER PROJECT RELIABILITY REPORT AND 100% LONG-TERM AVERAGE OF MWD TRANSFERS PURSUANT TO THE 2003 EXCHANGE AGREEMENT AND ITS IMPLEMENTATION.
3. WATER SUPPLY IS BASED ON NON-CONSUMPTIVE RETURN, NATURAL INFLOW AND PROBABLE DELIVERIES DESCRIBED ABOVE.

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DESERT WATER AGENCY

HISTORIC AND PROJECTED WATER REQUIREMENTS AND WATER SUPPLIES FOR THE MISSION CREEK SUBBASIN MANAGEMENT AREA

FIGURE 4

SCALE: N/A DATE: 02/26/21 DRAWN BY: SPK CHECKED BY: DFS W.O.: 101-33.45

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TABLES

TABLE 1
DESERT WATER AGENCY
HISTORIC REPORTED WATER PRODUCTION FOR REPLENISHMENT ASSESSMENT FOR
DESERT WATER AGENCY AND COACHELLA VALLEY WATER DISTRICT
WEST WHITEWATER RIVER SUBBASIN (WWR) AND MISSION CREEK SUBBASIN (MC) MANAGEMENT AREAS

	CVWD Production		DWA Production					Combined CVWD & DWA Production					WWR Production Percentages		Combined WWR, MC Production Percentages		MC Production Percentages	
	GWE		GWE		SWD	Total	Total	WWR			MC							
Year	WWR AF	MC AF	WWR AF	MC AF	WWR AF	WWR AF	Comb AF	GWE AF	SWD AF	Total AF	Total AF	Comb AF	CVWD	DWA	CVWD	DWA	CVWD	DWA
1973										84,008 *	542 *							
1974										84,008 *	542 *							
1975										84,008 *	542 *							
1976	69,700		25,100		7,400	32,500	32,500	94,800	7,400	102,200	542 *	102,742	68.20%	31.80%				
1977	67,696		25,660		7,562	33,222	33,222	93,356	7,562	100,918	542 *	101,460	67.08%	32.92%				
1978	61,172		28,100		8,530	36,630	36,630	89,272	8,530	97,802	2,253 *	100,055	62.55%	37.45%				
1979	72,733		29,393		7,801	37,194	37,194	102,126	7,801	109,927	3,565 *	113,492	66.16%	33.84%				
1980	84,142		32,092		7,303	39,395	39,395	116,234	7,303	123,537	4,021 *	127,558	68.11%	31.89%				
1981	86,973		33,660		7,822	41,482	41,482	120,633	7,822	128,455	4,299 *	132,754	67.71%	32.29%				
1982	83,050		33,382		6,512	39,894	39,894	116,432	6,512	122,944	3,932 *	126,876	67.55%	32.45%				
1983	84,770		33,279		6,467	39,746	39,746	118,049	6,467	124,516	4,421 *	128,937	68.08%	31.92%				
1984	104,477		38,121		7,603	45,724	45,724	142,598	7,603	150,201	5,655 *	155,856	69.56%	30.44%				
1985	111,635		39,732		7,143	46,875	46,875	151,367	7,143	158,510	5,707 *	164,217	70.43%	29.57%				
1986	115,185		40,965		6,704	47,669	47,669	156,150	6,704	162,854	6,437 *	169,291	70.73%	29.27%				
1987	125,229		44,800		5,644	50,444	50,444	170,029	5,644	175,673	6,717 *	182,390	71.29%	28.71%				
1988	125,122		47,593		5,246	52,839	52,839	172,715	5,246	177,961	7,136 *	185,097	70.31%	29.69%				
1989	129,957		47,125		5,936	53,061	53,061	177,082	5,936	183,018	8,296 *	191,314	71.01%	28.99%				
1990	136,869		45,396		5,213	50,609	50,609	182,265	5,213	187,478	8,302 *	195,780	73.01%	26.99%				
1991	126,360		42,729		4,917	47,646	47,646	169,089	4,917	174,006	7,778 *	181,784	72.62%	27.38%				
1992	128,390		42,493		4,712	47,205	47,205	170,883	4,712	175,595	8,375 *	183,970	73.12%	26.88%				
1993	131,314		41,188		6,363	47,551	47,551	172,502	6,363	178,865	8,861 *	187,726	73.42%	26.58%				
1994	134,223		42,115		5,831	47,946	47,946	176,338	5,831	182,169	9,676 *	191,845	73.68%	26.32%				
1995	134,580		41,728		5,809	47,537	47,537	176,308	5,809	182,117	10,102 *	192,219	73.90%	26.10%				
1996	137,410		45,342		5,865	51,207	51,207	182,752	5,865	188,617	10,562 *	199,179	72.85%	27.15%				
1997	137,406		43,658		5,626	49,284	49,284	181,064	5,626	186,690	9,899 *	196,589	73.60%	26.40%				
1998	142,620		41,385		7,545	48,930	48,930	184,005	7,545	191,550	10,291 *	201,841	74.46%	25.54%				
1999	157,148		44,350		6,941	51,291	51,291	201,498	6,941	208,439	10,974 *	219,413	75.39%	24.61%				
2000	161,834		44,458		6,297	50,755	50,755	206,292	6,297	212,589	11,838 *	224,427	76.13%	23.87%				
2001	159,767		44,112		4,928	49,040	49,040	203,879	4,928	208,807	12,350 *	221,157	76.51%	23.49%				
2002	163,185	4,371	46,004	9,597	4,221	50,225	59,822	209,189	4,221	213,410	13,968	227,378	76.47%	23.53%	73.69%	26.31%	31.29%	68.71%
2003	156,185	4,425	43,463	10,073	4,627	48,090	58,163	199,648	4,627	204,275	14,498	218,773	76.46%	23.54%	73.41%	26.59%	30.52%	69.48%
2004	159,849	4,628	48,093	11,920	4,758	52,851	64,771	207,942	4,758	212,700	16,548	229,248	75.15%	24.85%	71.75%	28.25%	27.97%	72.03%
2005	153,462	4,247	46,080	12,080	4,799	50,879	62,959	199,542	4,799	204,341	16,327	220,668	75.10%	24.90%	71.47%	28.53%	26.01%	73.99%
2006	160,239	4,757	48,967	12,608	4,644	53,611	66,219	209,206	4,644	213,850	17,365	231,215	74.93%	25.07%	71.36%	28.64%	27.39%	72.61%
2007	157,487	4,547	50,553	11,862	3,490	54,043	65,905	208,040	3,490	211,530	16,409	227,939	74.45%	25.55%	71.09%	28.91%	27.71%	72.29%
2008	161,695	4,543	45,735	11,232	3,593	49,328	60,560	207,430	3,593	211,023	15,775	226,798	76.62%	23.38%	73.30%	26.70%	28.80%	71.20%
2009	155,793	4,813	42,270	10,295	1,443	43,713	54,008	198,063	1,443	199,506	15,108	214,614	78.09%	21.91%	74.83%	25.17%	31.86%	68.14%
2010	141,481	4,484	39,640	9,820	1,582	41,222	51,042	181,121	1,582	182,703	14,304	197,007	77.44%	22.56%	74.09%	25.91%	31.35%	68.65%
2011	141,028	4,653	40,568	9,607	1,724	42,292	51,899	181,596	1,724	183,320	14,260	197,580	76.93%	23.07%	73.73%	26.27%	32.63%	67.37%
2012	141,379	4,582	39,684	9,634	2,222	41,906	51,540	181,063	2,222	183,285	14,216	197,501	77.14%	22.86%	73.90%	26.10%	32.23%	67.77%
2013	143,108	4,415	37,932	10,341	1,802	39,734	50,075	181,040	1,802	182,842	14,756	197,598	78.27%	21.73%	74.66%	25.34%	29.92%	67.34%
2014	136,027	4,154	36,611	9,937	1,787	38,398	48,335	172,638	1,787	174,425	14,091	188,516	77.99%	22.01%	74.36%	25.64%	29.48%	70.52%
2015	115,558	4,090	30,666	8,927	1,539	32,205	41,132	146,224	1,539	147,763	13,017	160,780	78.20%	21.80%	74.42%	25.58%	31.42%	68.58%
2016	115,659	4,175	30,705	9,044	2,031	32,736	41,780	146,364	2,031	148,395	13,219	161,614	77.94%	22.06%	74.15%	25.85%	31.58%	68.42%
2017	120,383	4,281	33,164	9,250	1,996	35,160	44,410	153,547	1,996	155,543	13,531	169,074	77.40%	22.60%	73.73%	26.27%	31.64%	68.36%
2018	119,250	4,175	34,038	9,695	1,260 **	35,298	44,993	153,288	1,260	154,548	13,870	168,418	77.16%	22.84%	73.28%	26.72%	30.10%	69.90%
2019	113,907	3,993	29,779	9,142	1,916	31,695	40,837	143,686	1,916	145,602	13,135	158,737	78.23%	21.77%	74.27%	25.73%	30.40%	69.60%
2020	117,825	4,655	33,786	9,589	2,069	35,855	45,444	151,611	2,069	153,680	14,244	167,924	76.67%	23.33%	72.94%	27.06%	32.68%	67.32%

* Estimated
** Corrected

NOTES:
Cumulative CVWD and DWA West Whitewater River Subbasin Management Area production 2016 through 2020: 757,768 AF
Cumulative CVWD and DWA Mission Creek Subbasin Management Area production 2016 through 2020: 67,999 AF
Average annual CVWD and DWA West Whitewater River Subbasin Management Area production 2016 through 2020 (rounded): 151,550 AF
Average annual CVWD and DWA Mission Creek Subbasin Management Area production 2016 through 2020 (rounded): 13,600 AF
Average annual DWA West Whitewater River Subbasin Area of Benefit production 2016 through 2020 (rounded): 34,150 AF
Average annual DWA Mission Creek Subbasin Area of Benefit production 2016 through 2020(rounded): 9,340 AF
Average DWA West Whitewater River Subbasin Area of Benefit production percentage 2016 through 2020: 22.52%
Average DWA Mission Creek Subbasin Area of Benefit production percentage 2016 through 2020: 68.72%

ABBREVIATIONS:
GWE = Groundwater Extracti
SWD = Surface Water Diversions
COMB = Combined

TABLE 2
DESERT WATER AGENCY
GROUNDWATER REPLENISHMENT AND ASSESSMENT PROGRAM
ESTIMATED WEST WHITEWATER RIVER SUBBASIN AND MISSION CREEK SUBBASIN AREAS OF BENEFIT
WATER PRODUCTION AND ESTIMATED WATER REPLENISHMENT ASSESSMENTS
2021/2022

ESTIMATED COMBINED AREA OF BENEFIT
ASSESSABLE WATER PRODUCTION AND WATER REPLENISHMENT ASSESSMENTS

Area of Benefit	Estimated Assessable Water Production AF	Water Replenishment Assessment Rate $/AF	Water Replenishment Assessment $	Water Replenishment Assessment Percent
West Whitewater River Subbasin AOB	35,860	$175.00	$6,275,500	79%
Mission Creek Subbasin AOB	9,590	$175.00	$1,678,250	21%
Combined AOBs	45,450		$7,953,750	100%

ESTIMATED WEST WHITEWATER RIVER SUBBASIN AND MISSION CREEK SUBBASIN AREAS OF BENEFIT
WATER PRODUCTION AND WATER REPLENISHMENT ASSESSMENTS

Producer	2020 Water Production (1) Groundwater Extraction AF	Surface Water Diversion AF	Combined Water Production AF	Estimated 2021/2022 Assessable Water Production AF[(2)]	Estimated Water Replenishment Assessment @ $175/AF $	Percent
West Whitewater River Subbasin AOB						
Desert Water Agency (Chino, Falls, Snow Creeks)	31,811.54	1,306.33	33,117.87	33,120	$5,796,000	92.36%
Desert Water Agency (Whitewater)	0.00	762.38	762.38	760	$133,000	2.12%
John Beylik	11.07	0.00	11.07	10	$1,750	0.03%
Caltrans Rest Stop	24.05	0.00	24.05	20	$3,500	0.06%
Canyon Country Club	459.63	0.00	459.63	460	$80,500	1.28%
Desert Oasis Golf Management - Welk Resort	107.17	0.00	107.17	110	$19,250	0.31%
Los Compadres	54.98	0.00	54.98	50	$8,750	0.14%
Mission Springs Water District (Wells 25 & 25A and 26 &26A)	165.40	0.00	165.40	170	$29,750	0.47%
Seven Lakes Country Club	50.42	0.00	50.42	50	$8,750	0.14%
Escena	317.70	0.00	317.70	320	$56,000	0.89%
Palm Springs Village	497.59	0.00	497.59	500	$87,500	1.39%
Palm Springs West	0.00	0.00	0.00	0	$0	0.00%
Mission Springs Water District (Well 33)	270.01	0.00	270.01	270	$47,250	0.75%
Indigo Power Plant	16.38	0.00	16.38	20	$3,500	0.06%
Subtotal	33,785.94	2,068.71	35,854.65	35,860	$6,275,500	100.00%
Mission Creek Subbasin AOB						
Mission Springs Water District	7,833.35	0.00	7,833.35	7,830	$1,370,250	81.65%
Hidden Springs Country Club	302.18	0.00	302.18	300	$52,500	3.13%
Mission Lakes Country Club	758.19	0.00	758.19	760	$133,000	7.92%
Sands RV Resort	359.97	0.00	359.97	360	$63,000	3.75%
CPV-Sentinel	335.69	0.00	335.69	340	$59,500	3.55%
Subtotal	9,589.38	0.00	9,589.38	9,590	$1,678,250	100.00%
Total	43,375.32	2,068.71	45,444.03	45,450	$7,953,750	

(1) 2020 Metered water production, except for Exempt Production and Estimated Production.
(2) Based on 2018 production, all rounded to nearest 10 AF.

TABLE 3
COACHELLA VALLEY WATER DISTRICT
APPLICABLE STATE WATER PROJECT CHARGES[1]

Year	Maximum Table A Water Allocation AF	Probable Table A Water Delivery[2] AF	Delta Water Charge		Variable Transportation Charge		Off-Aqueduct Power Charge		CVWD Applicable Table A Charges	
			Amount[3] $	Unit $/AF	Amount[4] $	Unit $/AF	Amount[5] $	Unit $/AF	Amount $	Unit[6] $/AF
2018	138,350	80,243	9,472,825	68.47	13,769,699	171.60	48,948	0.61	23,291,472	290.26
2019	138,350	80,243	9,694,185	70.07	12,636,668	157.48	170,115	2.12	22,500,967	280.41
2020	138,350	80,243	11,289,360	81.60	16,401,669	204.40	154,067	1.92	27,845,096	347.01
2021	138,350	80,243	11,835,843	85.55	14,977,356	186.65	214,249	2.67	27,027,447	336.82
2022	138,350	80,243	17,363,313	125.50	14,700,518	183.20	8,024	0.10	32,071,855	399.68
2023	138,350	80,243	17,380,108	125.62	16,570,982	206.51	8,024	0.10	33,959,114	423.20
2024	138,350	80,243	17,350,021	125.41	15,976,381	199.10	8,024	0.10	33,334,427	415.42
2025	138,350	80,243	17,744,469	128.26	16,629,559	207.24	8,024	0.10	34,382,052	428.47
2026	138,350	80,243	18,188,793	131.47	15,969,962	199.02	8,024	0.10	34,166,779	425.79
2027	138,350	80,243	18,265,277	132.02	16,284,514	202.94	8,024	0.10	34,557,816	430.66
2028	138,350	80,243	19,184,093	138.66	16,461,049	205.14	8,024	0.10	35,653,166	444.31
2029	138,350	80,243	19,095,080	138.02	16,500,368	205.63	8,024	0.10	35,603,473	443.70
2030	138,350	80,243	19,465,428	140.70	16,051,007	200.03	8,024	0.10	35,524,460	442.71
2031	138,350	80,243	19,856,863	143.53	17,744,937	221.14	8,024	0.10	37,609,824	468.70
2032	138,350	80,243	20,376,265	147.28	15,332,030	191.07	8,024	0.10	35,716,319	445.10
2033	138,350	80,243	20,412,122	147.54	17,415,138	217.03	8,024	0.10	37,835,284	471.51
2034	138,350	80,243	21,612,596	156.22	15,871,263	197.79	8,024	0.10	37,491,884	467.23
2035	138,350	80,243	21,218,360	153.37	19,528,739	243.37	8,024	0.10	40,755,123	507.90

Notes:

(1) As set forth in CDWR Bulletin 132-20, Appendix B (Appendix B).

(2) Probable Table A water delivery is based on 0.58 reliability of CVWD allocation augmented by TLBWSD, KCWA, and MWD transfers

(3) Amount is based on maximum Table A water allocation and Delta Water Charge per Table B-20 (A & B) of Appendix B. From 2018 through 2035, amount is based on State Water Contractors estimates.

(4) Amount is based on probable Table A water delivery and applicable Variable Transportation Unit Charge per Table B-17 of Appendix B.

(5) Amount is based on probable Table A water delivery and Off-Aqueduct Power Unit Charge derived by dividing data in Table B-16B by data in Table B-5B of Appendix B.

(6) Amount of applicable Table A charges divided by probable Table A water delivery.

TABLE 4
DESERT WATER AGENCY
APPLICABLE STATE WATER PROJECT CHARGES[1]

Year	Maximum Table A Water Allocation AF	Probable Table A Water Delivery[2] AF	Delta Water Charge Amount[3] $	Delta Water Charge Unit $/AF	Variable Transportation Charge Amount[4] $	Variable Transportation Charge Unit $/AF	Off-Aqueduct Power Charge Amount[5] $	Off-Aqueduct Power Charge Unit $/AF	DWA Applicable Table A Charges Amount $	DWA Applicable Table A Charges Unit[6] $/AF
2018	55,750	32,335	3,817,203	68.47	5,548,686	171.60	47,532	1.47	9,413,421	291.12
2019	55,750	32,335	3,906,403	70.07	5,092,116	157.48	148,094	4.58	9,146,613	282.87
2020	55,750	32,335	4,549,200	81.60	6,609,274	204.40	158,118	4.89	11,316,592	349.98
2021	55,750	32,335	4,769,413	85.55	6,035,328	186.65	184,633	5.71	10,989,373	339.86
2022	55,750	32,335	6,996,781	125.50	5,923,772	183.20	3,234	0.10	12,923,787	399.68
2023	55,750	32,335	7,003,549	125.62	6,677,501	206.51	3,234	0.10	13,684,283	423.20
2024	55,750	32,335	6,991,425	125.41	6,437,899	199.10	3,234	0.10	13,432,557	415.42
2025	55,750	32,335	7,150,373	128.26	6,701,105	207.24	3,234	0.10	13,854,712	428.47
2026	55,750	32,335	7,329,420	131.47	6,435,312	199.02	3,234	0.10	13,767,965	425.79
2027	55,750	32,335	7,360,240	132.02	6,562,065	202.94	3,234	0.10	13,925,538	430.66
2028	55,750	32,335	7,730,489	138.66	6,633,202	205.14	3,234	0.10	14,366,924	444.31
2029	55,750	32,335	7,694,620	138.02	6,649,046	205.63	3,234	0.10	14,346,900	443.70
2030	55,750	32,335	7,843,857	140.70	6,467,970	200.03	3,234	0.10	14,315,061	442.71
2031	55,750	32,335	8,001,591	143.53	7,150,562	221.14	3,234	0.10	15,155,386	468.70
2032	55,750	32,335	8,210,891	147.28	6,178,248	191.07	3,234	0.10	14,392,373	445.10
2033	55,750	32,335	8,225,340	147.54	7,017,665	217.03	3,234	0.10	15,246,239	471.51
2034	55,750	32,335	8,709,087	156.22	6,395,540	197.79	3,234	0.10	15,107,861	467.23
2035	55,750	32,335	8,550,225	153.37	7,869,369	243.37	3,234	0.10	16,422,827	507.90

Notes:

(1) As set forth in CDWR Bulletin 132-20, Appendix B (Appendix B).

(2) Probable Table A water delivery is based on 0.58 reliability of DWA allocation augmented by TLBWSD, KCWA, and MWD transfers

(3) Amount is based on maximum Table A water allocation and Delta Water Charge per Table B-20 (A & B) of Appendix B. From 2018 through 2035, amount is based on State Water Contractors estimates.

(4) Amount is based on probable Table A water delivery and applicable Variable Transportation Unit Charge per Table B-17 of Appendix B.

(5) Amount is based on probable Table A water delivery and Off-Aqueduct Power Unit Charge derived by dividing data in Table B-16B by data in Table B-5B of Appendix B.

(6) Amount of applicable Table A charges divided by probable Table A water delivery.

TABLE 5
DESERT WATER AGENCY
ESTIMATED ALLOCATED STATE WATER PROJECT CHARGES FOR TABLE A WATER
(PROPORTIONED APPLICABLE CHARGES)[1]

Year	CVWD Applicable Table A Charges[2] $	DWA Applicable Table A Charges[3] $	Combined Applicable Table A Charges $	CVWD Allocated Table A Charges $	DWA Allocated Table A Charges $	DWA Incremental Increase/(Decrease) $	DWA Incremental Increase/(Decrease) %
2018	23,291,472	9,413,421	32,704,892	23,854,949	8,849,944		
						(286,109)	(3)
2019	22,500,967	9,146,613	31,647,580	23,083,745	8,563,835		
						2,033,318	24
2020	27,845,096	11,316,592	39,161,688	28,564,535	10,597,153		
						(309,801)	(3)
2021	27,027,447	10,989,373	38,016,820	27,729,469	10,287,352		
						1,888,469	18
2022	32,071,855	12,923,787	44,995,642	32,819,821	12,175,821		
						716,482	6
2023	33,959,114	13,684,283	47,643,397	34,751,094	12,892,303		
						(237,157)	(2)
2024	33,334,427	13,432,557	46,766,984	34,111,838	12,655,146		
						397,722	3
2025	34,382,052	13,854,712	48,236,764	35,183,896	13,052,868		
						(81,726)	(1)
2026	34,166,779	13,767,965	47,934,744	34,963,602	12,971,142		
						148,454	1
2027	34,557,816	13,925,538	48,483,354	35,363,758	13,119,596		
						415,840	3
2028	35,653,166	14,366,924	50,020,090	36,484,654	13,535,436		
						(18,865)	0
2029	35,603,473	14,346,900	49,950,373	36,433,802	13,516,571		
						(29,997)	0
2030	35,524,460	14,315,061	49,839,521	36,352,946	13,486,574		
						791,692	6
2031	37,609,824	15,155,386	52,765,211	38,486,945	14,278,266		
						(718,854)	(5)
2032	35,716,319	14,392,373	50,108,692	36,549,280	13,559,412		
						804,448	6
2033	37,835,284	15,246,239	53,081,523	38,717,663	14,363,860		
						(130,369)	(1)
2034	37,491,884	15,107,861	52,599,744	38,366,254	14,233,491		
						1,238,862	9
2035	40,755,123	16,422,827	57,177,950	41,705,597	15,472,353		

Notes:
(1) Proportioned in accordance with 2020 Water Management Area production percentages; CVWD is responsible for 72.94% and DWA is responsible for 27.06% of total combined production for the Whitewater River and Mission Creek Subbasins (see **Table 1**).
(2) From Table 3.
(3) From Table 4.

TABLE 6
DESERT WATER AGENCY
PROJECTED EFFECTIVE REPLENISHMENT ASSESSMENT RATES
PURSUANT TO WATER MANAGEMENT AGREEMENTS BETWEEN
COACHELLA VALLEY WATER DISTRICT AND DESERT WATER AGENCY

Year	DWA Allocated Table A Charges [1] $	Estimated Assessable Production[2] AF	Estimated Effective Table A Assessment Rate[3] Fiscal Year $/AF	Table A Assessment Rate $/AF
2019/2020 [4]	9,580,494	45,360	211.21	211.00
2020/2021 [4]	10,442,253	40,830	255.75	256.00
2021/2022 [4]	11,231,587	45,450	247.12	247.00
2022/2023 [4]	12,534,062	46,272	270.88	271.00
2023/2024 [4]	12,773,725	45,954	277.97	278.00
2024/2025 [4]	12,854,007	45,771	280.83	281.00
2025/2026 [4]	13,086,232	45,729	286.17	286.00
2026/2027 [4]	13,045,369	45,957	283.86	284.00
2027/2028 [4]	13,327,516	46,452	286.91	287.00
2028/2029 [4]	13,526,004	46,946	288.12	288.00
2029/2030 [4]	13,501,573	47,659	283.30	283.00
2030/2031 [4]	13,882,420	48,319	287.31	287.00
2031/2032 [4]	13,918,839	48,707	285.77	286.00
2032/2033 [4]	13,961,636	49,094	284.39	284.00
2033/2034 [4]	14,298,676	49,480	288.98	289.00
2034/2035 [4]	14,852,922	49,865	297.86	298.00

Notes:
(1) From **Table 5**.
(2) Projections based on model runs for Coachella Valley 2010 Water Management Plan and 2014 Water Management Plan Status Update, minus 13% water conservation factor.
(3) Necessary to pay DWA's estimated (projected) Allocated Table A Charges.
(4) Projected

TABLE 7
DESERT WATER AGENCY
WEST WHITEWATER RIVER SUBBASIN, MISSION CREEK SUBBASIN, AND GARNET HILL SUBBASIN AREAS OF BENEFIT
HISTORIC AND PROPOSED REPLENISHMENT ASSESSMENT RATES

	Assessment Rate							Assessments												Payments Made	Surplus (Deficit)	
		WWR		MC		GH		Estimated[4] $			Levied[5] $			Billed[6] $				Delinquent[7] $			Revenue $			
Fiscal Year	Table A Allocation [1] $/AF	Other Charges or Costs[2] $/AF	Total[3] $/AF	Other Charges or Costs[2] $/AF	Total[3] $/AF	Other Charges or Costs[2] $/AF	Total[3] $/AF	WWR	MC	GH	WWR	MC	GH	WWR	MC	GH	TOTAL	WWR	MC	GH	Total	Table A $	Annual $	Cumulative[8] $
78/79	6.81	0.00	6.81					226,245			199,004			199,004			199,004	0			199,004	267,193	(68,189)	(68,189)
79/80	9.00	0.00	9.00					282,405			309,225			309,225			309,225	0			309,225	267,125	42,100	(26,089)
80/81	9.50	0.00	9.50					317,482			355,925			355,925			355,925	0			355,925	347,491	8,434	(17,655)
81/82	10.50	0.00	10.50					378,838			406,160			406,160			406,160	0			406,160	414,086	(7,926)	(25,581)
82/83	21.00	0.00	21.00					800,499			770,871			770,871			770,871	0			770,871	891,544	(120,673)	(146,254)
83/84	36.50	0.00	36.50					1,331,374			1,452,317			1,452,317			1,452,317	0			1,452,317	492,329	959,988	813,734
84/85	37.50	0.00	37.50					1,375,762			1,577,125			1,577,125			1,577,125	0			1,577,125	381,713	1,195,412	2,009,146
85/86	31.00	0.00	31.00					1,309,750			1,363,239			1,363,239			1,363,239	0			1,363,239	637,841	725,398	2,734,544
86/87	21.00	0.00	21.00					911,673			912,583			912,583			912,583	0			912,583	876,544	36,039	2,770,583
87/88	22.50	0.00	22.50					994,749			1,099,130			1,099,130			1,099,130	0			1,099,130	934,920	164,210	2,934,793
88/89	20.00	0.00	20.00					970,000			965,811			965,811			965,811	0			965,811	748,195	217,616	3,152,409
89/90	23.50	0.00	23.50					1,175,002			1,105,446			1,105,446			1,105,446	0			1,105,446	888,979	216,467	3,368,876
90/91	26.00	0.00	26.00					1,313,000			1,207,593			1,207,593			1,207,593	0			1,207,593	784,369	423,224	3,792,100
91/92	31.75	0.00	31.75					1,524,000			1,408,108			1,408,108			1,408,108	0			1,408,108	439,549	968,559	4,760,659
92/93	31.75	0.00	31.75					1,412,875			1,389,641			1,389,641			1,389,641	0			1,389,641	902,273	487,368	5,248,027
93/94	31.75	0.00	31.75					1,397,000			1,411,406			1,411,406			1,411,406	0			1,411,406	1,508,408	(97,002)	5,151,025
94/95	31.75	0.00	31.75					1,412,875			1,384,996			1,384,996			1,384,996	0			1,384,996	2,291,661	(906,665)	4,244,360
95/96	31.75	0.00	31.75					1,425,575			1,434,798			1,434,798			1,434,798	0			1,434,798	2,282,379	(847,581)	3,396,779
96/97	31.75	0.00	31.75					1,409,700			1,517,690			1,517,690			1,517,690	0			1,517,690	1,153,620	364,070	3,760,849
97/98	31.75	0.00	31.75					1,527,175			1,368,789			1,368,789			1,368,789	0			1,368,789	1,560,592	(191,803)	3,569,046
98/99	31.75	0.00	31.75					1,463,675			1,510,078			1,510,078			1,510,078	0			1,510,078	2,663,096	(1,153,018)	2,416,028
99/00	31.75	0.00	31.75					1,436,370			1,530,344			1,530,344			1,530,344	0			1,530,344	2,137,145	(606,801)	1,809,227
00/01	33.00	0.00	33.00					1,576,080			1,506,011			1,506,011			1,506,011	0			1,506,011	1,993,058	(487,047)	1,322,180
01/02	33.00	0.00	33.00					1,563,870			1,534,500			1,559,325			1,559,325	0			1,559,325	273,679	1,285,646	2,607,826
02/03	35.00	0.00	35.00					1,627,500			1,679,300			1,636,783			1,636,783	0			1,636,783	1,226,335	410,448	3,018,274
03/04	35.00	0.00	35.00	0.00	35.00			1,679,300	336,000		1,609,300	352,555		1,609,300	397,708		2,007,008	0	0		2,007,008	4,199,358	(2,192,350)	825,924
04/05	34.00	11.00	45.00	12.00	46.00			2,069,100	464,140		2,274,750	548,320		2,274,750	529,108		2,803,858	0	0		2,803,858	3,813,947	(1,010,089)	(184,165)
05/06	38.00	12.00	50.00	12.00	50.00			2,527,500	596,000		2,427,000	604,000		2,427,000	635,562		3,062,562	0	0		3,062,562	5,791,887	(2,729,325)	(2,913,490)
06/07	51.00	12.00	63.00	12.00	63.00			3,058,020	761,040		3,230,010	794,304		3,230,010	789,471		4,019,481	0	0		4,019,481	6,087,627	(2,068,146)	(4,981,636)
07/08	83.00	(34.00)	63.00	(34.00)	49.00			3,230,010	794,430		3,222,450	581,238		3,222,450	720,025		3,942,475	0	0		3,942,475	9,131,044	(5,188,569)	(10,170,205)
08/09	65.00	(6.00)	72.00	(6.00)	59.00			3,682,800	876,240		3,371,040	662,688		3,337,053	778,029		4,115,082	33,987	0		4,081,095	6,936,896	(2,855,801)	(13,026,006)
09/10	72.00	0.00	72.00	0.00	72.00			3,605,140	802,800		3,097,440	741,240		3,023,070	718,452		3,741,522	74,370	0		3,667,152	6,236,894	(2,569,742)	(15,595,748)
10/11	99.00	(17.00)	82.00	(17.00)	82.00			3,527,640	828,200		3,302,140	805,240		3,223,003	616,632		3,839,635	79,137	0		3,760,499	4,174,012	(413,513)	(16,009,261)
11/12	115.00	(33.00)	82.00	(33.00)	82.00			3,302,140	805,240		3,374,300	783,100		3,302,079	820,179		4,122,258	72,221	0		4,050,037	7,005,049	(2,955,012)	(18,964,273)
12/13	117.00	(25.00)	92.00	(25.00)	92.00			3,788,326	878,600		3,779,360	874,000		3,772,499	888,405		4,660,904	6,861	0		4,654,043	8,169,744	(3,515,701)	(22,479,975)
13/14	111.00	(19.00)	92.00	(19.00)	92.00			3,779,360	785,587		3,578,800	927,360		3,572,722	785,587		4,358,309	6,078	0		4,352,230	6,078,542	(1,726,312)	(24,206,286)
14/15	106.00	(4.00)	102.00	(4.00)	102.00			3,684,919	756,041		3,826,020	987,360		3,684,919	561,213		4,246,132	66	0		4,246,066	3,798,705	447,361	(23,758,925)
15/16	112.00	(10.00)	102.00	(10.00)	102.00	(10.00)	102.00	3,846,970	989,318	24,480	3,150,780	875,160	34,680	3,150,780	875,160		4,025,940	656	0		4,025,284	7,304,465	(3,279,181)	(27,038,107)
16/17	144.00	(42.00)	102.00	(42.00)	102.00	(42.00)	102.00	3,443,112	892,273	31,235	3,211,980	873,120	30,600	3,577,041	748,643		4,325,684	19	0		4,545,289	7,436,703 [14]	(2,891,414)	(2,891,414)
17/18	158.00	(38.00)	120.00	(38.00)	120.00	(38.00)	120.00	3,410,450 [9]	1,583,978	34,771	4,106,400	1,110,000	56,400	4,386,192	956,836	43,996	5,387,024	9	0	0	5,385,371	11,210,398 [14]	(5,825,027)	(8,716,441)
18/19	196.00	(56.00)	140.00	(56.00)	140.00	(56.00)	140.00	4,837,000	1,295,000	65,800	4,971,400	1,356,600	22,400	4,742,251	1,115,705	27,553	5,885,509	10	0	0	5,885,509	6,095,640 [14]	(210,131)	(8,926,572)
19/20	188.00	(33.00)	155.00	(33.00)	155.00	(33.00)	155.00	5,504,050	1,501,950	24,800	5,517,008	1,486,450	41,292	5,168,090	1,115,176	44,421	6,327,687	18,094	0	0	6,359,292	11,374,605 [14]	(5,015,313)	(13,941,885)
20/21	243.00	(78.00)	165.00	(78.00)	165.00	0.00	0.00 [13]	5,228,850	1,508,100	0	5,460,233	2,732,976	0	3,464,493 [10]	696,897 [10]	0	4,161,390	0 [11]	0	0	5,259,804	4,355,144 [12]	904,660	(13,037,225)
21/22	247.00	(72.00)	175.00	25.41	175.00	0.00	0.00	6,275,500	1,678,250	0	6,275,500	1,678,250	0	6,275,500	1,678,250	0	7,953,750	0	0	0	7,953,750	11,231,587	(3,277,837)	(16,315,061)
22/23	271.00	25.41	296.41	25.41	296.41	0.00	0.00	8,347,296	5,368,410	0	8,347,296	5,368,410	0	8,347,296	5,368,410	0	13,715,706	0	0	0	13,715,706	12,534,062	1,181,644	(15,133,418)
23/24	278.00	25.41	303.41	25.41	303.41	0.00	0.00	8,338,435	5,604,673	0	8,338,435	5,604,673	0	8,338,435	5,604,673	0	13,943,109	0	0	0	13,943,109	12,773,725	1,169,384	(13,964,034)
24/25	281.00	25.41	306.41	25.41	306.41	0.00	0.00	8,254,173	5,770,763	0	8,254,173	5,770,763	0	8,254,173	5,770,763	0	14,024,936	0	0	0	14,024,936	12,854,007	1,170,929	(12,793,104)
25/26	286.00	25.41	311.41	25.41	311.41	0.00	0.00	8,260,327	5,980,129	0	8,260,327	5,980,129	0	8,260,327	5,980,129	0	14,240,456	0	0	0	14,240,456	13,086,232	1,154,224	(11,638,880)
26/27	286.00	25.41	311.41	25.41	311.41	0.00	0.00	8,213,579	6,098,048	0	8,213,579	6,098,048	0	8,213,579	6,098,048	0	14,311,627	0	0	0	14,311,627	13,045,369	1,266,258	(10,372,622)
27/28	287.00	25.41	312.41	25.41	312.41	0.00	0.00	8,276,239	6,235,927	0	8,276,239	6,235,927	0	8,276,239	6,235,927	0	14,512,166	0	0	0	14,512,166	13,327,516	1,184,650	(9,187,972)
28/29	288.00	25.41	313.41	25.41	313.41	0.00	0.00	8,339,006	6,374,563	0	8,339,006	6,374,563	0	8,339,006	6,374,563	0	14,713,569	0	0	0	14,713,569	13,526,004	1,187,565	(8,000,407)
29/30	288.00	25.41	313.41	25.41	313.41	0.00	0.00	8,374,746	6,562,211	0	8,374,746	6,562,211	0	8,374,746	6,562,211	0	14,936,957	0	0	0	14,936,957	13,501,573	1,435,385	(6,565,023)
30/31	288.00	25.41	313.41	25.41	313.41	0.00	0.00	8,409,949	6,733,766	0	8,409,949	6,733,766	0	8,409,949	6,733,766	0	15,143,715	0	0	0	15,143,715	13,882,420	1,261,295	(5,303,728)
31/32	288.00	25.41	313.41	25.41	313.41	0.00	0.00	8,444,993	6,820,255	0	8,444,993	6,820,255	0	8,444,993	6,820,255	0	15,265,248	0	0	0	15,265,248	13,918,839	1,346,409	(3,957,319)
32/33	288.00	25.41	313.41	25.41	313.41	0.00	0.00	8,479,912	6,906,744	0	8,479,912	6,906,744	0	8,479,912	6,906,744	0	15,386,655	0	0	0	15,386,655	13,961,636	1,425,019	(2,532,299)
33/34	289.00	25.41	314.41	25.41	314.41	0.00	0.00	8,541,525	7,015,546	0	8,541,525	7,015,546	0	8,541,525	7,015,546	0	15,557,071	0	0	0	15,557,071	14,298,676	1,258,395	(1,273,904)
34/35	298.00	25.41	323.41	25.41	323.41	0.00	0.00	8,821,213	7,305,613	0	8,821,213	7,305,613	0	8,821,213	7,305,613	0	16,126,826	0	0	0	16,126,826	14,852,922	1,273,904	(0)

(1) Effective rate necessary to pay DWA's estimated (projected) Allocated Table A Charges.
(2) Includes discretionary reductions and charges for recovery of past shortfalls.
(3) Recommended assessment rate based on two components: 1) State Water Project Table A water Allocation, and 2) Other Charges or Costs.
(4) Assessments Estimated are based on applicable assessment rate and estimated assessable production from annual report for that year.
(5) Assessments Levied are based on applicable assessment rate and actual assessable production, except for the previous year, current year, and subsequent years where amounts remain estimated.
(6) Assessments Collected are based on payments made for Assessments Levied, except for the previous year, current year, and subsequent years where amounts remain estimated.
(7) Assessments Delinquent are based on Assessments Levied less payments made.
(8) Cumulative assessment balance to be used for future Delta improvements. Estimates of future assessment rates may need to be adjusted in the future to accommodate unknown charges for expanded State Water Project Facilities.
(9) For 2017/2018 and beyond, Assessments Estimated are based on Proposed Assessment Rate and Estimated Assessable Production.
(10) Assessments Collected are estimated based on first and second quarters of assessment period.
(11) Delinquent assessment is estimated based on first and second quarters of assessment period.
(12) For 2020/2021 and beyond, Payments Made are estimated based on estimated allocated Table A charges.
(13) Starting with 2020/2021, Garnet Hill Subarea is included in West White Water River Subbasin.
(14) Including prior year DWR refunds/adjustments

/DFS
101-33P45-TBLS.xlsx/Table7 (4/27/2021)

EXHIBITS

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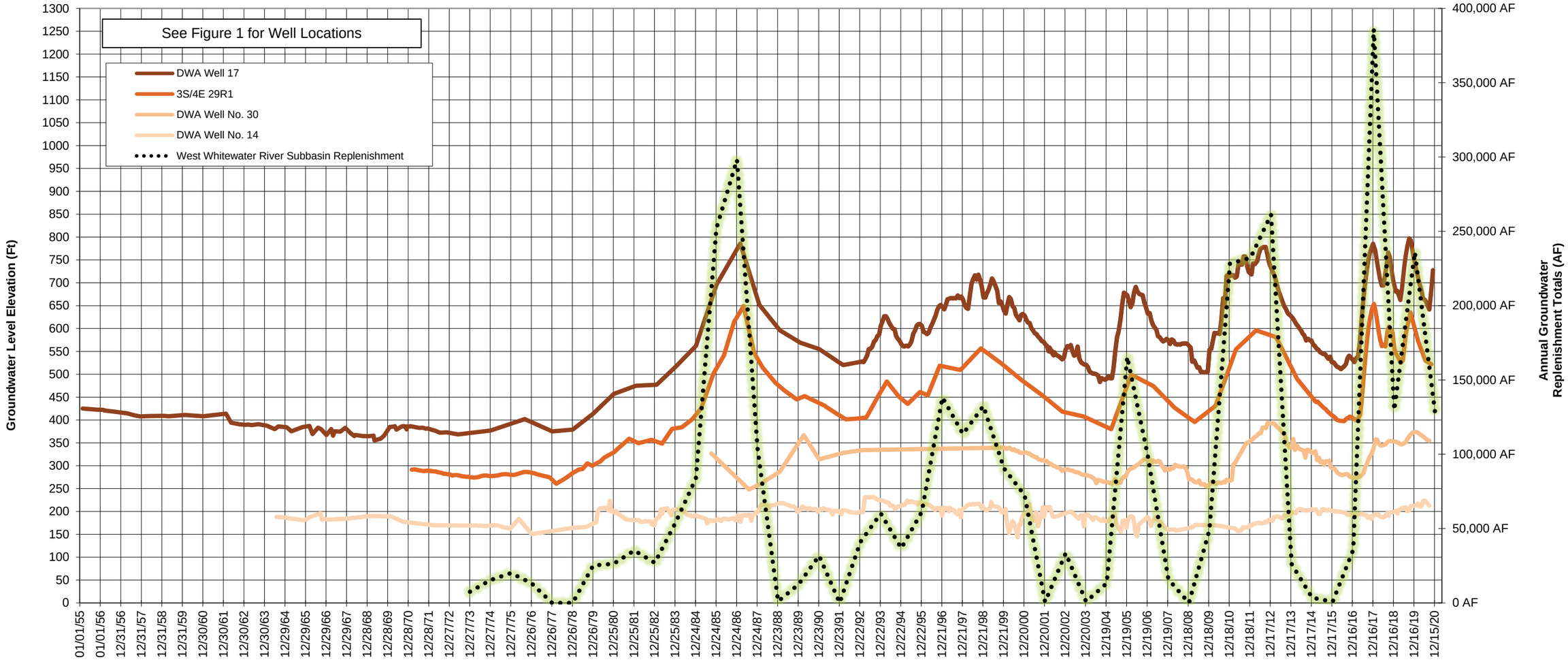
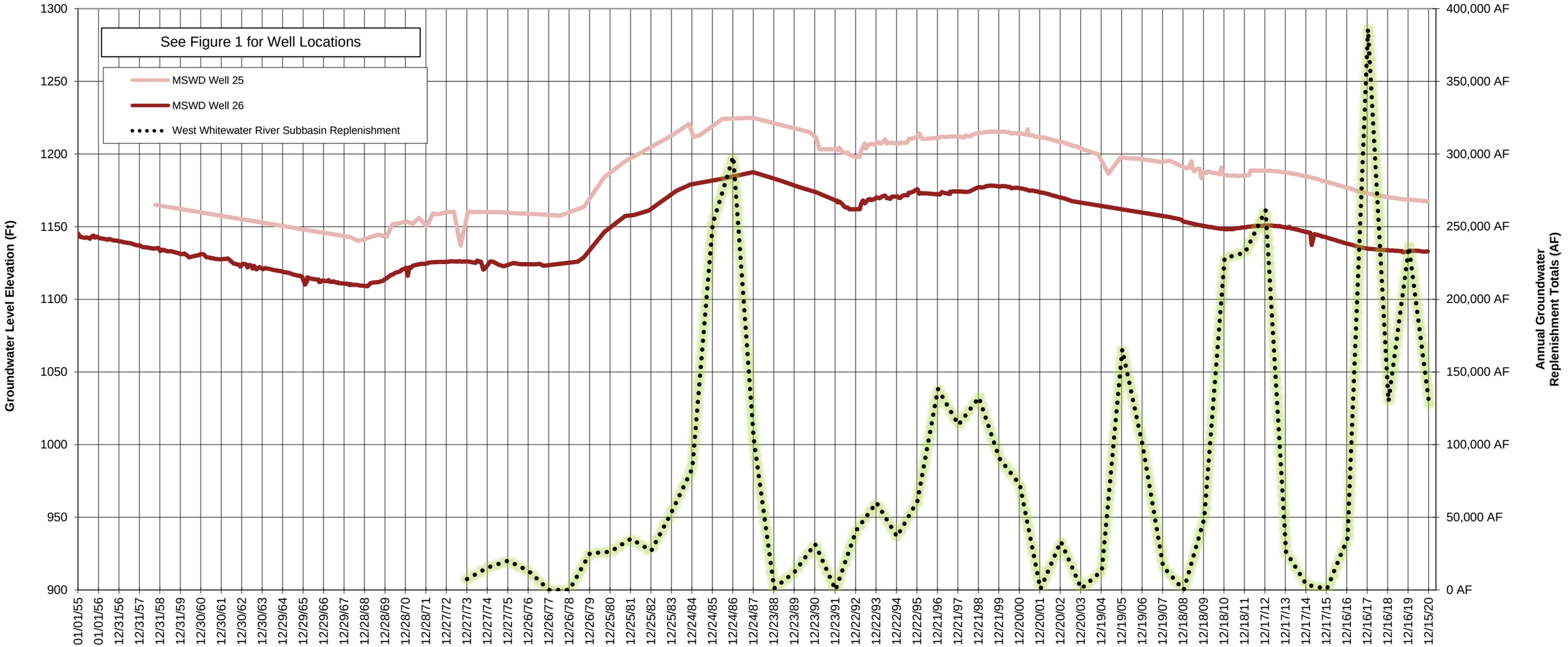
EXHIBIT 1
DESERT WATER AGENCY
GROUNDWATER WELL HYDROGRAPHS
PALM SPRINGS SUBAREA OF WEST WHITEWATER RIVER SUBBASIN MANAGEMENT AREA
GROUNDWATER REPLENISHMENT QUANTITIES AT WHITEWATER RIVER REPLENISHMENT FACILITY



/DFS
101-33P45-HYDROGRAPHS.xls/Exhibit 1 WWR
(4/5/2021)

DRAFT

EXHIBIT 2
DESERT WATER AGENCY
GROUNDWATER WELL HYDROGRAPHS
SAN GORGONIO PASS SUBBASIN PORTION OF WEST WHITEWATER RIVER SUBBASIN MANAGEMENT AREA
GROUNDWATER REPLENISHMENT QUANTITIES AT WHITEWATER RIVER REPLENISHMENT FACILITY



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101-33P45-HYDROGRAPHS.xls/Exhibit 2 SGR
(4/5/2021)

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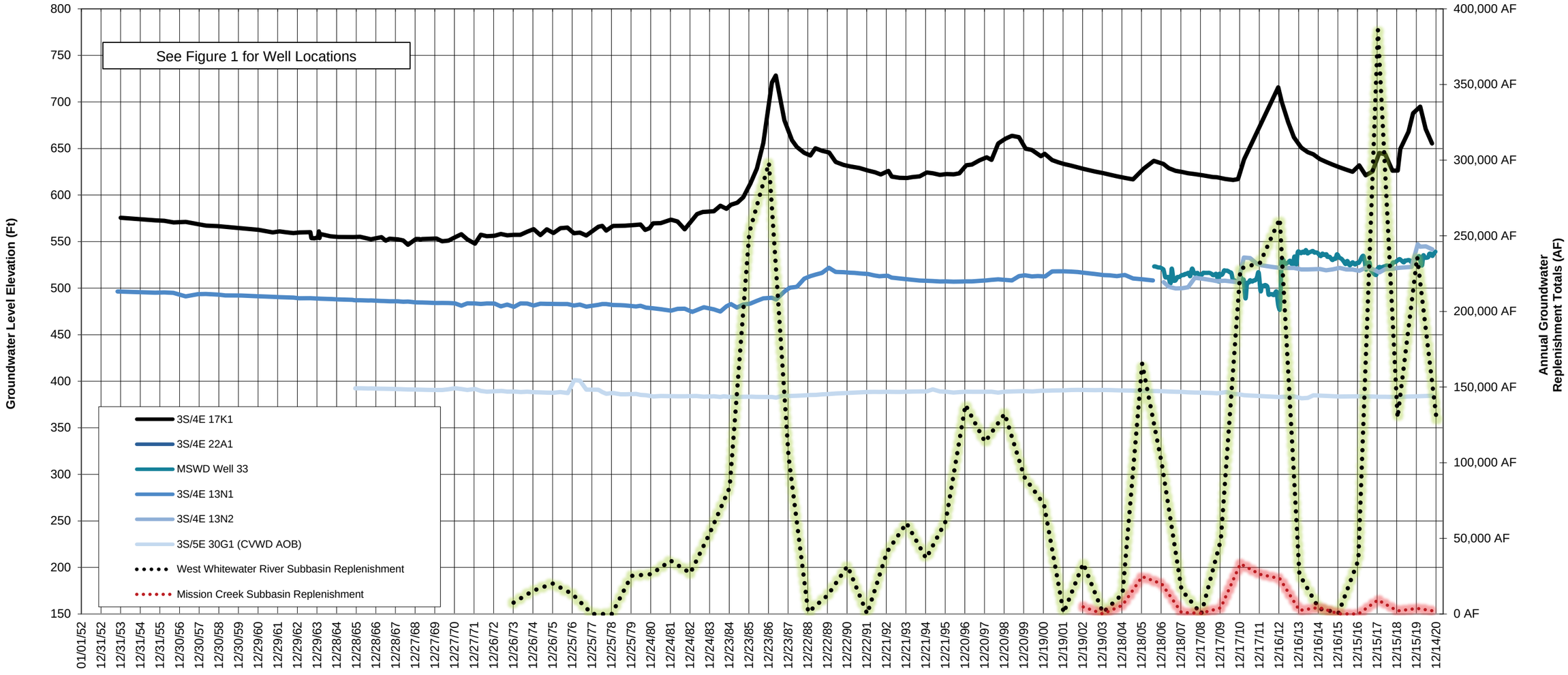
EXHIBIT 3
DESERT WATER AGENCY
GROUNDWATER WELL HYDROGRAPHS
GARNET HILL SUBAREA OF WEST WHITEWATER RIVER SUBBASIN MANAGEMENT AREA
GROUNDWATER REPLENISHMENT QUANTITIES AT WHITEWATER RIVER AND MISSION CREEK REPLENISHMENT FACILITIES



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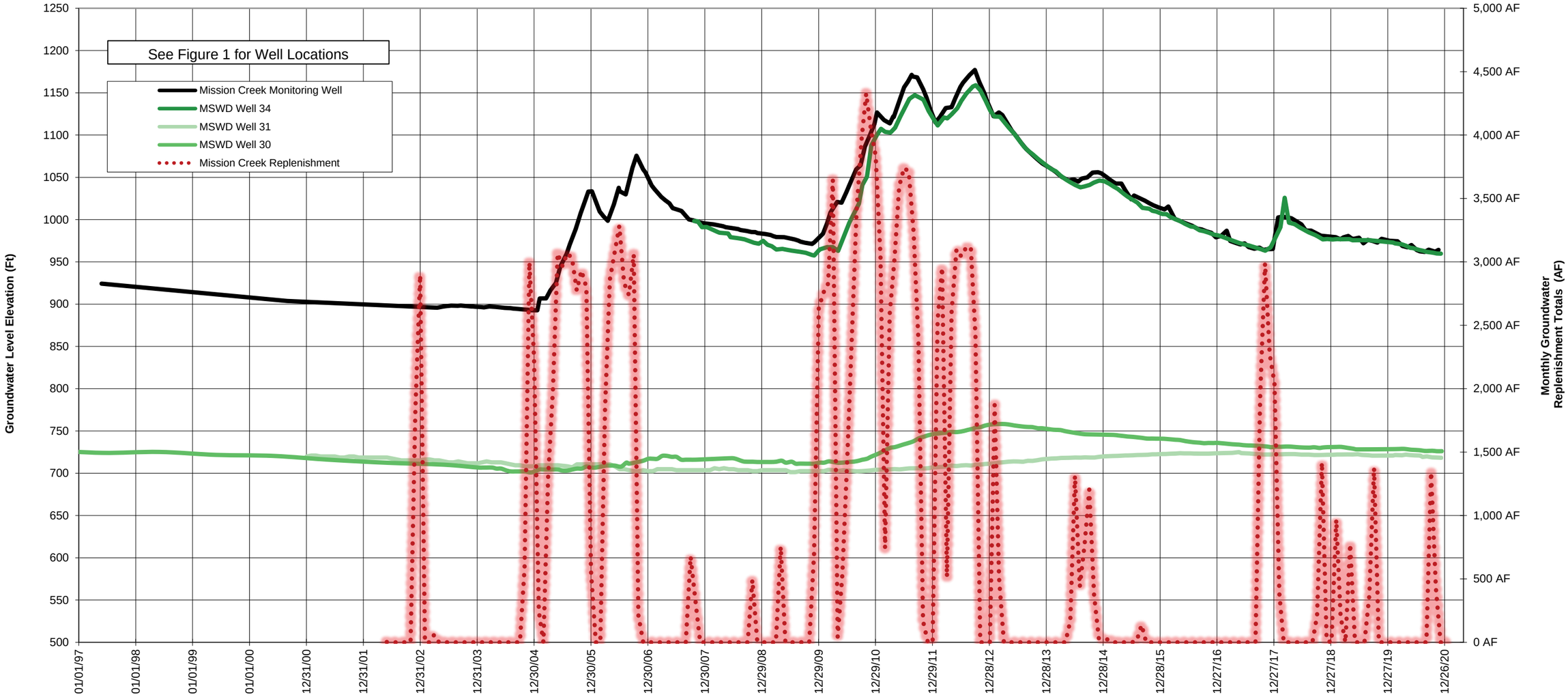
101-33P45-HYDROGRAPHS.xls/Exhibit 3 GH
(4/5/2021)

DRAFT

EXHIBIT 4
DESERT WATER AGENCY
GROUNDWATER WELL HYDROGRAPHS
MISSION CREEK SUBBASIN MANAGEMENT AREA
GROUNDWATER REPLENISHMENT QUANTITIES AT MISSION CREEK REPLENISHMENT FACILITY



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101-33P45-HYDROGRAPHS.xls/Exhibit 4 MC
(4/5/2021)

EXHIBIT 5
DESERT WATER AGENCY
MISSION CREEK SUBBASIN AREA OF BENEFIT[1]
HISTORIC VOLUME OF GROUNDWATER IN STORAGE[2]

Time Period	Pre-1955	1955 - 1978	1979 - 1997	1998 - 2020	**1955 - 2020**
Number of Years		24	19	22	**64**
Water Level Decline, FT[3]		20	30	19	**69**
Period Reduction in Storage, AF		71,200	106,800	67,640	**245,640**
Annual Reduction in Storage, AF/Yr		3,000	5,600	3,100	**3,800**
Change in Storage		0.047	0.074	0.051	**0.162**
Remaining Storage, AF	1,511,800	1,440,600	1,333,800	1,266,160	**1,266,160**

(1) Northwest three-quarters of subbasin: GTC (1979) & SLADE (2000)
(2) Storage loss of 3,560 AF/FT of water level decline: GTC (1979) & SLADE (2000)
(3) Mission Springs Water District data

EXHIBIT 6
DESERT WATER AGENCY
COMPARISON OF WATER PRODUCTION AND GROUNDWATER REPLENISHMENT
WEST WHITEWATER RIVER SUBBASIN (WWR) AND MISSION CREEK SUBBASIN (MC) MANAGEMENT AREAS

Production[1]

	WWR AF		MC AF		Total AF		Ratio of Recharge	
Year	Annual	Cumulative	Annual	Cumulative	Annual	Cumulative	WWR/Total	MC/Total
2002	213,410	213,410	13,968	13,968	227,378	227,378	93.9%	6.1%
2003	204,275	417,685	14,498	28,466	218,773	446,151	93.4%	6.6%
2004	212,700	630,385	16,548	45,014	229,248	675,399	92.8%	7.2%
2005	204,341	834,726	16,327	61,341	220,668	896,067	92.6%	7.4%
2006	213,850	1,048,576	17,365	78,706	231,215	1,127,282	92.5%	7.5%
2007	211,530	1,260,106	16,409	95,115	227,939	1,355,221	92.8%	7.2%
2008	211,023	1,471,129	15,775	110,890	226,798	1,582,019	93.0%	7.0%
2009	199,506	1,670,635	15,108	125,998	214,614	1,796,633	93.0%	7.0%
2010	182,703	1,853,338	14,304	140,302	197,007	1,993,640	92.7%	7.3%
2011	183,320	2,036,658	14,260	154,562	197,580	2,191,220	92.8%	7.2%
2012	183,285	2,219,943	14,216	168,778	197,501	2,388,721	92.8%	7.2%
2013	182,842	2,402,785	14,756	183,534	197,598	2,586,319	92.5%	7.5%
2014	174,425	2,577,210	14,091	197,625	188,516	2,774,835	92.5%	7.5%
2015	147,763	2,724,973	13,017	210,642	160,780	2,935,615	91.9%	8.1%
2016	148,395	2,873,368	13,219	223,861	161,614	3,097,229	91.8%	8.2%
2017	155,543	3,028,911	13,531	237,392	169,074	3,266,303	92.0%	8.0%
2018	154,548	3,183,459	13,870	251,262	168,418	3,434,721	91.8%	8.2%
2019	145,602	3,329,061	13,135	264,397	158,737	3,593,458	91.7%	8.3%
2020	153,680	3,337,139	14,244	265,506	167,924	3,602,645	91.5%	8.5%

Replenishment (Total)

	WWR AF		MC AF		Total AF		Ratio of Recharge	
Year	Annual	Cumulative	Annual	Cumulative	Annual	Cumulative	WWR/Total	MC/Total
2002	33,435	33,435	4,733	4,733	38,168	38,168	14.2%	14.2%
2003	902	34,337	59	4,792	961	39,129	14.0%	6.5%
2004	13,224	47,561	5,564	10,356	18,788	57,917	70.4%	29.6%
2005	165,554	213,115	24,723	35,079	190,277	248,194	87.0%	13.0%
2006	98,959	312,074	19,901	54,980	118,860	367,054	83.3%	16.7%
2007	16,009	328,083	1,011	55,991	17,020	384,074	94.1%	5.9%
2008	8,008	336,091	503	56,494	8,511	392,585	94.1%	5.9%
2009	57,024	393,115	4,090	60,584	61,114	453,699	93.3%	6.7%
2010	228,330	621,445	33,210	93,794	261,540	715,239	87.3%	12.7%
2011	232,214	853,659	26,238	120,032	258,452	973,691	89.8%	10.2%
2012	257,267	1,110,926	23,406	143,438	280,673	1,254,364	91.7%	8.3%
2013	26,620	1,137,546	2,379	145,817	28,999	1,283,363	91.8%	8.2%
2014	3,549	1,141,095	4,325	150,142	7,874	1,291,237	45.1%	54.9%
2015	865	1,141,960	171	150,313	1,036	1,292,273	83.5%	16.5%
2016	35,699	1,177,659	0	150,313	35,699	1,327,972	100.0%	0.0%
2017	385,994	1,563,653	9,248	159,561	395,242	1,723,214	97.7%	2.3%
2018	129,725	1,693,378	2,027	161,588	131,752	1,854,966	98.5%	1.5%
2019	235,968	1,929,346	3,688	165,276	239,656	2,094,622	98.5%	1.5%
2020	126,487	1,819,865	1,768 #	163,356	128,255	1,983,221	98.6%	1.4%

Recharge (SWP Exchange Only) [2]

	WWR AF		MC AF		Total AF		Ratio of Recharge	
Year	Annual	Cumulative	Annual	Cumulative	Annual	Cumulative	WWR/Total	MC/Total
2002	33,435	33,435	4,733	4,733	38,168	38,168	14.2%	14.2%
2003	902	34,337	59	4,792	961	39,129	14.0%	6.5%
2004	13,224	47,561	5,564	10,356	18,788	57,917	70.4%	29.6%
2005	165,554	213,115	24,723	35,079	190,277	248,194	87.0%	13.0%
2006	98,959	312,074	19,901	54,980	118,860	367,054	83.3%	16.7%
2007	9	312,083	1,011	55,991	1,020	368,074	0.9%	99.1%
2008	0	312,083	0	55,991	0	368,074	n/a	n/a
2009	46,032	358,115	3,336	59,327	49,368	417,442	93.2%	6.8%
2010	209,937	568,052	31,467	90,794	241,404	658,846	87.0%	13.0%
2011	127,214	695,266	20,888	111,682	148,102	806,948	85.9%	14.1%
2012	253,267	948,533	23,406	135,088	276,673	1,083,621	91.5%	8.5%
2013	24,112	972,645	2,379	137,467	26,491	1,110,112	91.0%	9.0%
2014	0	972,645	4,325	141,792	4,325	1,114,437	0.0%	100.0%
2015	0	972,645	171	141,963	171	1,114,608	0.0%	100.0%
2016	699	973,344	0	141,963	699	1,115,307	100.0%	0.0%
2017	350,994	1,324,338	9,248	151,211	360,242	1,475,549	97.4%	2.6%
2018	129,725	1,454,063	2,027	153,238	131,752	1,607,301	98.5%	1.5%
2019	235,968	1,690,031	3,688	156,926	239,656	1,846,957	98.5%	1.5%
2020	126,487	1,580,550	1,768 #	155,006	128,255	1,735,556	98.6%	1.4%

Notes:
(1) Production in both DWA and CVWD service areas.
(2) This table excludes all non-SWP supplemental water deliveries such as those made for CPV Sentinel.
Provisional

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101-33P45-TBLS.xlsx/Exhibit6 (4/27/2021)

EXHIBIT 7
DESERT WATER AGENCY
SUMMARY OF DELIVERIES TO METROPOLITAN WATER DISTRICT (MWD)
AND TO GROUNDWATER REPLENISHMENT FACILITIES (AF)[1]

BEFORE EXCHANGE AGREEMENT (JULY 1973 - JUNE 1984)

	Delivery to MWD																			Delivery to DWA/CVWD Recharge Facilities									
	SWP Contract Water													Non-SWP Contract Water															
					SWP Surplus Water									CVWD					DWA		From SWP Exchange Account			From Other Accounts						MWD Delivery Surplus/(Deficit) Prior to Exchange and Delivery Agreement	
Year	Table A DWA/CVWD Combined Allocation	Table A Allocation Delivered to MWD	% Delivery to MWD	Carry-Over From Previous Year	Pool A	Pool B	Multi-Year Pool	Article 21	Flood	Yuba	Other	Total	SWP Total	DMB Pacific	Glorious Land Rosedale	Colorado River Credit	Needles	MWD QSA	CPV-Sentinel	Total	WRRF[2]	MCRF[3]	Total	WRRF[2]	MCRF[3]	Total	Total WRRF	Total MCRF	Grand Total	Annual	Cumulative
1973 (Jul-Dec)	14,800	14,800	100%										14,800							14,800	7,475		7,475				7,475		7,475	(7,325)	(7,325)
1974	16,400	16,400	100%										16,400							16,400	15,396		15,396				15,396		15,396	(1,004)	(8,329)
1975	18,000	18,000	100%										18,000							18,000	20,126		20,126				20,126		20,126	2,126	(6,203)
1976	19,600	19,600	100%										19,600							19,600	13,206		13,206				13,206		13,206	(6,394)	(12,597)
1977	21,421	0	0%										0							0	0		0				0		0	0	(12,597)
1978	23,242	25,384	109%										25,384							25,384	0		0				0		0	(25,384)	(37,981)
1979	25,063	25,063	100%										25,063							25,063	25,192		25,192				25,192		25,192	129	(37,852)
1980	27,884	27,884	100%										27,884							27,884	26,341		26,341				26,341		26,341	(1,543)	(39,395)
1981	31,105	31,105	100%										31,105							31,105	35,251		35,251				35,251		35,251	4,146	(35,249)
1982	34,326	34,326	100%										34,326							34,326	27,020		27,020				27,020		27,020	(7,306)	(42,555)
1983	37,547	37,547	100%										37,547							37,547	53,732		53,732				53,732		53,732	16,185	(26,370)
1984 (Jan-Jun)[4]	N/A	25,849	N/A										*25,849*							*25,849*	*50,912*		*50,912*				*50,912*		*50,912*	25,063	(1,307)
1984 Total	40,768	40,768	100%										40,768							40,768	83,708		83,708				83,708		83,708		

WITH EXCHANGE AGREEMENT (JULY 1984 - 2016)

	Delivery to MWD																			Delivery to DWA/CVWD Replenishment Facilities								MWD Exchange and Advance Deliveries				
	SWP Contract Water													Non-SWP Contract Water																		
					SWP Surplus Water									CVWD					DWA		From SWP Exchange Account			From Other Accounts									Advance Delivery Account [5] Credit/(Debit)	
Year	Table A DWA/CVWD Combined Allocation	Table A Allocation Delivered to MWD	% Delivery to MWD	Carry-Over	Pool A	Pool B	Multi-Year Pool	Article 21	Flood	Yuba	Other	Total	SWP Total	DMB Pacific	Glorious Land Rosedale	Colorado River Credit	Needles	MWD QSA	CPV-Sentinel	Total	WRRF[2]	MCRF[3]	Total	WRRF[2]	MCRF[3]	Total	Total WRRF	Total MCRF	Grand Total	Exchange Deliveries	Advance Deliveries	Advance Deliveries Converted to Exchange Deliveries	Annual	Balance
1984 (Jul-Dec)[5]	N/A	14,919	N/A										*14,919*							*14,919*	*32,796*		*32,796*				32,796		*32,796*	32,796	16,570		16,570 [6]	16,570
1985	43,989	43,989	100%										43,989							43,989	251,994		251,994				251,994		251,994	251,994	208,005		208,005	224,575
1986	47,210	47,210	100%										47,210				10,000 [7]			57,210	288,201		288,201	10,000 [7]		10,000	298,201		298,201	288,201	240,991		240,991	465,566
1987	50,931	50,931	100%										50,931							50,931	104,334		104,334				104,334		104,334	104,334	53,403		53,403	518,969
1988	54,652	54,652	100%										54,652							54,652	1,096		1,096				1,096		1,096	1,096		53,556	(53,556)	465,413
1989	58,373	58,373	100%										58,373							58,373	12,478		12,478				12,478		12,478	12,478		45,895	(45,895)	419,518
1990	61,200	61,200	100%										61,200							61,200	31,721		31,721				31,721		31,721	31,721		29,479	(29,479)	390,039
1991	61,200	18,360	30%										18,360							18,360	14		14				14		14	14		18,346	(18,346)	371,693
1992	61,200	27,624	45%										27,624							27,624	40,870		40,870				40,870		40,870	40,870	13,246		13,246	384,939
1993	61,200	61,200	100%										61,200							61,200	60,153		60,153				60,153		60,153	60,153		1,047	(1,047)	383,892
1994	61,200	37,359	61%										37,359							37,359	36,763		36,763				36,763		36,763	36,763		596	(596)	383,296
1995	61,200	61,200	100%										61,200							61,200	61,318		61,318				61,318		61,318	61,318	118		118	383,414
1996	61,200	61,200	100%			103,641					103,641	164,841								164,841	168,266		138,266				138,266		138,266	138,266		26,575	(26,575)	356,839
1997	61,200	61,200	100%			50,000			27,130		77,130	138,330								138,330	113,677		113,677				113,677		113,677	113,677		24,653	(24,653)	332,186
1998	61,200	61,200	100%			75,000			20,156		95,156	156,356								156,356	132,455		132,455				132,455		132,455	132,455		23,901	(23,901)	308,285
1999	61,200	61,200	100%			47,380					47,380	108,580								108,580	90,601		90,601				90,601		90,601	90,601		17,979	(17,979)	290,306
2000	61,200	55,080	90%			9,837		35,640			1 [8]	45,478	100,558							100,558	72,450		72,450				72,450		72,450	72,450		28,108	(28,108)	262,198
2001	61,200	23,868	39%			242					242	24,110								24,110	707		707				707		707	707		23,403	(23,403)	238,795
2002	61,200	42,840	70%		436	819		300			1,555	44,395								44,395	33,435	4,733	38,168				33,435	4,733	38,168	38,168		6,227	(6,227)	232,568
2003	61,200	55,080	90%	(17,867)	457	58		532			2 [8]	1,049	38,262							38,262	902	59	961				902	59	961	961		37,301	(37,301)	195,267
2004	61,200	18,597	30%	17,867		191						191	36,655							36,655	13,224	5,564	18,788				13,224	5,564	18,788	18,788		17,867	(17,867)	177,400
2005	171,100	60,152	35%	27,618	585	3,253						3,838	91,608							91,608	165,554	24,723	190,277				165,554	24,723	190,277	190,277	98,669		98,669	276,069
2006	171,100	171,100	100%									0	171,100							171,100	98,959	19,901	118,860				98,959	19,901	118,860	118,860		52,240	(52,240)	223,829
2007	171,100	102,660	60%		802							802	103,462			16,000 [9] *				119,453	9	1,011	1,020	16,000		16,000	16,009	1,011	17,020	1,020		102,442	(102,442)	121,387
2008	171,100	59,885	35%		151				1,833		1,984	61,869		3,000	8,008 [9] *			8,350 *		81,218	0	0	0	8,008	503 [13]	8,511	8,008	503	8,511	0		64,869	(64,869)	56,518
2009	171,100	57,710	34%		35	58			2,982	500 [10]	3,575	61,285		3,000 *	7,992 [9] *					72,268	46,032	3,336	49,368	10,992	754 [13]	11,746	57,024	4,090	61,114	49,368		11,917	(11,917)	44,601
2010	194,100	97,050	50%	10,730	66	536					602	108,382	8,393 *				10,000 *			126,775	209,937	31,467	241,404	18,393	1,743 [13]	20,136	228,330	33,210	261,540	241,404	133,022		133,022	177,623
2011	194,100	124,156	64%		836	1,666				5,800 [14]	8,302	132,458					105,000 *			237,458	127,214	20,888	148,102	105,000	5,350 [13]	110,350	232,214	26,238	258,452	148,102	25,644 [7]		25,644	203,267
2012	194,100	126,166	65%	31,124	431				967		1,398	158,688		4,000 *						162,688	253,267	23,406	276,673	4,000		4,000	257,267	23,406	280,673	276,673	117,985		117,985	321,252
2013	194,100	67,936	35%		230				2,664		2,894	70,830		16,500			2,508 *			89,838	24,112	2,379	26,491	2,508		2,508	26,620	2,379	28,999	26,491		60,839	(60,839)	260,413
2014	194,100	9,706	5%						1,213		1,213	10,919		5,000			3,549 ****			19,468	0	4,325	4,325	3,549		3,549	3,549	4,325	7,874	4,325		11,610	(11,610)	248,803
2015	194,100	38,820	20%				67		426		493	39,313		9,500			865 *			49,678	0	171	171	865		865	865	171	1,036	171		48,642	(48,642)	200,161
2016	194,100	74,249	38%				566				566	74,815		16,500						64,135	155,450	699	0	699	35,000 **		35,000	35,699	0	35,699	699		119,751	(119,751)	80,410
2017	194,100	66,805	34%	25,435	1131					16,776 [11]	17,907	110,147		5,397			35,000			150,544	350,994	9,248	360,242	35,000 **		35,000	385,994	9,248	395,242	360,242	244,698		244,698	325,108
2018	194,100	67,936	35%	97,050					1,246		1,246	166,232		20,603			35,000 ***			221,835	129,725	2,027	131,752			0	129,725 ##	2,027	131,752 ##	131,752		90,083	(90,083)	235,025
2019	194,100	48,526	25%								0	48,526					35,000 ***			83,526	235,968 #	3,688 #	239,656			0	235,968 ##	3,688 #	239,656 ##	239,656	156,130		156,130	391,155
2020	194,100	38,820	20%	97,050						1,140	1,140	137,010		19,000			50,000 ***			206,010	126,487	1,768	128,255			0	126,487	1,768	128,255	128,255		77,755	(77,755)	313,400
Totals[12]:	4,473,911	2,464,917	---	289,007	5,160	292,681	633	36,472	47,286	12,471	23,079	417,782	3,171,706	8,393	102,500	32,000	10,000	341,057	8,350	3,673,979	2,717,889	158,694	3,719,757	249,315	8,350	257,665	3,810,378	167,044	3,977,422	3,719,757	1,308,481	995,081	---	---

NOTES:
(1) As reported by Metropolitan Water District in its monthly "Exchange Water Delivery in Acre-Feet" reports.
(2) Whitewater River Replenishment Facility
(3) Mission Creek Replenishment Facility
(4) The Advance Delivery Agreement between MWD and CVWD/DWA became effective on 7/1/84; discrepancies in exchange deliveries between MWD and CVWD/DWA after 7/1/84 are adjusted per said agreement.
(5) The effective date of the Advance Delivery Agreement between MWD and CVWD/DWA was 7/1/84.
(6) The first advance delivery figure of 16,570 AF is equal to 32,796 AF of deliveries to CVWD/DWA from 7/84 - 12/84, minus 14,919 AF of deliveries to MWD from 7/84 - 12/84, minus cumulative MWD delivery deficiency of 1,307 AF as of 7/1/84.
(7) 10,000 AF of Needles Water delivered to CVWD in 1986 was credited to the Advance Delivery Account in 2011.
(8) Adjustment for rounding error to reconcile MWD Advance Delivery Account Balance
(9) CVWD's PVID credit
(10) Drought Water Bank
(11) Flexible Storage Payback at Lake Perris
(12) Since 1973
(13) CPV Sentinel
(14) MWD Article 21 water exchanged for unused CVWD 20 TAF CRA water
* Not deducted from the Advance Delivery Account
** Added to the Advance Delivery Account
*** Deducted from Advance Delivery Account
**** 16 AF deducted from the Advance Delivery Account to make up for delivery shortage
\# Revised by MWD
Corrected: CVWD QSA deliveries for 2018 and 2019 were credited from AD Account, not physical deliveries
Not included in DWR Bulletin 132-17 Appendix B Table B-5B

/DFS
101-33P45-TBLS.xlsx/Exhibit7 (4/27/2021)

EXHIBIT 8
DESERT WATER AGENCY AND COACHELLA VALLEY WATER DISTRICT
COMPARISON OF HISTORIC AND PROPOSED GROUNDWATER REPLENISHMENT
ASSESSMENT RATE FOR THE WEST WHITEWATER RIVER AND MISSION CREEK SUBBASIN AOBS

	DWA		CVWD West Whitewater		CVWD Mission Creek	
Year	$/AF	% Increase	$/AF	% Increase	$/AF	% Increase
78/79	$6.81	---	No Assessment	---	No Assessment	---
79/80	$9.00	32%	No Assessment	---	No Assessment	---
80/81	$9.50	6%	$5.66	---	No Assessment	---
81/82	$10.50	11%	$7.43	31%	No Assessment	---
82/83	$21.00	100%	$19.82	167%	No Assessment	---
83/84	$36.50	74%	$33.23	68%	No Assessment	---
84/85	$37.50	3%	$34.24	3%	No Assessment	---
85/86	$31.00	-17%	$21.81	-36%	No Assessment	---
86/87	$21.00	-32%	$19.02	-13%	No Assessment	---
87/88	$22.50	7%	$19.55	3%	No Assessment	---
88/89	$20.00	-11%	$15.96	-18%	No Assessment	---
89/90	$23.50	18%	$19.66	23%	No Assessment	---
90/91	$26.00	11%	$23.64	20%	No Assessment	---
91/92	$31.75	22%	$25.66	9%	No Assessment	---
92/93	$31.75	0%	$28.23	10%	No Assessment	---
93/94	$31.75	0%	$31.05	10%	No Assessment	---
94/95	$31.75	0%	$34.16	10%	No Assessment	---
95/96	$31.75	0%	$37.58	10%	No Assessment	---
96/97	$31.75	0%	$37.58	0%	No Assessment	---
97/98	$31.75	0%	$42.09	12%	No Assessment	---
98/99	$31.75	0%	$47.14	12%	No Assessment	---
99/00	$31.75	0%	$52.80	12%	No Assessment	---
00/01	$33.00	4%	$59.14	12%	No Assessment	---
01/02	$33.00	0%	$66.24	12%	No Assessment	---
02/03	$35.00	6%	$72.86	10%	$59.80	---
03/04	$35.00	0%	$72.86	0%	$59.80	0%
04/05	$45.00	29%	$78.86	8%	$59.80	0%
05/06	$50.00	11%	$78.86	0%	$59.80	0%
06/07	$63.00	26%	$83.34	6%	$65.78	10%
07/08	$63.00	0%	$91.67	10%	$72.36	10%
08/09	$72.00	14%	$93.78	2%	$76.60	6%
09/10	$72.00	0%	$102.45	9%	$87.56	14%
10/11	$82.00	14%	$102.45	0%	$89.75	3%
11/12	$82.00	0%	$107.57	5%	$98.73	10%
12/13	$92.00	12%	$110.26	3%	$98.73	0%
13/14	$92.00	0%	$110.26	0%	$98.73	0%
14/15	$102.00	11%	$110.26	0%	$98.73	0%
15/16	$102.00	0%	$112.00	2%	$112.00	13%
16/17	$102.00	0%	$128.80	15%	$123.20	10%
17/18	$120.00	18%	$143.80	12%	$135.52	10%
18/19	$140.00	17%	$143.80	0%	$135.52	0%
19/20	$155.00	11%	$143.80	0%	$135.52	0%
20/21	$165.00	6%	$143.80	0%	$135.52 *	0%
21/22	$175.00 *	6%	$165.37 *	15%	$135.52 *	0%

* Proposed replenishment assessment rate

APPENDIX A

APPENDIX A
COACHELLA VALLEY
MONTHLY AND ANNUAL RECORDED PRECIPITATION DATA
(INCHES)
2020

STATION NAME	WHITEWATER NORTH	SNOW CREEK	TACHEVAH DAM	TRAM VALLEY	CATHEDRAL CITY	THOUSAND PALMS	PALM SPRINGS SUNRISE	DESERT HOT SPRINGS	EDOM HILL	OASIS	MECCA LANDFILL III	THERMAL AIRPORT
LOCATION	**WWR**	**WWR**	**WWR**	**WWR**	**WWR**	**WWR**	**WWR**	**MC**	**MC**	**EWR**	**EWR**	**EWR**
STATION NUMBER	**233**	**207**	**216**	**224**	**34**	**222**	**442**	**57**	**436**	**431**	**432**	**443**
LATITUDE	33°59'23.06"	33°53'32.64"	33°49'51.26"	33°50'11.56"	33°46'51.49"	33°49'1.66"	33°48'35.94"	33°58'2.85"	33°53'7.52"	33°26'21.64"	33°34'20.19"	33°37'53.90"
LONGITUDE	116°39'21.39"	116°41'41.06"	116°33'31.53"	116°36'49.72"	116°27'29.69"	116°23'46.30"	116°31'37.94"	116°29'39.93"	116°26'18.48"	116° 4'44.83"	116° 0'15.33"	116° 9'50.81"
ELEVATION (FT ABOVE MSL)	2220	1658	570	2675	283	230	397	1223	1038	-108	13	-122
JANUARY	0.00	0.09	0.02	0.05	0.02	0.03	0.03	0.01	0.02	0.00	0.00	0.00
FEBRUARY	0.03	0.09	0.00	0.09	0.00	0.02	0.00	0.00	0.00	0.02	0.00	0.00
MARCH	3.29	6.53	3.70	5.05	2.08	1.50	2.69	1.83	1.77	2.31	2.05	2.82
APRIL	1.42	3.15	1.12	2.46	0.83	0.98	0.99	1.19	1.19	0.82	0.78	0.74
MAY	0.00	0.09	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
JUNE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
JULY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AUGUST	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SEPTEMBER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
OCTOBER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
NOVEMBER	0.92	0.65	0.00	0.22	0.02	0.00	0.06	0.02	0.00	0.00	0.01	0.00
DECEMBER	1.17	1.52	0.00	0.54	0.19	0.11	0.26	0.20	0.12	0.00	0.00	0.05
TOTAL	**6.83**	**12.12**	**4.84**	**8.41**	**3.15**	**2.64**	**4.03**	**3.25**	**3.10**	**3.16**	**2.85**	**3.61**
AVERAGE: WWR	**6.00**											
AVERAGE: MC								**3.18**				
AVERAGE: WWR+MC	**5.37**											
AVERAGE: EWR										**3.21**		
AVERAGE: ALL	**4.83**											

APPENDIX B

ADDENDUM TO SETTLEMENT AGREEMENT
MANAGEMENT AREA DELIVERIES

The Settlement Agreement between Coachella Valley Water District (CVWD), Desert Water Agency (DWA) and Mission Springs Water District (MSWD) dated December 7, 2004 shall be supplemented by the following Addendum, and thus shall be deemed a part thereof:

The Mission Creek Groundwater Replenishment Agreement provides for the delivery to the Mission Creek Subbasin, for groundwater replenishment, of a proportionate share of the imported water delivered to CVWD and DWA for replenishment of the Upper Coachella Valley Groundwater Basin. To ensure that the Mission Creek Subbasin receives its proportionate share of that water, as set forth in the Mission Creek Replenishment Agreement, and to provide for the monitoring thereof, the following procedures shall be applied:

Each year CVWD and DWA shall calculate the combined total quantity of water produced during the previous year from the Whitewater River Management Area and the Mission Creek Management Area, and from sources tributary to those Management Areas, and shall determine from that the percentages of the total production from those Management Areas and their sources.

Water supplies available to CVWD and DWA each year, through their respective State Water Project Contracts, for the replenishment of those Management Areas will be allocated and delivered to the Management Areas for groundwater replenishment in the same percentages, subject to delivery capability and operational constraints in any particular year.

In the event that additional subbasins benefit from recharge programs within CVWD and DWA boundaries, the respective production and recharge delivery percentages from those management areas in those subbasins shall be included in the above described calculations, allocations, and deliveries.

Production and recharge quantities shall be reviewed by the parties to the Management Committee (MSWD, CVWD and DWA) through the Management Committee process. CVWD and DWA will endeavor to accomplish annual proportionate management area deliveries; however, when constrained by operating limitations, they may over deliver or under deliver water to the management areas from year to year as necessary to obtain as much imported water as may be available. Cumulative water deliveries between or among management areas shall be balanced as and when determined by the Management Committee, but no later than 20 years from the date of the settlement agreement and each 20 years thereafter.

The provisions of this Addendum may be enforced by any party hereto.

IN WITNESS WHEREOF, The Parties have caused this Addendum to be executed by their duly authorized representatives on the date first above written.

MSWD:

Mission Springs Water District,
a California county water district

By _____

Its: President

By _____

Its: Vice President

DWA:

Desert Water Agency,
a public agency of the State of California

By _____

Its: President

By _____

Its: Vice President

CVWD:

Coachella Valley Water District,
a California county water district

By _____

Its: President

By _____

Its: Vice President

DESERT WATER AGENCY

OUTREACH & CONSERVATION ACTIVITIES

APRIL 2021

Activities:

04/01	Staff attended a SNMP Monitoring Plan implementation meeting.
04/01	Ashley Metzger and Vicki Petek attended a virtual webinar regarding the DWR Verification Portal overview.
04/01	The Conservation & Public Affairs Committee convened.
04/02	KNEWS' Gene Nichol's interviewed Ashley Metzger regarding the Mayor's Challenge, incentives and bill assistance.
04/05	Ashley Metzger and Ryan Molhoek attended the regional UWMP meeting.
04/05	Ashley Metzger attended a Zoom meeting regarding ACWA Framework for Advocacy on Drought Issues.
04/07	Staff attended a Mission Creek Alternative Update meeting.
04/07	Ashley Metzger attended an Airport Demonstration Garden update.
04/13	Xochitl Peña attended the ONE-PS meeting and provided an update.
04/14	Ashley Metzger and Ryan Molhoek attended a CVRWMG business meeting.
04/14	Mark Krause and Ashley Metzger attended and provided an update at the Palm Springs Hospitality Association meeting.
04/14	Ashley Metzger attended the Residential Landscape Area Measurement (LAM) Study Technical Work Group meeting.
04/15	Ashley Metzger attended the CaDC Quarterly Steering Committee meeting.
04/15	Ashley Metzger and Xochitl Peña attended PSHA's April PSHA Member meeting.
04/15	Staff attended the Mission Creek Subbasin Management Committee Supplemental meeting.
04/15	Ashley Metzger attended Mission Springs Water District board meeting.
04/16	Ashley Metzger attended the Water SMART and Energy Efficiency Grants debriefing.
04/19	Ashley Metzger attended a Zoom meeting regarding ACWA Framework for Advocacy on Drought Issues.
04/20	Vicki Petek attended the Low Income Household Water Assistance Program Information and Feedback Session webinar.
04/20	Ashley Metzger and Xochitl Peña participated in a CV Water Counts meeting.
04/20	Xochitl Peña attended Talk of the Town Zoom meeting.
04/21	Ashley Metzger met with FEMA regarding recovery funding.
04/21	Staff attended the Indio Subbasin GSA Coordination meeting.
04/21	Ashley Metzger attended Gavin Newsom's virtual press conference regarding drought.
04/22	DWA hosted a virtual webinar: Earth Day: Pledge for the planet.

04/22 KESQ's Tom Tucker interviewed Ashley Metzger regarding drought conditions.

04/22 Ashley Metzger was a panelist on the CAPIO/ACWA webinar - Creating an Effective Utility Rate Change Outreach Strategy That Builds Customer Awareness and Confidence in the Rate-setting Process.

04/27 Ashley Metzger attended a kickoff meeting for the USBR AMI grant.

04/28 Ashley Metzger attended a County-wide coordination call regarding water agency COVID-19 relief funding.

04/28 Mark Krause and Ashley Metzger attended the Agua Caliente Water Authority board meeting.

04/29 Ashley Metzger attended the 2021 Coachella Valley Virtual Business Conference and Economic Forecast meeting.

Public Information Releases/eBlasts/Customer Notifications:

April 1: Mayor Holstege Asks Locals to Sign Water Saving Pledge – Website

April 15: Webinar: Earth Day – Pledge for the planet, Website, Nextdoor

April 16: DWA Construction on Vista Chino, between Gene Autry Trail and North Farrell Drive – Nextdoor

Legislative/Regulatory Outreach

April 8: Mark Krause and Ashley Metzger met with the office of Senator Padilla.

April 13: DWA sent thank you letter to Senator Padilla's office.

Upcoming Events

May 5 @ 10 a.m. – DWA staff to meet with Congressman Ruiz's office

May 11 - Mission Creek Subbasin SGMA Public Workshop

May 18 @ 11:30 a.m. – DWA presents to Palm Springs Hospitality Association

May 19 @ 10 a.m. – DWA Webinar: Drought & Water Shortage Planning

May 27 @ 2 p.m. – Indio Subbasin SGMA Public Workshop

Conservation programs

10 grass removal inspections
4 grass removal projects pre-approved
11 grass removal projects given final approval

14 washing machines requested
11 washing machines approved

12 smart controllers requested
11 smart controllers approved

45 nozzles requested
0 nozzles approved

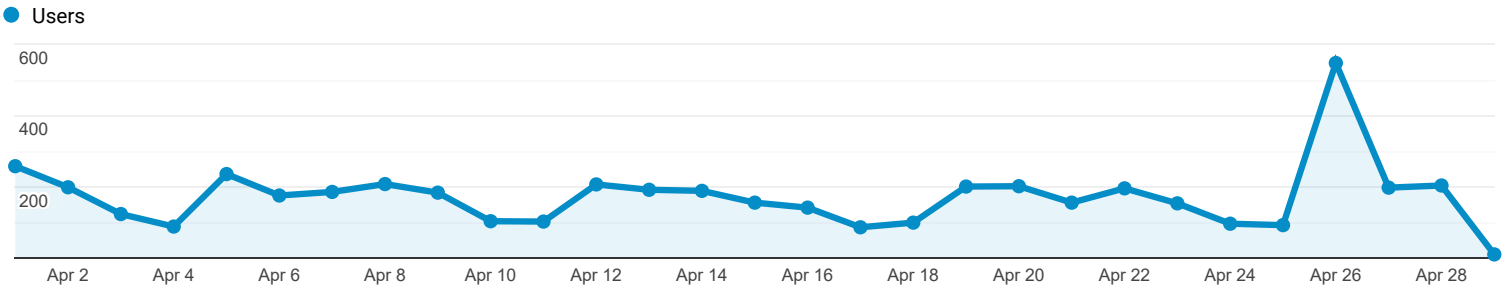
0 toilets requested (commercial only)
0 toilet rebates approved (commercial only)

Audience Overview

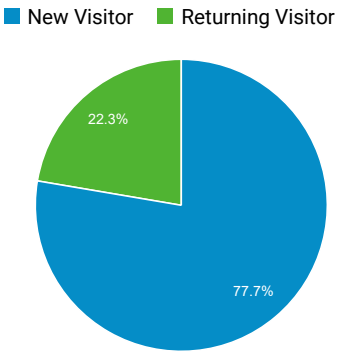
All Users
100.00% Users

Apr 1, 2021 - Apr 29, 2021

Overview

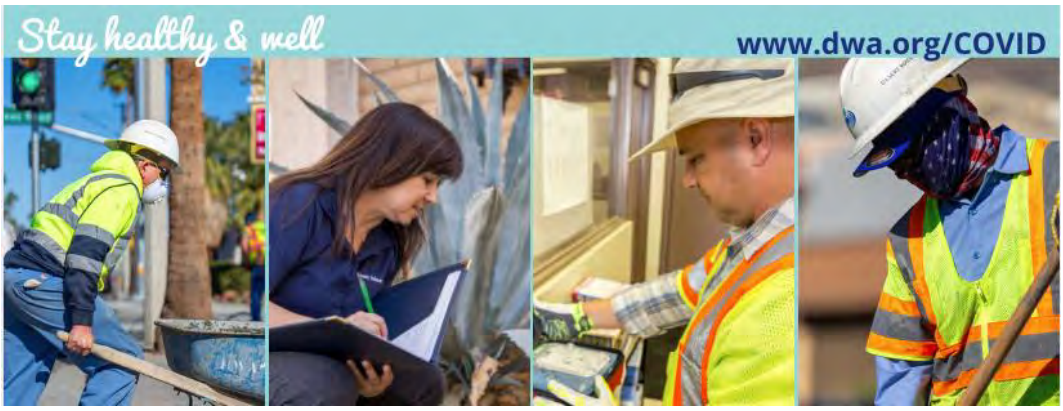


Users	4,392
New Users	3,761
Sessions	5,452
Number of Sessions per User	1.24
Pageviews	11,681
Pages / Session	2.14
Avg. Session Duration	00:01:35
Bounce Rate	47.07%



	Language	Users	% Users
1.	en-us	3,899	88.78%
2.	en-gb	132	3.01%
3.	en	124	2.82%
4.	en-ca	35	0.80%
5.	zh-cn	16	0.36%
6.	c	12	0.27%
7.	es-419	11	0.25%
8.	en-in	10	0.23%
9.	es-us	10	0.23%
10.	fr-fr	9	0.20%

Desert Water Agency Facebook Analytics April 2021



Actions on Page
April 1 - April 28

We have insufficient data to show for the selected time period.

Page Views
April 1 - April 28

133
Total Page Views ▲12%

Page Likes
April 1 - April 28

6
Page Likes ▲0%

Post Reach
April 1 - April 28

1,102
People Reached ▼20%

Story Reach
April 1 - April 28

Get Story Insights

See stats on how your Page's recent stories have performed.

Learn More

Recommendations
April 1 - April 28

We have insufficient data to show for the selected time period.

Post Engagement
April 1 - April 28

171
Post Engagement ▼46%

Videos
April 1 - April 28

524
3-Second Video Views ▲992%

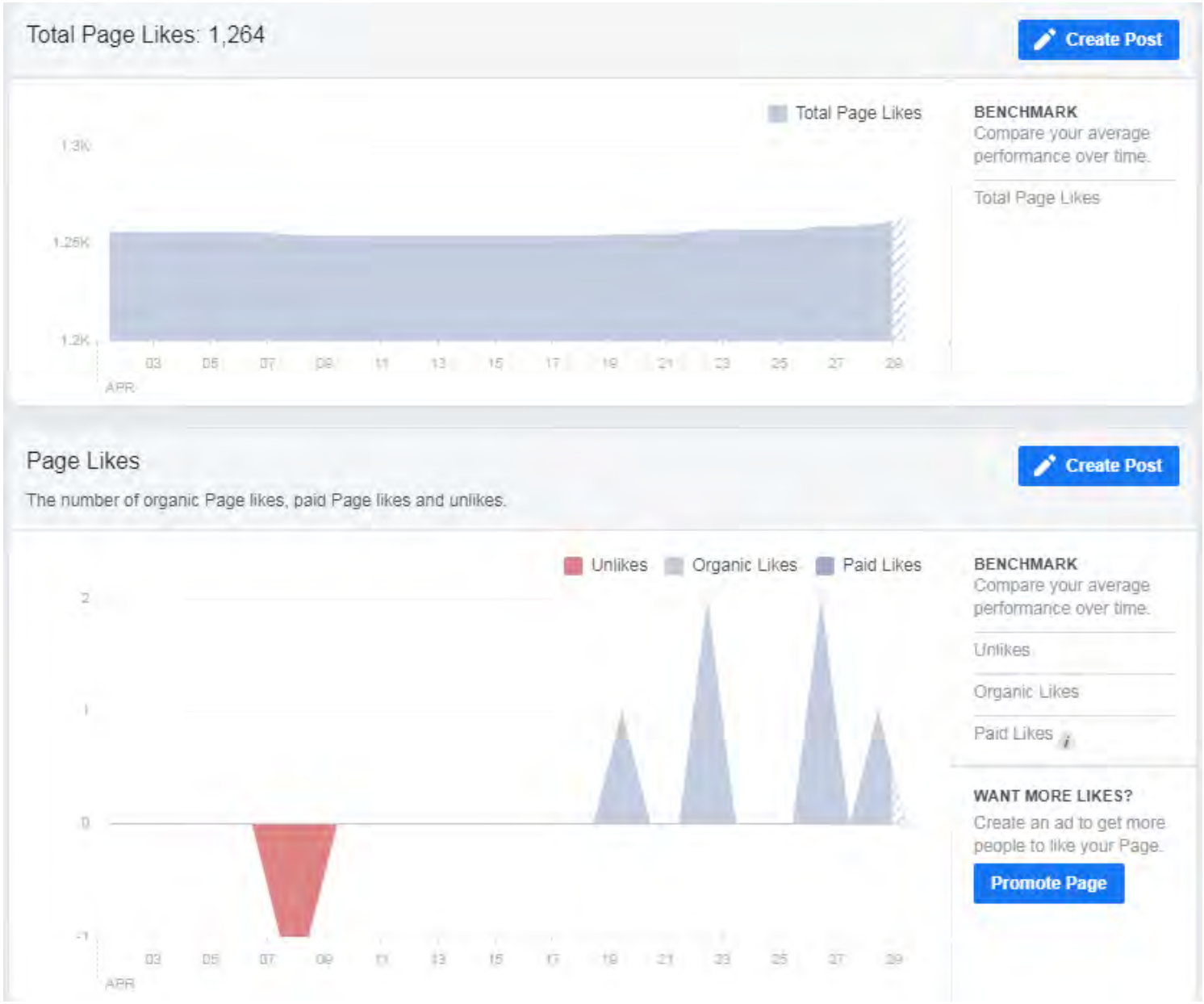
Page Followers
April 1 - April 28

6
Page Followers ▼14%

Facebook Analytics, April 2021

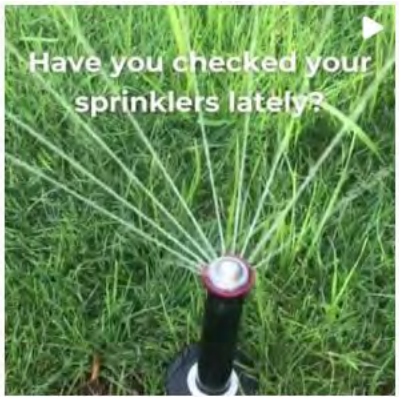
Published	Post	Type	Targeting	Reach	Engagement	Promote
04/28/2021 12:00 PM	 There's still time to take part in the Mayor's Challenge for Water			35	0 4	Boost Post
04/26/2021 12:08 PM	 It's Sprinkler Check Week in Palm Springs! Now is the perfect time to			35	1 3	Boost Post
04/22/2021 4:42 PM	 If you missed our Earth Day webinar this morning, you can still catch it			41	0 5	Boost Post
04/22/2021 10:10 AM	 Join DWA and the City of Palm Springs at 10 a.m. on April 22 –			71	15 10	Boost Post
04/21/2021 12:31 PM	 In some areas of the state, the drought emergency is very real.			33	2 3	Boost Post
04/21/2021 9:00 AM	 Don't forget! Tomorrow is our Earth Day webinar on water conservation.			76	1 5	Boost Post
04/19/2021 3:31 PM	 Happy National Garden Month! Creating a pollinator garden at home			91	3 9	Boost Post
04/16/2021 12:00 PM	 Join our Earth Day webinar at 10 a.m. on April 22 to learn about water			55	2 6	Boost Post
04/14/2021 12:00 PM	 Did you know ... watering before sunrise helps avoid evaporation and			63	0 8	Boost Post
04/12/2021 12:15 PM	 If it's time for a new washing machine, DWA is here to help with			50	0 4	Boost Post
04/08/2021 12:00 PM	 Check out our latest water quality video to learn why lead			48	2 5	Boost Post
04/05/2021 12:00 PM	 Help Palm Springs City Government become the most water wise city in			909	43 25	Boost Post
04/03/2021 12:00 PM	 Want the latest news from DWA? Check out our spring newsletter for			44	1 3	Boost Post

Facebook Analytics, April 2021



Instagram April 2021

92 impressions



149 impressions

87 impressions

102 impressions

163 impressions

133 impressions

131 impressions

146 impressions

139 impressions

Nextdoor April 2021

Desert Water Agency

1200 S Gene Autry Trl, Palm Springs

Desert Water Agency
30,108 members Invite

35% of 61,316 households

145 neighborhoods

Desert Water Agency
Outreach Specialist Xochitl Pena • 19 Apr

Webinar: Earth Day - Pledge for the planet. Join DWA in conjunction with the City of Palm Springs at 10 a.m. on April 22 – Earth Day – to learn how to be more eco-friendly with your water footprint. We will be talking about the Mayor's Challenge for Water Conservation, a national community service campaign that encourages

See more...

Webinar: Earth Day - Pledge for the planet
Desert Water Agency

Going?

Posted to **Subscribers of Desert Water Agency**

Like Comment Share 1 · 1098 Impressions

Desert Water Agency
Outreach Specialist Xochitl Pena • 16 Apr

DWA Construction. Desert Water Agency crews will be working on Vista Chino between Gene Autry Trail and N. Farrell Drive on Tuesday, April 20 and Wednesday, April 21. This project aims to improve water service reliability and avoid severe outages and property damage. What to expect: • One of the two westbound lanes

See more...

Posted to **Subscribers of Desert Water Agency in 2 neighborhoods**

Like Comment Share 101 Impressions

Desert Water Agency Twitter Analytics April 2021

Tweets	Following	Followers
2,441	1,519	1,207

Apr 2021 · 28 days so far...

TWEET HIGHLIGHTS

Top Tweet earned 339 impressions

Southbound Indian Canyon will be reduced to one lane between Tahquitz and Arenas for several hours as DWA crews work to repair an emergency main leak. Please drive carefully in that area or take another route. #conezone pic.twitter.com/hQx9LUHjUI

1 3

View Tweet activity View all Tweet activity

Top Follower followed by 11.4K people

Sreys
@Sreysofficial FOLLOWS YOU

#Blogger and #Streamer. I post interesting blog posts and i'm a competetive Fortnite Player. https://t.co/5jyjZgPQZ2 Creator Code: SREYS

Top mention earned 9 engagements

Uken Report
@UkenReport · Apr 1

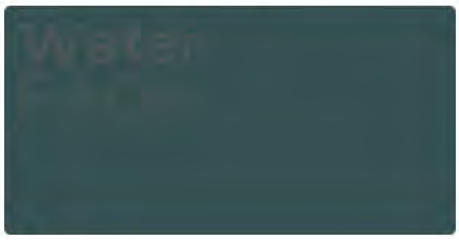
Mayor Holstege Pleads for Water Conservation @christyholstege @DWAwater #waterconservation Learn more here: ukenreport.com/mayor-holstege...

3 1

View Tweet

Top media Tweet earned 272 impressions

Check out our latest water quality video to learn why lead contamination isn't an issue here. #WaterQuality #FAQ pic.twitter.com/bePz86Feru



1 4

View Tweet activity View all Tweet activity

ADVERTISE ON TWITTER

Get your Tweets in front of more people

Promoted Tweets and content open up your reach on Twitter to more people.

Get started

APR 2021 SUMMARY

Tweets	Tweet impressions
11	3,347
Profile visits	**Mentions**
202	15
New followers	
0	

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW

8-C

STATE WATER CONTRACTORS MEETING
April 15, 2021

I. LEGISLATIVE REPORT

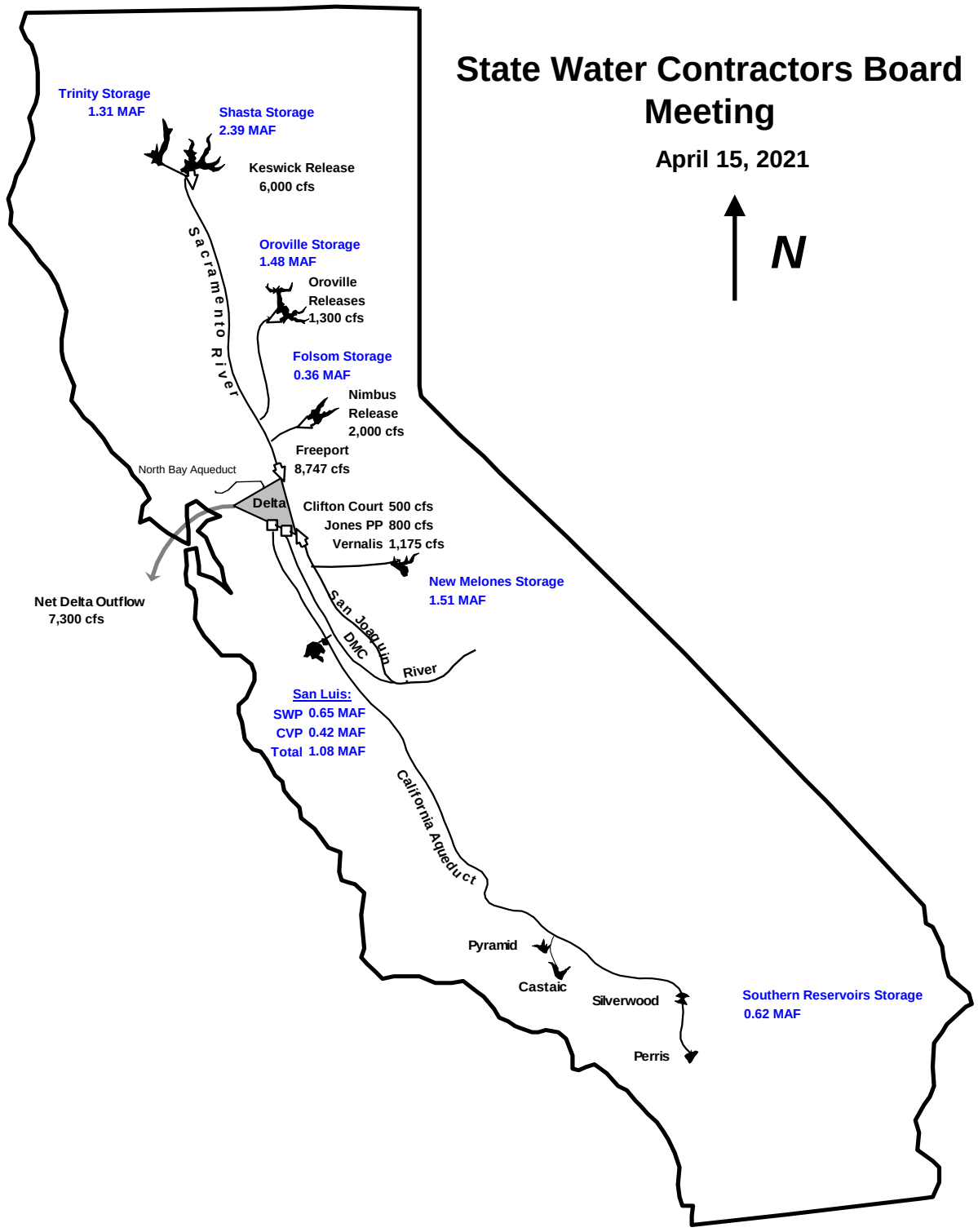
(a) SB 85 - $2 Billion appropriation to address the drought; $500 Million for water efficient landscaping; $530 Million for wildfire protection
(b) AB 1161 (Garcia) - Seeks acceleration of 2045 goal for 100% green energy, and DWR must secure the resources; DWR continues to oppose
(c) AB 979 (Frazier) - Would require State and local agencies to submit studies to the Delta Protection Commission and the Delta Stewardship Council in order to qualify for funding of Delta water projects and levee projects; SWC will oppose unless amended

II. WATER SUPPLY OBJECTIVES

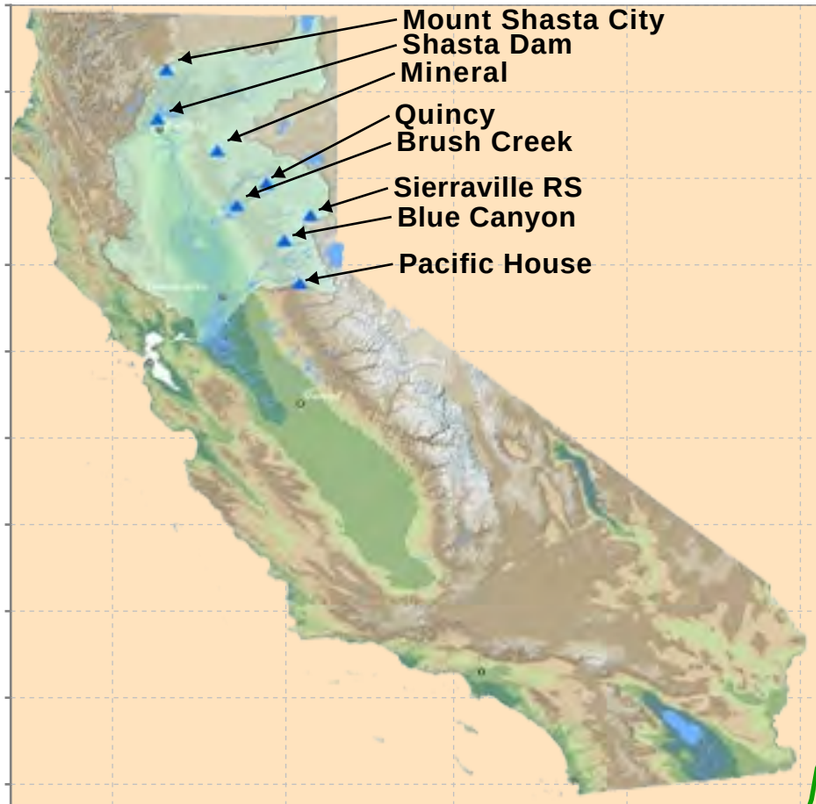
(a) Delta conveyance technical/policy support – reduced reliance guidelines, Water Management Tools amendment; Delta Conveyance Authority JPA amendment, supplemental funding agreements

III. WATER OPERATIONS REPORT

(a) Third driest year on record for the Northern Sierra; second driest 2-year period
(b) Snowpack is a little better than last year, but dry soils will absorb the runoff
(c) Oroville is at 1.48 MAF of storage (54% of historical average); could reach historical low this summer
(d) Minimum exports from the Delta projected to continue
(e) 650,000 AF of storage in the San Luis Reservoir (450,000 of which is carryover water)
(f) There does appear to be enough water in the system to support the existing 5% allocation
(g) Could be significant stress on SWP allocations next year


State Water Contractors Board Meeting
April 15, 2021
N
Trinity Storage
1.31 MAF
Shasta Storage
2.39 MAF
Keswick Release
6,000 cfs
Sacramento River
Oroville Storage
1.48 MAF
Oroville
Releases
1,300 cfs
Folsom Storage
0.36 MAF
Nimbus
Release
2,000 cfs
Freeport
8,747 cfs
North Bay Aqueduct
Delta
Clifton Court 500 cfs
Jones PP 800 cfs
Vernalis 1,175 cfs
New Melones Storage
1.51 MAF
Net Delta Outflow
7,300 cfs
San Joaquin River
DMC
San Luis:
SWP 0.65 MAF
CVP 0.42 MAF
Total 1.08 MAF
California Aqueduct
Pyramid
Castaic
Silverwood
Perris
Southern Reservoirs Storage
0.62 MAF
Data Compiled on:
4/14/2021
O&M, WMB

Northern Sierra Precipitation: 8-Station Index, April 13, 2021



Percent of Average for this Date: 50%

2016-2017 Daily Precip (wettest) 94.7

1982-1983 (2nd wettest) 88.5

2018-2019 Daily Precip 70.7

Average (1966-2015) 51.8

2017-2018 Daily Precip 41.0

2014-2015 Daily Precip 37.2

31.7

2019-2020 Daily Precip

Current: 22.4

1976-1977(2nd driest & driest thru Aug) 19.0

Cumulative Daily/Monthly Precipitation (inches)

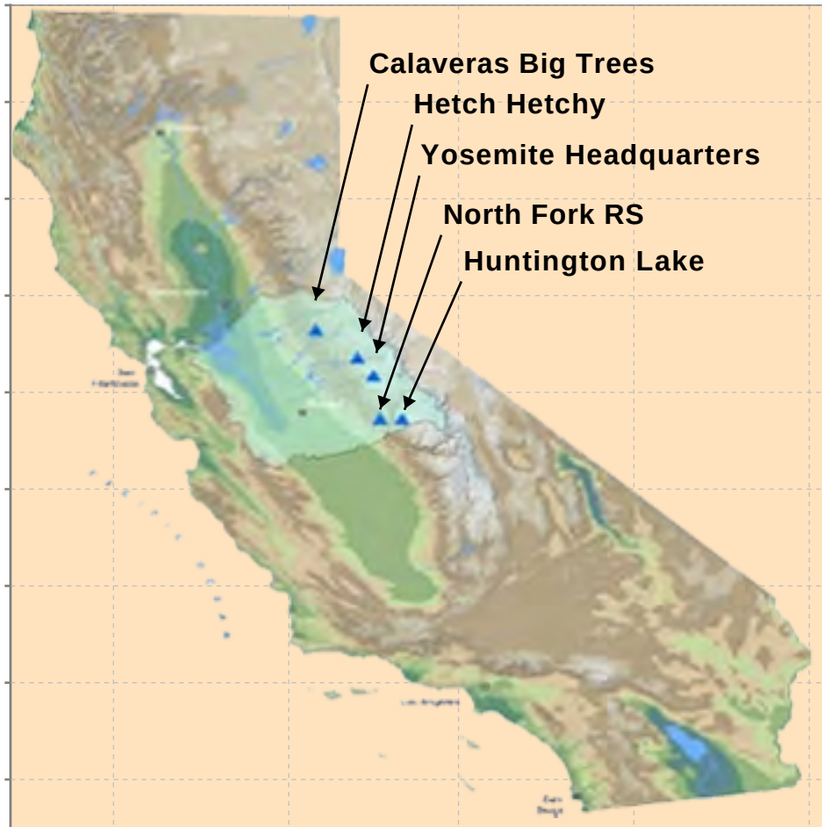
Total Water Year Precipitation

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

Oct 1 Nov 1 Dec 1 Jan 1 Feb 1 Mar 1 Apr 1 May 1 Jun 1 Jul 1 Aug 1 Sep 1 Oct 1

Water Year (October 1 - September 30)

San Joaquin Precipitation: 5-Station Index, April 13, 2021



Percent of Average for this Date: 51%

1982-1983 (wettest) 77.4

2016-2017 Daily Precip (2nd wettest) 72.7

2018-2019 Daily Precip 50.0

Average (1966-2015) 40.2

2017-2018 Daily Precip 29.7

2019-2020 Daily Precip 24.6

Current: 17.7

2014-2015 Daily Precip 19.0

1976-1977(2nd driest & driest thru Aug) 15.4

Cumulative Daily/Monthly Precipitation (inches)

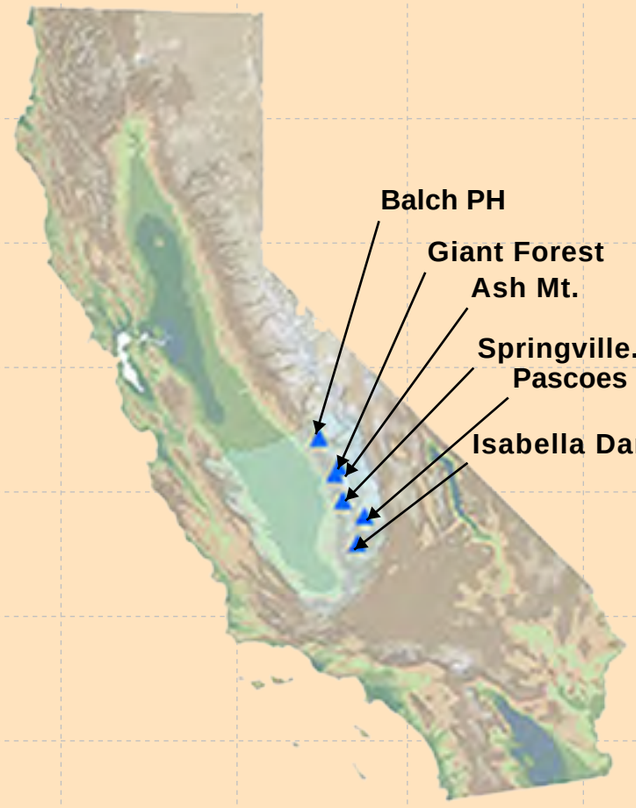
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90

Oct 1 Nov 1 Dec 1 Jan 1 Feb 1 Mar 1 Apr 1 May 1 Jun 1 Jul 1 Aug 1 Sep 1 Oct 1

Water Year (October 1 - September 30)

Total Water Year Precipitation

Tulare Basin Precipitation: 6-Station Index, April 13, 2021



Percent of Average for this Date: 37%

1968-1969 (Wettest) 56.3
1982-1983 (2nd wettest) 56.2
46.9
2016-2017 Daily Precip
2018-2019 Daily Precip 36.8
Average (1966-2015) 28.8
2019-2020 Daily Precip 18.6
2017-2018 Daily Precip 17.9
2014-2015 Daily Precip 13.5
Current: 9.4
10.9
1976-1977 Daily Precip (Driest)

Cumulative Daily/Monthly Precipitation (inches)

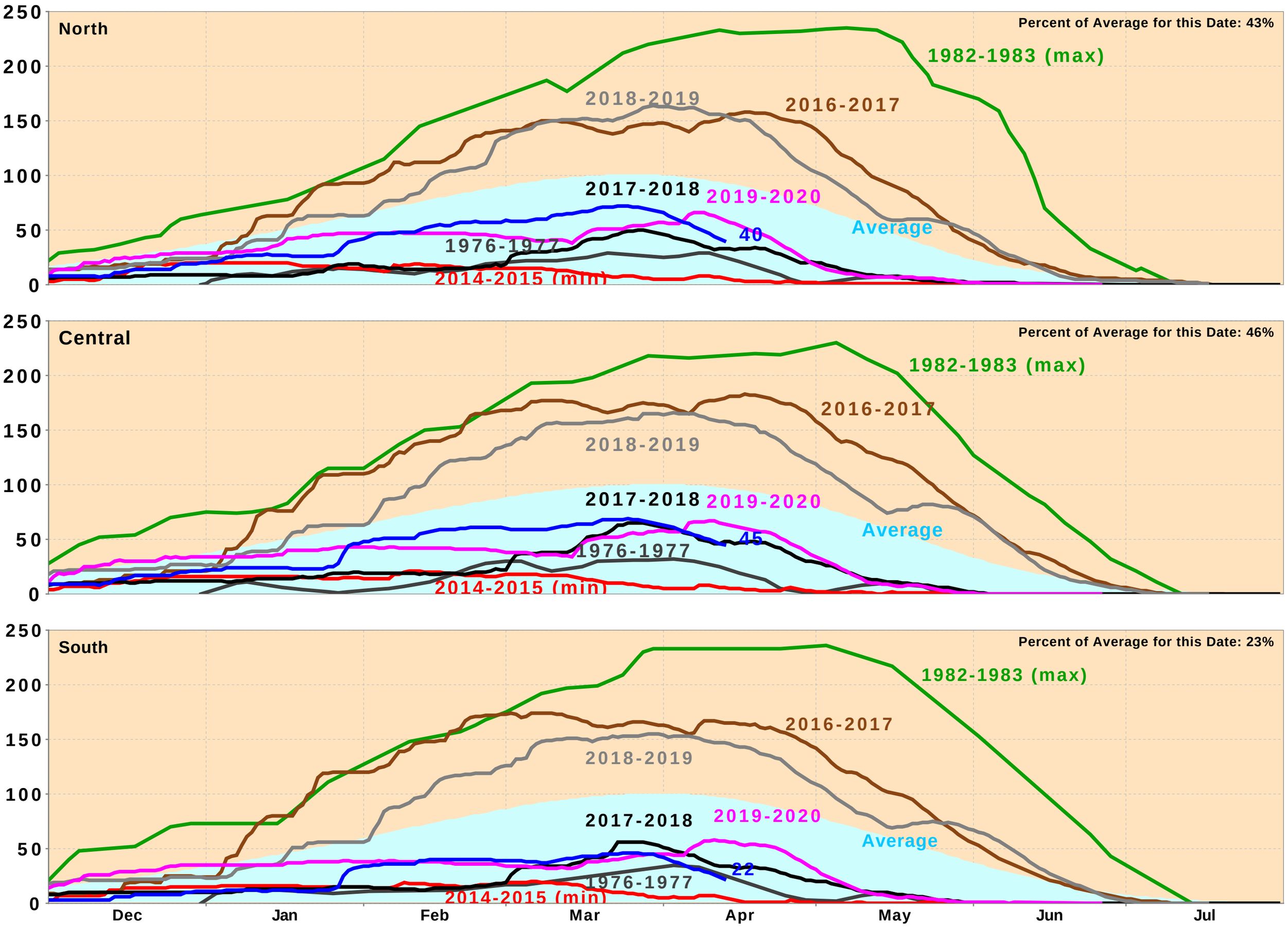
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

Oct 1 Nov 1 Dec 1 Jan 1 Feb 1 Mar 1 Apr 1 May 1 Jun 1 Jul 1 Aug 1 Sep 1 Oct 1

Water Year (October 1 - September 30)

Total Water Year Precipitation

California Snow Water Content, April 13, 2021, Percent of April 1 Average

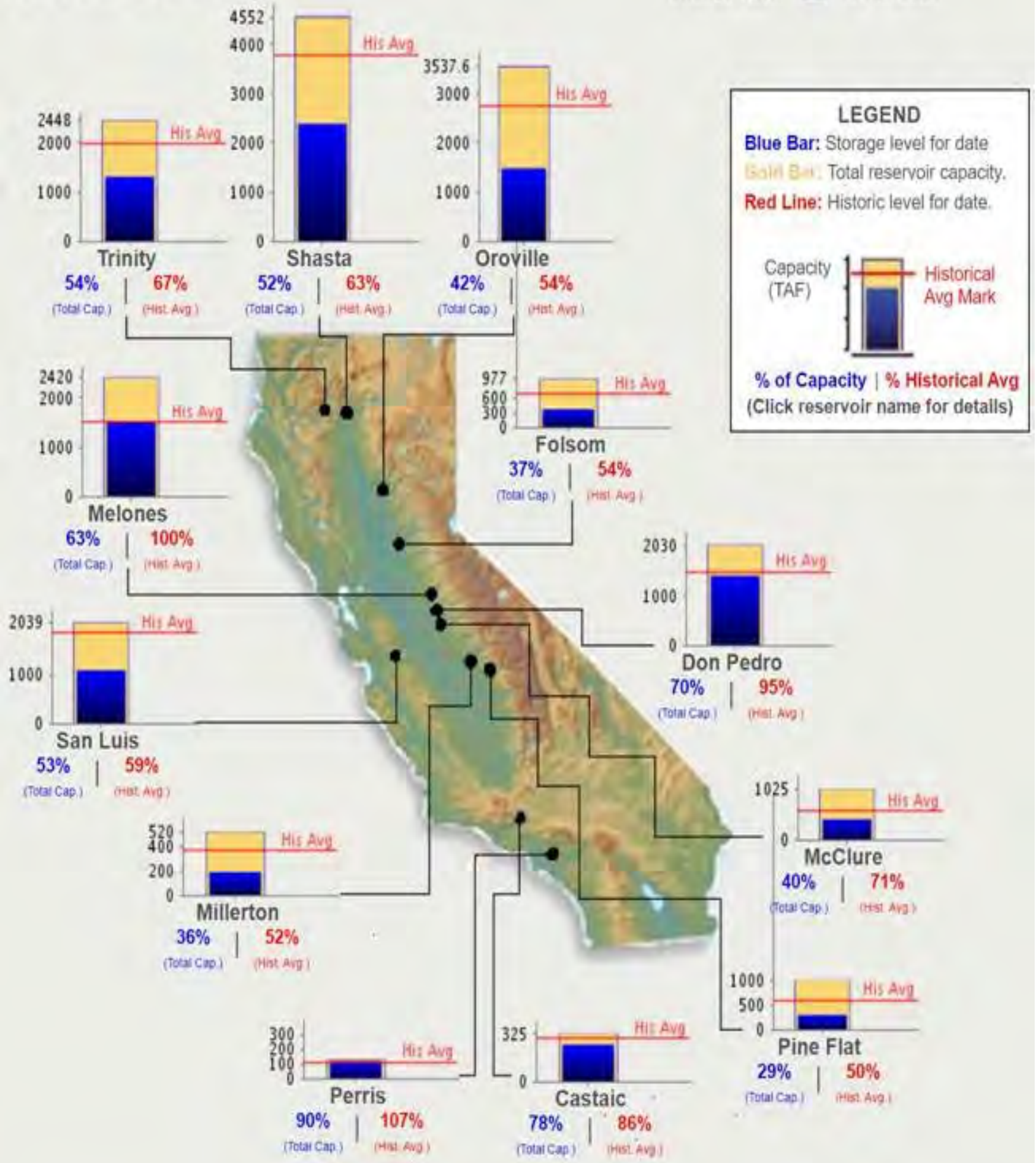


Statewide Percent of April 1: 38%

Statewide Percent of Average for Date: 40%

Data as of Midnight: 13-Apr-2021

Change Date: 13-Apr-2021



LEGEND

Blue Bar: Storage level for date

Solid Bar: Total reservoir capacity.

Red Line: Historic level for date.

% of Capacity | **% Historical Avg**

(Click reservoir name for details)

Click for printable version of current data.

Report Generated: 14-Apr-2021 11:14 AM