



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

About Desert Water Agency:

Desert Water Agency operates independently of any other local government. Its autonomous elected board members are directly accountable to the people they serve. The Agency is one of the desert's two State Water Contractors and provides water and resource management, including recycling, for a 325-square-mile area of Western Riverside County, encompassing parts of Cathedral City, Desert Hot Springs, outlying Riverside County and Palm Springs.

1. **PLEDGE OF ALLEGIANCE**
2. **EMPLOYEE INTRODUCTIONS** KRAUSE
3. **APPROVAL OF MINUTES – May 1, 2018** CIOFFI
4. **GENERAL MANAGER'S REPORT** KRAUSE
5. **COMMITTEE REPORTS –**
 - A. Human Resources – April 30, 2018 EWING
 - B. Conservation & Public Affairs – April 30, 2018 CIOFFI
6. **PUBLIC INPUT:**

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. **SECRETARY-TREASURER'S REPORT - APRIL** BLOOMER
8. **ITEMS FOR ACTION**
 - A. Request Authorization to Execute Land Lease Agreement with Wildcat I Energy Storage, LLC JOHNSON
 - B. Request Board Action Regarding Claim Filed by Raymundo Gonzalez KRAUSE
 - C. 2018/2019 Groundwater Replenishment Assessments KRAUSE
9. **ITEMS FOR DISCUSSION**
 - A. April Water Use Reduction Figures KRAUSE
 - B. Projected Water Supply & Demand Report (PPT presentation) KRAUSE
 - C. Directors' Report on ACWA Conference CIOFFI, STUART
10. **DIRECTORS COMMENTS AND REQUESTS**
11. **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
 - B. **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. County of Riverside, et al
 - C. **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

D. CONFERENCE WITH REAL PROPERTY NEGOTIATORS

Pursuant to Government Code Section 54956.8

Property: APN 677-420-024

Agency Negotiators: Mark S. Krause, General Manager, Steve Johnson, Assistant General Manager

Negotiating Parties: City of Palm Springs

Under Negotiation: Price and terms

12. RECONVENE INTO OPEN SESSION – REPORT FROM CLOSED SESSION

13. ADJOURN

Upon request, this agenda will be made available in appropriate alternative formats to persons with disabilities, as required by Section 202 of the Americans with Disabilities Act of 1990. Any person with a disability who requires a modification or accommodation in order to participate in a meeting is asked to contact Desert Water Agency's Executive Secretary, at (760) 323-4971, at least 48 working hours prior to the meeting to enable the Agency to make reasonable arrangements. Copies of records provided to Board members which relate to any agenda item to be discussed in open session may be obtained from the Agency at the address indicated on the agenda.

Desert Water Agency REGULAR BOARD MEETING May 15, 2018

The following employees are scheduled to attend and be introduced to the Board of Directors at the May 15, 2018 Board Meeting:

Name	Date Employed	Classification/Department
Chris Dolan	October 16, 2017	Snow Creek Security
Cleo Cortina	December 11, 2017	Equipment Operator I
Kyle Finch	January 16, 2018	Water Service Worker I
Elmer Sandoval	January 16, 2018	Water Service Worker I

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

3

May 1, 2018

DWA Board: James Cioffi, President) **Attendance**
Joseph K. Stuart, Vice President)
Kristin Bloomer, Secretary-Treasurer)
Craig A. Ewing, Director)

Absent: Patricia G. Oygur, Director)

DWA Staff: Mark S. Krause, General Manager)
Steve Johnson, Asst. General Manager)
Martin S. Krieger, Finance Director)
Sylvia Baca, Asst. Secretary of the Board)
Ashley Metzger, Outreach & Cons. Mgr.)
Kris Hopping, Human Resources Manager)
Esther Saenz, Accounting Supervisor)

Consultant: Michael T. Riddell, Best Best & Krieger)

Public: David Freedman, P.S. Sustainability Comm.)

18093. President Cioffi opened the meeting at 8:00 a.m. and asked everyone to join Secretary-Treasurer Bloomer in the Pledge of Allegiance. **Pledge of Allegiance**

18094. President Cioffi called for approval of the April 17, 2018 Regular Board meeting minutes. He noted a correction to the vote on Page 8893; Director Ewing dissented. **Approval of 04/17/18 Regular Board Mtg. Minutes**

Director Ewing moved for approval with the correction noted. After a second by Secretary-Treasurer Bloomer, the minutes were approved as written (Director Oygur absent).

18095. President Cioffi called upon General Manager Krause to provide an update on Agency operations. **General Manager's Report**

Mr. Krause stated on April 16 at 7:30 p.m. stand-by responded to a hit fire hydrant on Mesquite Ave. The hydrant bury was replaced and the hydrant was put back into service. The water loss was from a 6-inch opening, which ran for approximately 20 minutes. A police report was made. **Hit Fire Hydrant – Mesquite Ave.**

Mr. Krause stated on April 17 at 1:00 p.m. Construction responded to a hit fire hydrant on Beverly Drive. The bolts and gasket were replaced and the hydrant put back in service. The water loss was from a 6-inch open fire hydrant bury which ran for approximately 20 minutes. A police report was made.

GM Report
(Cont.)

Hit Fire Hydrant –
Beverly Dr.

Mr. Krause stated on April 17 a 2-inch backflow was stolen at 1849 S. El Cielo Rd. The HOA president gave permission to replace the backflow. Staff replaced it and put it back into service. There was no water loss. The HOA president said he would file a police report.

Stolen Backflow – S. El
Cielo Rd.

Mr. Krause stated on April 17, the City of Palm Springs notified the Agency that someone damaged their backflow due to an attempted theft on South Canyon Sands Dr. The City gave permission to replace the backflow and they would follow up with a police report. There was no water loss.

Damaged Backflow –
S. Canyon Sands Dr.

Continuing his report, Mr. Krause stated on April 24, Staff received notice from DWR that the Agency's water allocation will be increased from 20% to 30%, an increase of 5,575-acre feet. An additional allocation increase of 5% to 10% is expected Mid-May.

SWP Allocation

Mr. Krause noted if allocations only increase to 35%, then MWD plans to deliver 105,000 total acre-feet of wet water to Whitewater, with deliveries of 250,000 cfs through June 30 and increasing to 600 cfs through August. However, if allocations increase to 40%, then MWD plans to deliver 145,000 total acre-feet through August, with ramp down flows expected in September.

2018 Imported Water
Delivery Update

Mr. Krause explained that project construction is completed for the Perris Dam. A detailed summary of partial contract payments is provided along with a list of contract line item adjustments. The final project cost will be reported when it becomes available.

Perris Dam Seismic
Remediation Update

Mr. Krause provided an update on the Sites Reservoir Project public benefit ratio scores.

Sites Reservoir Project
Update

Concluding his report, Mr. Krause noted the current system leak data, and meetings and activities he participated in during the past several weeks.

System Leak Data,
General Manager's
Meetings & Activities

18096. President Cioffi opened the meeting for public input.

Public Input

David Freedman thanked the Board and staff for including him on the recent CRA/Hoover Dam trip.

David Freedman

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

Public Input
(Cont.)

18097. President Cioffi called upon Agency Counsel Riddell to present the request for adoption of Resolution No. 1177 Adopting Revised California Environmental Quality Act (CEQA) Guidelines.

Items for Action:
Request Adoption of
Reso. No. 1177
2018 CEQA Guidelines

Mr. Riddell explained as a local governmental entity, the Agency is required by law to adopt guidelines implementing CEQA. As the law changes, the Agency's guidelines must be revised to maintain consistency. He noted changes of interest to the Agency.

Director Ewing made a motion to adopt Resolution No. 1177 Amending and Adopting Local Guidelines for Implementing the California Environmental Quality Act. After a second by Vice President Stuart, the motion carried unanimously (Director Oygur absent).

RESOLUTION NO. 1177
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.)

Resolution No. 1177
Adopted

18098. President Cioffi called upon Finance Director Krieger to present staff's request for Board adoption of Resolution No. 1178 Establishing Accounts with U.S. Bank.

Request Adoption of
Reso. No. 1178
Establishing Accounts
with U.S. Bank

Mr. Krieger noted that DWA established banking services with Union Bank in 1992 and has had an excellent relationship for the last 26 years. However, due to recent increased charges (75% increase effective January 1, 2018), reduced customer service and a shift in Union Bank's business model, it has become necessary to terminate the relationship with them. Through contacts made at a finance conference, staff learned that 2 former Union Bank managers are now working at U.S. Bank. Staff engaged in several meetings regarding services they could provide the Agency. U.S. Bank has offered the same and/or enhanced services currently with Union Bank, locking in the bank fees for 5 years at the previous rates and pay all costs associated with transitioning to U.S. Bank. Staff recommends approval of Resolution No. 1178. Once adopted and approval is granted, it will take 30 – 90 days for the transition.

President Cioffi made a motion to adopt Resolution No. 1178 Establishing Accounts with U.S. Bank. Vice President Stuart seconded the motion, which carried unanimously (Director Oygur absent).

RESOLUTION NO. 1178
A RESOLUTION OF THE BOARD OF DIRECTORS
OF DESERT WATER AGENCY CONFIRMING
THE ESTABLISHMENT OF A CHECKING ACCOUNT
OR ACCOUNTS WITH U.S. BANK AND
PROVIDING FOR WITHDRAWALS THEREFROM

Action Items:
(Cont.)

Request Adoption of
Reso. No. 1178
Establishing Accounts
with U.S. Bank

18099. President Cioffi called upon Assistant General Manager Johnson to presents staff's request for the award of contract for construction of 2017/2018 replacement pipelines (Via Miraleste, Cottonwood Rd., Chuckwalla Rd., Chaparral Rd., Ramon Rd., Francis Dr., Starr Rd., Racquet Club Rd., Laurel Cir., Sycamore Cir., Desert Willow Cir., Desert Holly Cir.)

Recommend Contract
Award – 2017/18
Replacement Pipelines

Mr. Johnson stated that three bids were received on April 17, with the lowest responsive bid from Borden Excavating, Inc. The 2017/18 Capital Improvement Budget includes Work Order No. 17-111—12, -08 in the amount of \$3,447,000 for project engineering, overheads, construction and inspection. The Agency anticipates total project costs to be 7% over budget. To stay within budget, staff recommends eliminating 2 streets, Laurel Circle and Sycamore Circle from the scope of work. This will reduce the contract by \$249,913 and inspection by \$20,000.

Mr. Krause stated at the April 30 Conservation & Public Affairs Committee meeting, due to the low turf buy back rebate requests, it was suggested to transfer money to the 2017/18 Replacement Pipelines project.

President Cioffi stated the Conservation & Public Affairs Committee had concurred with Mr. Krause's suggestion.

President Cioffi made a motion to approve the award of contract to Borden Excavating, Inc. for construction of the 2017/18 replacement pipelines (including all streets as indicated). Vice President Stuart seconded the motion, which carried unanimously (Director Oygar absent).

18100. President Cioffi asked Agency Counsel Riddell to provide a report on the April 19, 2018 meeting of the Board of Directors of the State Water Contractors, Inc.

Discussion Item:
SWC Mtg. 04/19/18

Mr. Riddell reported on the following items: 1) Closed Session, 2) Board Action Items, 3) Water Supply Report, 4) General Manager's Report, 5) Water Supply Objectives Report, 6) State and Federal Contractors Water Agency and State Water Project Contractors Authority; and 7) Cal Water Fix Financing.

18101. President Cioffi noted that Board packets included Outreach & Conservation reports for April.

Outreach & Conservation-April 2018

18102. Vice President Stuart noted his participation on the CRA/Hoover Dam trip and thanked MWD and staff.

Directors Comments/Requests

President Cioffi and Secretary-Treasurer Bloomer also noted their attendance at the CRA/Hoover Dam trip.

CRA/Hoover Dam Trip Attendance

18103. At 9:00 a.m., President Cioffi convened into 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; (B) Existing Litigation, pursuant to Government Code Section 54956.9 (d) (1), ACBCI vs. County of Riverside, et al; and (C) Existing Litigation, pursuant to Government Code Section 54956.9 (d) (1), Mission Springs Water District vs. Desert Water Agency.

Closed Session:

A. Existing Litigation – ACBCI vs. CVWD, et al.
B. Existing Litigation – ACBCI vs. Riverside County
C. Existing Litigation – MSWD vs. DWA

18104. At 10:45 a.m., President Cioffi reconvened the meeting into open session and announced there was no reportable action.

Reconvene –No Reportable Action

18105. In the absence of any further business, President Cioffi adjourned the meeting at 10:46 a.m.

Adjournment

James Cioffi, President

ATTEST:

Kristin Bloomer, Secretary-Treasurer

GENERAL MANAGER'S REPORT MAY 15, 2018

Leak – 2665 E. Palm Canyon Dr.

On April 30 at 1:30 a.m., stand-by personnel responded to a large leak at 2665 E. Palm Canyon Drive. It was a 2-inch polyethylene service line that split open a 3-foot section, undermining the road. The water main had to be shut down and a 2-inch piece of copper was sectioned in. The cleanup was extensive, running into the following day.



Leak
(Cont.)



Leak – Easmor Circle

On May 1 at approximately 10:30 p.m., stand-by responded to a large leak on Easmor Circle. There were 2 blowouts about a half-inch each. The water main had to be throttled down and repairs were made.



Water Deliveries Update

MWD is currently delivering 250 cfs to Whitewater. The water being delivered May through June is for CVWD's 35,000 AF QSA water. If the state allocation increases to 35% (currently it is at 30%), SWP Table A water will be delivered July through August (Approximately 19,500 AF for DWA plus 332 AF of Yuba transfer).

If the allocation increases to 40%, CRA deliveries will continue through September, and are projected to exceed the 35 TAF and SWP exchange obligations by approximately 30,000 AF. The Agency's SWP exchange volume would be 22,632 AF (22,300 AF of Table A and 332 AF of Yuba).

Whitewater Hydro was scheduled to start up on Monday May 14. The start-up has been postponed due to some silt issues at the CVWD intakes.

SWP May 2018 Water Quality Report

The attached State Water Project Operations, Maintenance & Engineering Sub-Committee Water Quality Report is for information purposes. The State Water Supply has different water quality issues than the Colorado River Water Supply that the Agency should be aware of when comparing water supply Quality.

As you can see in the attached report, there are salts in this water supply (TDS/uS/cm)), there is bromide when mixed with chlorine significantly increases the formation of carcinogenic disinfection by-products (DBPs), this is also true of total organic carbon, taste and odor can be a problem as well. Cyantoxins can also form during the warm months of the year.

TDS or Total Dissolved Solids is a measure of the total ions in solution. EC is actually a measure of the ionic activity of a solution in term of its capacity to transmit current. In dilute solution, TDS and EC are reasonably comparable. The TDS of a water sample based on the measured EC value can be calculated using the following equation:

$$\text{TDS (mg/l)} = 0.5 \times \text{EC (dS/m or mmho/cm)} \text{ or } = 0.5 * 1000 \times \text{EC (mS/cm)}$$

The above relationship can also be used to check the acceptability of water chemical analyses. It does not apply to wastewater.

As the solution becomes more concentrated (TDS > 1000 mg/l, EC > 2000 ms/cm), the proximity of the solution ions to each other depresses their activity and consequently their ability to transmit current, although the physical amount of dissolved solids is not affected. At high TDS values, the ratio TDS/EC increases and the relationship tends toward TDS = 0.9 x EC.

**OME Committee Meeting
May 3, 2018**

Water Quality Report

Tanya Veldhuizen, Chief, Water Quality & Special Projects Section
O&M-Environmental Assessment Branch

Water Quality Autostation Outages

NBA Barker Slough: EC data are currently unavailable while FD staff troubleshoot problems with the data.

Dyer (DYR): Station has been down due to ongoing work at the reservoir.

Devil Canyon 2nd Afterbay: This station is experiencing ongoing communications problems. A new modem or alternate communications are necessary.

Electrical Conductivity

Electrical conductivity in South Delta exports has been relatively stable over the past week:
Banks Pumping Plant. EC averaged 229 uS/cm over the past week (4/23-4/29).

EC began increasing in SLFD over the week:
Check 13 EC averaged 405 uS/cm on 4/29 compared to 318 uS/cm on 4/23.

EC did not show a clear trend in SFD this week:
Check 41 EC was relatively stable and averaged 342 uS/cm over the past week (4/23-4/29).
Check 66 EC decreased over the week, averaging 359 uS/cm on 4/29 compared to 454 uS/cm on 4/23

Bromide

Bromide levels at Banks remained relatively stable during the week.

Average bromide concentrations at Banks Pumping Plant was 0.08 mg/L over the past week (4/23-4/29).

Total Organic Carbon

TOC levels have been relatively stable over the past week. The average TOC concentration at Banks Pumping Plant during the week was 4 mg/L

Turbidity

This week average turbidity in the California Aqueduct ranged from 3.4 NTU (Teerink Pumping Plant) to 8.5 NTU (Banks Pumping Plant).

Average turbidity at Castaic Lake Outlet during the week was 3.8 NTU.

Turn-ins

Several of the SJFD turn-ins have been operating since early March. We have been monitoring the water quality of the water being pumped in and monitoring WQ changes in the Aqueduct. We have not found any significant effects to WQ from turn-ins. Westlands Water District will not be turning-in this year.

Taste and Odor

Taste and odor concentrations have been low in the Delta and San Luis Field Division samples, ranging from ND to 4 ng/L (4/2-4/23). The most recent samples detected MIB concentrations of 1 ng/L or less, and geosmin concentrations of 4 ng/L or less.

In Southern Field Division samples, T&O concentrations have been variable during the past month (4/2-4/24) as shown in the table below.

Site	MIB (ng/L) range	Geosmin (ng/L) range
East Branch Aqueduct	2-8	2-24
Castaic Lake	ND	ND-3
Pyramid Lake	ND-1	ND-4
Silverwood Lake	2-4	7-11
Lake Perris	ND-3	ND-21

Copper treatments for T&O occurred in Pools 62-65 on April 18 and on March 30 at Lake Perris. Captain (chelated copper, liquid formulation) was applied in the East Branch Aqueduct pools. Copper sulfate was applied by helicopter in Perris.

Algal Bloom and Aquatic Weed Management

Cyanotoxin Monitoring

Cyanotoxin monitoring began the week of April 23. Microcystins were detected at the Pyramid Lake Outlet station (1 m) at 0.23 ng/mL, which is below health advisory thresholds. All other SWP sites were either non-detect or did not have potential toxin producing cyanobacteria present, and therefore toxin analysis was not performed.

Sampling will occur again the week of May 21. The sampling frequency will then be once weekly at recreation sites and twice monthly at most water quality sites (exceptions: Barker Slough and Del Valle remain at once monthly frequency).

Aquatic Weed & Algae Management

SBA will be treated with copper sulfate on Friday 5/4/18 to reduce filter clogging algae.

O'Neill Forebay and Gianelli intake channel are *tentatively* scheduled for treatment on May 10 to control aquatic weeds. Herbicide will be Aquathol k (endothall).

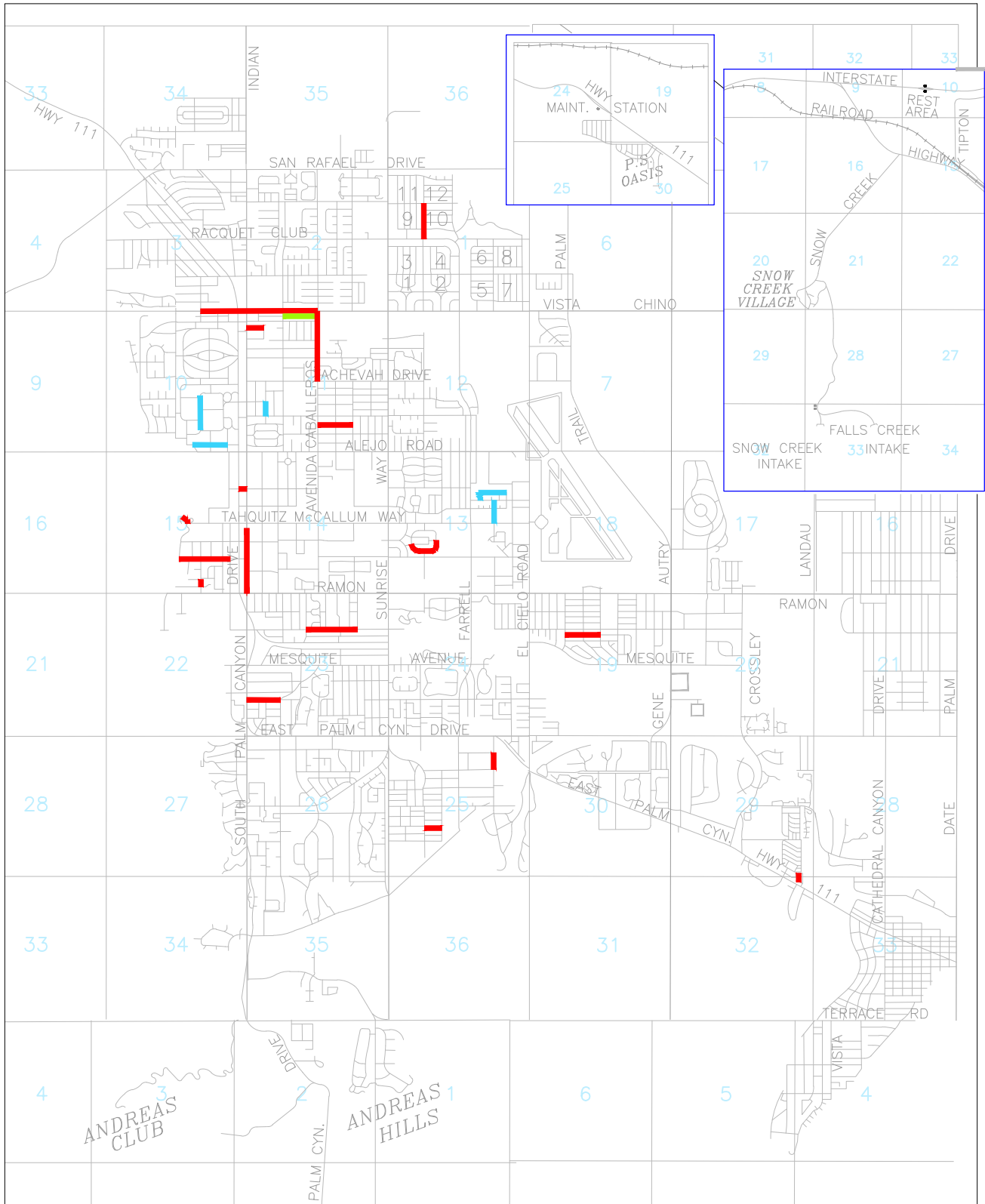
CCF and Banks PP intake channel are scheduled for treatment on June 29 to control aquatic weeds. Herbicides will be chelated copper and Aquathol k (endothall).

The report on Endothall concentration decline following treatments was provided to Eric Chapman on May 2. It was discussed at last week's MWQI RTDF meeting.

2017 Sustainable Groundwater Planning Grant for the San Gorgonio Pass Sub-basin

Three months ago the San Gorgonio Pass Ground Water Sub-basin GSA's applied for grant funding to install monitoring wells at three new monitoring sites for inter-basin monitoring (San Gorgonio Pass Sub-basin and Indio Sub-basin) to support understanding of inter-basin sub-flows in areas containing severely disadvantaged communities. Additionally, secure funding to develop a robust Groundwater Sustainability Plan for the San Gorgonio Pass Sub-basin, in coordination with all Groundwater Sustainability Agencies in the Sub-basin, and to minimize the associated fiscal impacts on DACs, SDACs and EDAs in the Sub-basin.

On April 4, 2018, DWR announced the final awards to 78 grant applicants totaling \$85.8 million for the SGWP Grant Program Solicitation. The San Gorgonio Pass groundwater sub-basin GSA's were awarded \$2,000,000. Half of the grant funding will go to the installation of the monitoring wells and the other half to developing a groundwater sustainability plan. There will not be any matching funding required due to the DAC's served in this sub-basin.



SYSTEM LEAKS

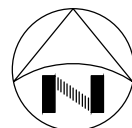
(Period beginning April 23, 2018 thru
May 8, 2018)

DESERT WATER AGENCY
PALM SPRINGS, CALIFORNIA

LEGEND

- LEAK(S) RECORDED
- LEAK(S) RECORDED;
INCLUDED IN 2017/18
REPLACEMENT PIPELINES
- LEAK(S) RECORDED;
INCLUDED IN PROPOSAL
FOR 2018/19
REPLACEMENT PIPELINES

DWG. BY
SR



DATE
5/18

SCALE
NTS

EXHIBIT
"A"

SYSTEM LEAK DATA		
(PERIOD BEGINNING APRIL 23, 2018 THRU MAY 8, 2018)		
STREET NAME	QUARTER SECTION	NUMBER OF LEAKS
VISTA CHINO (20")	4410NE	5
CALLE SAN ANTONIO	4519NW	5
EASMOR CIR	4413NE	4
MISSION RD (5")	4410SE	4
PLAIMOR DR	4413NE	3
COTTONWOOD RD	4411NW	2
AVENIDA PALOS VERDES	4411SW	2
SONORA RD	4423SE	2
VIA ALTAMIRA	4411SE	2
LOUELLA RD	4413NE	1
CHINO DR	4410SE	1
PATENCIO RD	4415SE	1
PALISADES DR	4415NE	1
PASEO GRACIA	4413SW	1
BARISTO RD	4415SE	1
SHOSHONEAN TR	4425SW	1
ARABY DR	4425NE	1
INDIAN CANYON DR	4414SW	1
AVENIDA CABALLEROS (20")	4411NW	1
STEVENS RD	4411NW	1
SUNNY DUNES RD	4423NE	1
AMADO RD	4415NE	1
CERRITOS RD	4401NW	1
JOHNSON ST	4532NE	1
TOTAL LEAKS IN SYSTEM:		44

* Streets highlighted in green are scheduled to be replaced as part of the
2017/2018 Replacement Pipeline Project

* Streets highlighted in blue are being proposed as part of the
2018/2019 Replacement Pipeline Project

General Manager's Meetings and Activities:

Meetings:

05/01/18	DWA Bi-Monthly Board Meeting	DWA
05/01/18	Mission Creek Sub-basin GM's Quarterly Meeting	MSWD
05/03/18	San Geronio Pass GSA's MOU & By-laws	SGPWA
05/07/18	ACWA Conference	SAC
05/08/18	ACWA Conference	SAC
05/09/18	ACWA Conference	SAC
05/10/18	DWA Emergency Evacuation Drill	DWA
05/11/18	Update with Kris Polly	Conf. Call
05/14/18	DWA/CVWD/MWD Exchange Agreement Negotiations	BBK Ont.
05/14/18	Update with Bob Reeb	Conf. Call
05/14/18	Staff Meeting/I.S. Meeting/S.C. Security Meeting	DWA
05/14/18	PlanetBid Meeting	DWA

Activities:

- 1) SGMA – Annual Alternative GW Sustainability Plan Update Due in April 2018
- 2) E-Billing – Implementing customer payment history capabilities
- 3) E-Billing - Implementing Customer One Time Payment Option
- 4) Outreach Talking Points – KESQ
- 5) Snow Creek Hydro SCE contract extension – ongoing
- 6) Whitewater Hydro – Facility Bypass Pipeline
- 7) State and Federal Contractors Water Authority and Delta Specific Project Committee (Standing)
- 8) MSWD Settlement Agreement and MOA from Mediation
- 9) ACBCI Section 14 Facilities & Easements
- 10) Lake Oroville Spillway Damage
- 11) Replacement Pipelines 2017-2018
- 12) CWF – Phasing Concepts
- 13) DWA/CVWD/MWD Operations Coordination/Article 21/Pool A/Pool B/Yuba Water
- 14) DWA/CVWD/MWD Agreements Update
- 15) SGMA Alternative Plans and Bridge Documents
- 16) SWP 2018 Water Supply
- 17) ACBCI Law Suits
- 18) Lake Perris Dam Remediation
- 19) Section 14 Pipeline Easements
- 20) DOI Regulation
- 21) Repair of Facility Access Roads Damaged in the September 10 Storm (Araby)
- 22) Whitewater Hydro Operations Coordination with Recharge Basin O&M
- 23) Multi-Agency Rate Study
- 24) SGMA Tribal Stakeholder Meetings
- 25) Whitewater Spreading Basins – BLM Permits
- 26) Lake Perris Dam Seepage Recovery Project Participation

Activities:
(Cont.)

- 27) Cal Waterfix Cost Allocation
- 28) DWA Surface Water Filtration Feasibility Study
- 29) Modification of our CVRWMP Boundary
- 30) MSWD Mediation
- 31) Review Documents for MSWD Public Records Act Request
- 32) SB1464 - Water Conservation Tax Parity Act (Conservation Rebate Tax)
- 33) CRA & SWP Tours 2018
- 34) 3M Glass Shield
- 35) Snow Creek Gate Locks
- 36) MCSB Delivery Updates
- 37) DWA SWP Contract Amendment No. 20

Minutes
Human Resources Committee Meeting
April 30, 2018

Directors Present: Craig Ewing, James Cioffi

Staff Present: Mark Krause, Steve Johnson, Martin Krieger, Kris Hopping

1. Discussion Items

A. Review benefits offered to current DWA Employees

The Committee discussed the current benefit package offered to DWA employees and their dependents. It was agreed that there was a need to bring the DWA benefit package up to industry standard. This should result in an increase in employee retention and improvement in employee morale.

B. Discuss DWAEA negotiations and proposed changes to benefits cost sharing

After discussion, the Committee directed the General Manager to continue negotiations with the DWA Employees Association and authorized the proposed changes to the benefits package offered to current employees.

2. Other - None

3. Adjourn

Minutes Conservation & Public Affairs Committee Meeting April 30, 2018

Directors Present: Jim Cioffi, Craig Ewing

Staff Present: Mark Krause, Ashley Metzger

1. Discussion Items - Outreach

A. Rate Increase Outreach

The Committee directed Staff to notify customers of the pending rate increase via bill insert, the Agency website and social media.

B. Help2Others Outreach

The Committee also asked staff to explore using a contribution from the last fees collected to support the Help2Others program and to reach out more heavily on the availability of the program.

C. CV Water Counts Program Recap

Staff informed the Committee about the Gold Addy Award that the CV Water Counts Campaign won and the success of the program to date. Staff noted that the Agency intends to continue participating in the program.

D. Sponsorship Recommendations

The Committee reviewed the sponsorship list and suggested that the Agency remain open to relevant opportunities that arise. Director Ewing suggested looking at the fine arts at PSHS instead of the Athletics Department and consider supporting relevant Academies, like the REAL Academy in Desert Hot Springs.

E. FY 2018/19 Outreach Goals

Mrs. Metzger noted that the O&C department would focus on enhancing educational outreach; developing a functional communications plan; emphasize the value of water/infrastructure investments; and promoting conservation programs/targeting large users. Director Ewing noted that weaving in a sustainability message as much as possible would be beneficial.

F. FY 2018/19 Outreach Budget

The Committee reviewed the budget. President Cioffi asked for clarification regarding how the Outreach & Conservation department's staffing was allocated to different accounts.

2. Discussion Items - Conservation

A. Current Year Rebate Spending

Mrs. Metzger updated the committee on which programs were under budget and which were nearing budgeted amounts for FY 2017-18. The Committee asked staff what changes could affect rebate participation.

B. Rebate Adjustments

The Committee directed staff to implement a turf rebate for the coming year at \$300,000 with limits of \$1 for single family homes (owners can also get \$1 from the state), \$2 for HOAs and commercial properties and \$3 for public entities like the City and school districts. The cap for residents would remain at \$1,500 and for all others it would be \$40,000. The Committee directed staff to rebate some of the installation cost of nozzle installation. The Committee also directed staff to remove the cap for \$3,000 toilet replacements for commercial projects and to reach out to small hotels that may be interested in participating.

C. Workshop Offerings

Staff expressed the desire to host more landscape workshops, some in conjunction with Desert Horticultural Society. The next rebate would be in summer for landscapers and property managers. The Committee supported this concept. Director Ewing noted the importance of meeting with professionals and asked the Agency to consider a separate branding for this outreach.

D. Population Efforts

Staff outlined the efforts being made to refine the agency's population data.

E. FY 2018/19 Conservation Goals

Mrs. Metzger noted that the Outreach & Conservation department would focus on increasing rebate participation and hosting more workshops.

F. FY 2018/19 Conservation Budget

The Committee reviewed the budget for conservation and turf (which is a separate account). Since much of the funding for turf was not used this year, the Committee asked staff to redirect some of the budgeted amount for turf rebates to pipeline replacement. The Committee recommended a budget of \$300,000 for turf to be augmented at the discretion of the Board.

3. A. Legislative/Regulatory Update – Mrs. Metzger gave an update on several bills and policy items. She noted that DWA had worked to establish a regional water policy task force made up of the staff members working on legislation/regulation at each water agency. The Committee supported the idea and felt it would allow the Agency and its partners to better utilize their knowledge and resources.

4. Other - None

5. Adjourn

DESERT WATER AGENCY
STATEMENT OF CASH RECEIPTS AND EXPENDITURES

OPERATING ACCOUNT

APRIL 2018

INVESTED
RESERVE FUNDS
\$20,363,980.90

BALANCE	APRIL 1, 2018	(\$838,820.10)	
WATER SALES		\$1,994,822.77	
RECLAMATION SALES		127,415.30	
WASTEWATER RECEIPTS		84,601.38	
POWER SALES		1,415.80	
METERS, SERVICES, ETC.		81,027.00	
REIMBURSEMENT – GENERAL FUND		167,338.42	
REIMBURSEMENT – WASTEWATER FUND		3,702.34	
ACCOUNTS RECEIVABLE – OTHER		18,533.03	
CUSTOMER DEPOSITS – SURETY		10,874.00	
CUSTOMER DEPOSITS – CONST.		81,411.00	
LEASE REVENUE		1,818.44	
INTEREST RECEIVED ON INV. FDS.		71,358.96	
FRONT FOOTAGE FEES		0.00	
BOND SERVICE & RESERVE FUND INT		0.00	
MISCELLANEOUS		9,691.28	
TOTAL RECEIPTS		\$2,654,009.72	
PAYMENTS			
PAYROLL CHECKS		\$350,518.31	
PAYROLL TAXES		150,949.16	
ELECTRONIC TRANSFERS		1,146,625.63	
CHECKS UNDER \$10,000.00		303,246.26	
CHECKS OVER \$10,000.00 – SCH. #1		1,953,288.95	
CANCELLED CHECKS AND FEES		15,743.77	
TOTAL PAYMENTS		<u>\$3,920,372.08</u>	
NET INCOME		(\$1,266,362.36)	
BOND SERVICE ACCOUNT			
MONTHLY WATER SALES		\$0.00	
EXCESS RETURNED BY B/A		\$0.00	
BOND SERVICE FUND			\$0.00
INVESTED RESERVE FUNDS			
FUNDS MATURED		\$3,472,000.00	
FUNDS INVESTED – SCH. #3		1,805,358.96	
NET TRANSFER			\$1,666,641.04 (\$1,666,641.04)
BALANCE	APRIL 30, 2018	(\$438,541.42)	\$18,697,339.86

OPERATING ACCOUNT

SCHEDULE # 1-CHECKS OVER \$10,000

CHECK #	NAME	DESCRIPTION	AMOUNT
117215	ACWA-JOINT POWERS INS AUTHORITY	WORKERS COMPENSATION PREMIUM - JANUARY - MARCH 2018	\$52,549.64
117220	ACWA-JOINT POWERS INS AUTHORITY	PROPERTY PROGRAM RENEWAL BILLING FOR 4/1/18-4/1/19	\$19,900.00
117226	BACKFLOW APPARATUS & VALVE CO	WATER SERVICE SUPPLIES	\$12,556.27
117227	BADGER METER INC	WATER SERVICE SUPPLIES	\$15,416.41
117235	CORE & MAIN LP	WATER SERVICE SUPPLIES	\$18,183.66
117242	ERS	CONTRACT PAYMENT - POTABLE WATER MAINTENANCE	\$345,928.56
117246	FERGUSON WATERWORKS	WATER SERVICE SUPPLIES	\$22,991.69
117294	SOUTHERN CALIFORNIA EDISON CO	POWER	\$164,125.52
117295	CHARLES KUHLMAN	PAYROLL ADVANCE	\$14,493.05
117325	DESERT WATER AGENCY - GENERAL	GROUNDWATER REPLENISHMENT ASSESSMENT - 3RD QTR 2017/18	\$733,619.55
117330	DESERT WATER AGENCY - WASTEWATER	WASTEWATER REVENUE BILLING FOR MARCH 2018	\$85,431.26
117353	BEST BEST & KRIEGER LLP	LEGAL FEES	\$85,007.73
117367	CORE & MAIN LP	WATER SERVICE SUPPLIES	\$42,804.05
117375	DOWN TO EARTH LANDSCAPING	LANDSCAPE MAINTENANCE	\$28,966.94
117384	FERGUSON WATERWORKS	WATER SERVICE SUPPLIES	\$38,445.49
117385	FIESTA FORD LINCOLN CORP	VEHICLE PURCHASE - UNIT #43 (W/O #17-113-M)	\$48,017.32
117391	GREEN TOWNE, INC	DWA PUBLIC RESTROOM CONTRACT PAYMENT (W/O #17-149-M)	\$30,000.00
117400	INLAND WATER WORKS SUPPLY CO	WATER SERVICE SUPPLIES	\$13,768.30
117404	KRIEGER & STEWART INC	ENGINEERING	\$58,854.27
117415	OUTFLOW TECHNOLOGIES	WEB HOSTING & PROGRAMMING	\$15,845.00
117418	PACIFIC RIM FALL PROTECTION	INSTALLATION OF ROOF FALL PROTECTION SYSTEM (W/O #17-146-M)	\$20,164.15
117434	THE SOCO GROUP, INC	FUEL PURCHASES	\$10,587.34
117436	SOUTHERN CALIFORNIA EDISON CO	POWER	\$11,126.36
117440	THATCHER COMPANY OF CALIFORNIA	WATER SERVICE SUPPLIES	\$26,098.89
117447	URETHANE FOAM SPECIALIST INC	URETHANE FOAM ROOF APPLICATION - OPERATIONS CENTER / RECPLANT	\$11,700.00
117456	Z&L PAVING, INC	PAVING	\$26,707.50
		** TOTAL	\$1,953,288.95

**DESERT WATER AGENCY
OPERATING FUND - LISTING OF INVESTMENTS
APRIL 30, 2018**

PURCH DATE	NAME	DESCRIPTION	MATURITY DATE	COST	PAR VALUE	MARKET VALUE	YIELD TO MATURITY	CALLABLE STATUS
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Local Agency Investment Fund

06-30-83	State of California	LAIF	Open	\$ 13,197,339.86	\$ 13,197,339.86	\$ 13,197,339.86	1.730%	
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Certificates of Deposit

Total Certificates of Deposit	\$		\$		\$	
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Commercial Paper

Total Commerical Paper	\$		\$		\$	
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Government Agency

09-20-16	Union Bank	FNMA (Callable 6-20-18)	09-20-19	\$ 1,000,000.00	\$ 1,000,000.00	\$ 984,600.00	1.300%	Quarterly
10-28-16	Union Bank	FHLMC STEP (Callable 7-28-18)	10-28-21	\$ 1,000,000.00	\$ 1,000,000.00	\$ 986,320.00	2.000%	Quarterly
02-28-17	Union Bank	FHLMC (Callable 5-25-18)	02-25-19	\$ 500,000.00	\$ 500,000.00	\$ 496,660.00	1.400%	Quarterly
09-29-17	Union Bank	FHLMC (Callable 6-29-18)	09-29-20	\$ 500,000.00	\$ 500,000.00	\$ 488,785.00	1.700%	Quarterly
01-29-18	Union Bank	FHLB (Callable 1-29-19)	01-29-21	\$ 500,000.00	\$ 500,000.00	\$ 492,240.00	2.200%	Quarterly
02-08-18	Union Bank	FFCB	05-08-19	\$ 1,000,000.00	\$ 1,000,000.00	\$ 996,920.00	2.000%	Bullet
04-17-18	Union Bank	FFCB	04-17-19	\$ 1,000,000.00	\$ 1,000,000.00	\$ 998,190.00	2.150%	Bullet

Total Government Agency	\$	5,500,000.00	\$	5,500,000.00	\$	5,443,715.00
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Weighted Mean YTM 1.761%

TOTAL INVESTED @ 04/30/18	\$	18,697,339.86	\$	18,697,339.86	\$	18,641,054.86
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BALANCE @ 06/30/17	\$	16,124,074.41
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INCREASE (DECREASE)	\$2,573,265.45
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DESERT WATER AGENCY
STATEMENT OF CASH RECEIPTS AND EXPENDITURES

GENERAL ACCOUNT

APRIL 2018

INVESTED
RESERVE FUNDS
\$123,109,080.98

BALANCE APRIL 1, 2018 (\$940,260.68)

* TAXES - RIVERSIDE COUNTY	1,650,600.44
* INTEREST EARNED - INV. FUNDS	240,000.45
GROUNDWATER REPLEN. ASSESSMENT	971,214.06
REIMBURSEMENT - OPERATING FUND	0.00
REIMBURSEMENT - CVWD MGMT	5,029.36
STATE WATER PROJECT REFUNDS	397,341.00
REIMB - CVWD - WHITEWATER HYDRO	0.00
POWER SALES - WHITEWATER	0.00
MISCELLANEOUS	145.00

TOTAL RECEIPTS	\$3,264,330.31
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PAYMENTS

CHECKS UNDER \$10,000.00	5,886.32
CHECKS OVER \$10,000.00 - SCH. #1	5,316,101.20
CANCELLED CHECKS AND FEES	1,000,161.06

TOTAL PAYMENTS	<u>\$6,322,148.58</u>
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NET INCOME	(\$3,057,818.27)
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INVESTED RESERVE FUNDS

FUNDS MATURED	4,779,000.00
FUNDS INVESTED – SCH. #2	<u>1,153,080.55</u>

NET TRANSFER	\$3,625,919.45	(\$3,625,919.45)
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BALANCE APRIL 30, 2018	(\$372,159.50)	\$119,483,161.53
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* INCLUSIVE TO DATE

	TAXES	INTEREST
RECEIPTS IN FISCAL YEAR	\$17,845,339.69	\$1,320,119.43
RECEIPTS IN CALENDAR YEAR	\$11,296,648.16	\$629,625.84

DESERT WATER AGENCY

GENERAL ACCOUNT

SCHEDULE #1-CHECKS OVER \$10,000

CHECK #	NAME	DESCRIPTION	AMOUNT
9029	STATE OF CA. DEPT. OF WATER RESOURCES	STATE WATER PROJECT ENTITLEMENT - JANUARY 2018	\$4,530,885.00
9030	DESERT WATER AGENCY-OPERATING	OP CENTER: CARPET REPLACEMENT PHASE III / LANDSCAPE ROCK	\$15,766.23
9034	STATE OF CA. DEPT. OF WATER RESOURCES	STATE WATER PROJECT - APRIL 2018	\$618,068.00
9035	DESERT WATER AGENCY-OPERATING	P/R & EXP REIMBURSEMENT FOR MARCH 2018	\$151,381.97

** TOTAL

\$5,316,101.20

DESERT WATER AGENCY
GENERAL FUND - LISTING OF INVESTMENTS
APRIL 30, 2018

PURCHASE DATE	NAME	DESCRIPTION	MATURITY DATE	COST	PAR VALUE	MARKET VALUE	YIELD TO MATURITY	CALLABLE STATUS
Local Agency Investment Fund								
06-30-83	State of California	LAIF	Open	\$ 34,706,391.53	\$ 34,706,391.53	\$ 34,706,391.53	1.730%	
Certificates of Deposit								
04-20-17	RBC Wealth Mgmt	Whitney Bank CD	04-22-19	\$ 1,000,000.00	\$ 1,000,000.00	\$ 995,230.00	1.650%	Bullet
06-14-17	RBC Wealth Mgmt	Capital One N/A CD	06-15-20	\$ 250,000.00	\$ 250,000.00	\$ 246,250.00	1.900%	Bullet
06-14-17	RBC Wealth Mgmt	Capital One Bank USA CD	06-15-20	\$ 250,000.00	\$ 250,000.00	\$ 246,250.00	1.900%	Bullet
06-19-17	RBC Wealth Mgmt	First Priority Bank CD	06-19-20	\$ 250,000.00	\$ 250,000.00	\$ 245,442.50	1.750%	Bullet
06-22-17	Sun Community FCU	Credit Union CD	06-22-18	\$ 1,000,000.00	\$ 1,000,000.00	\$ 1,012,938.13	1.500%	Bullet
Total Certificates of Deposit				\$ 2,750,000.00	\$ 2,750,000.00	\$ 2,746,110.63		
Commercial Paper								
12-16-13	Stifel	General Electric	05-15-18	\$ 587,600.00	\$ 500,000.00	\$ 499,500.00	6.300%	Bullet
04-27-15	Ladenburg Thalmann	Apple Inc.	05-03-18	\$ 997,920.00	\$ 1,000,000.00	\$ 999,950.00	1.000%	Bullet
Total Commercial Paper				\$ 1,585,520.00	\$ 1,500,000.00	\$ 1,499,450.00		
Government Agency								
06-13-13	Ladenburg Thalmann	FHLB (Callable 6-13-18)	06-13-18	\$ 1,000,000.00	\$ 1,000,000.00	\$ 999,250.00	1.100%	Qtrly
10-02-15	Stifel	FHLB (Callable Continuous)	10-02-19	\$ 1,000,000.00	\$ 1,000,000.00	\$ 986,560.00	1.450%	Continuous
10-29-15	Stifel	FHLB (Callable Continuous)	10-29-18	\$ 1,000,000.00	\$ 1,000,000.00	\$ 995,400.00	1.120%	Continuous
11-23-15	Ladenburg Thalmann	FHLMC (Callable 5-23-18)	05-23-18	\$ 996,000.00	\$ 1,000,000.00	\$ 999,610.00	1.000%	Qtrly
11-25-15	Stifel	FNMA (Callable 5-25-18)	11-25-19	\$ 1,000,000.00	\$ 1,000,000.00	\$ 985,340.00	1.500%	Qtrly
02-26-16	Ladenburg Thalmann	FNMA (Callable 5-26-18)	02-26-19	\$ 1,000,000.00	\$ 1,000,000.00	\$ 991,940.00	1.250%	Qtrly
03-23-16	Ladenburg Thalmann	FNMA (Callable 6-23-18)	03-23-20	\$ 1,000,000.00	\$ 1,000,000.00	\$ 981,270.00	1.500%	Qtrly
03-30-16	Stifel	FNMA STEP (Callable 6-30-18)	03-30-21	\$ 1,000,000.00	\$ 1,000,000.00	\$ 984,030.00	1.750%	Qtrly
03-30-16	Stifel	FHLMC STEP (Callable 6-30-18)	03-30-21	\$ 1,000,000.00	\$ 1,000,000.00	\$ 985,080.00	1.750%	Qtrly
04-26-16	Ladenburg Thalmann	FHLB (Callable Continuous)	10-26-20	\$ 999,500.00	\$ 1,000,000.00	\$ 972,500.00	1.550%	Continuous
05-23-16	Stifel	FNMA (Callable 5-23-18)	08-23-19	\$ 1,000,000.00	\$ 1,000,000.00	\$ 984,960.00	1.250%	Qtrly
05-26-16	Union Bank	FNMA	11-26-19	\$ 1,000,000.00	\$ 1,000,000.00	\$ 982,020.00	1.300%	1 Time
05-31-16	Ladenburg Thalmann	FHLMC (Callable 5-29-18)	08-29-18	\$ 1,000,000.00	\$ 1,000,000.00	\$ 997,100.00	1.020%	Qtrly
06-01-16	Stifel	FFCB (Callable Continuous)	03-01-19	\$ 1,000,000.00	\$ 1,000,000.00	\$ 988,980.00	1.250%	Continuous
06-13-16	Ladenburg Thalmann	FNMA (Callable 6-13-18)	06-13-19	\$ 1,000,000.00	\$ 1,000,000.00	\$ 988,590.00	1.400%	Qtrly
06-16-16	Stifel	FFCB (Callable Continuous)	03-16-20	\$ 1,000,000.00	\$ 1,000,000.00	\$ 976,340.00	1.400%	Continuous
06-21-16	Stifel	FHLMC STEP (Callable 6-21-18)	06-21-21	\$ 1,000,000.00	\$ 1,000,000.00	\$ 988,030.00	1.400%	Qtrly
06-28-16	Ladenburg Thalmann	FNMA (Callable 6-28-18)	06-28-19	\$ 1,000,000.00	\$ 1,000,000.00	\$ 986,810.00	1.200%	Qtrly
06-30-16	Stifel	FHLMC STEP (Callable 6-30-18)	12-30-19	\$ 1,000,000.00	\$ 1,000,000.00	\$ 990,230.00	1.250%	Qtrly
07-07-16	Ladenburg Thalmann	FFCB (Callable Continuous)	01-07-19	\$ 1,000,000.00	\$ 1,000,000.00	\$ 991,390.00	1.000%	Continuous
07-11-16	Ladenburg Thalmann	FHLB (Callable Continuous)	10-11-19	\$ 1,000,000.00	\$ 1,000,000.00	\$ 981,490.00	1.125%	Continuous
07-11-16	Ladenburg Thalmann	FHLB (Callable Continuous)	07-11-19	\$ 1,000,000.00	\$ 1,000,000.00	\$ 985,390.00	1.125%	Continuous
07-13-16	Union Bank	FFCB (Callable Continuous)	01-13-20	\$ 1,000,000.00	\$ 1,000,000.00	\$ 976,670.00	1.240%	Continuous
07-26-16	Ladenburg Thalmann	FNMA (Callable 7-26-18)	07-26-19	\$ 999,500.00	\$ 1,000,000.00	\$ 984,110.00	1.125%	Qtrly
07-27-16	Stifel	FNMA STEP (Callable 7-27-18)	07-27-21	\$ 1,000,000.00	\$ 1,000,000.00	\$ 957,940.00	1.250%	Qtrly
08-10-16	Ladenburg Thalmann	FHLMC (Callable 5-10-18)	08-10-20	\$ 1,000,000.00	\$ 1,000,000.00	\$ 973,770.00	1.450%	Qtrly
08-24-16	Ladenburg Thalmann	FHLMC STEP (Callable 5-24-18)	08-24-21	\$ 1,000,000.00	\$ 1,000,000.00	\$ 990,920.00	1.500%	Qtrly
08-30-16	Stifel	FHLMC STEP (Callable 5-28-18)	08-27-21	\$ 1,000,000.00	\$ 1,000,000.00	\$ 989,700.00	1.500%	Qtrly
08-30-16	Ladenburg Thalmann	FNMA (Callable 5-27-18)	11-27-19	\$ 1,000,000.00	\$ 1,000,000.00	\$ 981,270.00	1.250%	Qtrly
09-06-16	Ladenburg Thalmann	FFCB (Callable Continuous)	03-06-19	\$ 1,000,000.00	\$ 1,000,000.00	\$ 988,780.00	1.150%	Continuous
09-20-16	Union Bank	FNMA (Callable 6-20-18)	09-20-19	\$ 1,000,000.00	\$ 1,000,000.00	\$ 984,600.00	1.300%	Qtrly
09-27-16	Ladenburg Thalmann	FHLMC STEP (Callable 6-27-18)	09-27-19	\$ 1,000,000.00	\$ 1,000,000.00	\$ 994,900.00	1.500%	Qtrly
09-29-16	Ladenburg Thalmann	FHLMC STEP (Callable 6-29-18)	09-29-21	\$ 950,000.00	\$ 950,000.00	\$ 926,212.00	1.375%	Qtrly

**DESERT WATER AGENCY
GENERAL FUND - LISTING OF INVESTMENTS
APRIL 30, 2018**

PURCHASE DATE	NAME	DESCRIPTION	MATURITY DATE	COST	PAR VALUE	MARKET VALUE	YIELD TO MATURITY	CALLABLE STATUS
Government Agency								
09-30-16	Ladenburg Thalmann	FNMA (Callable 6-30-18)	09-30-19	\$ 1,000,000.00	\$ 1,000,000.00	\$ 983,500.00	1.250%	Qtrly
10-06-16	Ladenburg Thalmann	FHLMC (Callable 7-6-18)	07-06-20	\$ 1,000,000.00	\$ 1,000,000.00	\$ 973,520.00	1.375%	Qtrly
10-11-16	Ladenburg Thalmann	FHLMC (Callable 7-11-18)	10-11-18	\$ 999,750.00	\$ 1,000,000.00	\$ 995,340.00	1.000%	Qtrly
10-17-16	Stifel	FNMA	04-17-20	\$ 1,000,000.00	\$ 1,000,000.00	\$ 975,610.00	1.250%	1 Time
10-28-16	Stifel	FHLMC STEP (Callable 7-28-18)	10-28-21	\$ 1,500,000.00	\$ 1,500,000.00	\$ 1,468,440.00	1.250%	Qtrly
10-28-16	Union Bank	FHLMC STEP (Callable 7-28-18)	10-28-21	\$ 1,000,000.00	\$ 1,000,000.00	\$ 986,320.00	2.000%	Qtrly
11-03-16	Ladenburg Thalmann	FFCB (Callable Continuous)	05-03-21	\$ 999,250.00	\$ 1,000,000.00	\$ 964,850.00	1.490%	Continuous
11-15-16	Stifel	FHLMC STEP (Callable 5-15-18)	11-15-19	\$ 1,000,000.00	\$ 1,000,000.00	\$ 985,890.00	1.000%	Qtrly
12-14-16	Ladenburg Thalmann	FHLMC (Callable 6-14-18)	12-14-20	\$ 1,000,000.00	\$ 1,000,000.00	\$ 975,240.00	1.750%	Qtrly
12-29-16	Ladenburg Thalmann	FNMA (Callable 6-29-18)	06-29-20	\$ 1,000,000.00	\$ 1,000,000.00	\$ 982,350.00	1.750%	Qtrly
12-30-16	Ladenburg Thalmann	FHLMC (Callable 6-30-18)	12-30-19	\$ 998,000.00	\$ 1,000,000.00	\$ 979,790.00	1.500%	Qtrly
01-27-17	Ladenburg Thalmann	FNMA (Callable 7-27-18)	01-27-20	\$ 1,000,000.00	\$ 1,000,000.00	\$ 983,540.00	1.650%	Qtrly
01-30-17	Union Bank	FHLB (Callable 7-30-18)	04-30-20	\$ 1,000,000.00	\$ 1,000,000.00	\$ 983,450.00	1.750%	Qtrly
02-28-17	Union Bank	FHLMC (Callable 5-25-18)	02-25-19	\$ 1,000,000.00	\$ 1,000,000.00	\$ 993,320.00	1.400%	Qtrly
04-20-17	Stifel	FHLMC STEP (Callable 7-20-18)	04-20-20	\$ 1,000,000.00	\$ 1,000,000.00	\$ 990,940.00	2.250%	Qtrly
04-27-17	Ladenburg Thalmann	FHLMC (Callable 7-27-18)	01-27-21	\$ 1,000,000.00	\$ 1,000,000.00	\$ 982,380.00	2.000%	Qtrly
06-08-17	Stifel	FHLMC STEP (Callable 6-8-18)	06-08-20	\$ 1,000,000.00	\$ 1,000,000.00	\$ 993,180.00	1.375%	Qtrly
06-22-17	Ladenburg Thalmann	FHLMC STEP (Callable 6-22-18)	06-22-22	\$ 1,000,000.00	\$ 1,000,000.00	\$ 985,820.00	1.625%	Qtrly
06-27-17	Union Bank	FHLB (Callable 6-27-18)	09-27-19	\$ 1,000,000.00	\$ 1,000,000.00	\$ 985,360.00	1.500%	Qtrly
06-29-17	Ladenburg Thalmann	FHLMC (Callable 6-29-18)	09-29-20	\$ 1,000,000.00	\$ 1,000,000.00	\$ 977,620.00	1.750%	Qtrly
07-11-17	Ladenburg Thalmann	FHLMC (Callable 7-11-18)	01-11-21	\$ 1,000,000.00	\$ 1,000,000.00	\$ 973,170.00	1.800%	Qtrly
07-26-17	Stifel	FHLMC STEP (Callable 7-26-18)	07-26-22	\$ 1,000,000.00	\$ 1,000,000.00	\$ 988,420.00	1.750%	Qtrly
07-27-17	Stifel	FHLMC STEP (Callable 7-27-18)	07-27-22	\$ 1,000,000.00	\$ 1,000,000.00	\$ 991,010.00	1.500%	Qtrly
08-07-17	Ladenburg Thalmann	FFCB (Callable Continuous)	11-23-20	\$ 999,850.00	\$ 1,000,000.00	\$ 976,260.00	1.770%	Continuous
08-09-17	Stifel	FHLB STEP (Callable 5-9-18)	02-09-22	\$ 2,000,000.00	\$ 2,000,000.00	\$ 1,957,100.00	1.750%	Qtrly
08-10-17	Ladenburg Thalmann	FHLB STEP (Callable 5-10-18)	08-10-22	\$ 1,000,000.00	\$ 1,000,000.00	\$ 991,580.00	1.500%	Qtrly
09-08-17	Stifel	FHLB STEP (Callable 6-8-18)	09-08-22	\$ 1,000,000.00	\$ 1,000,000.00	\$ 979,080.00	1.750%	Qtrly
09-28-17	Ladenburg Thalmann	FHLMC STEP (Callable 6-28-18)	09-28-20	\$ 1,000,000.00	\$ 1,000,000.00	\$ 982,830.00	1.375%	Qtrly
09-29-17	Union Bank	FHLMC (Callable 6-29-18)	09-29-20	\$ 1,000,000.00	\$ 1,000,000.00	\$ 977,570.00	1.700%	Qtrly
09-29-17	Stifel	FHLMC STEP (Callable 6-29-18)	09-29-22	\$ 1,000,000.00	\$ 1,000,000.00	\$ 979,440.00	1.625%	Qtrly
10-26-17	Ladenburg Thalmann	FNMA (Callable 7-26-18)	07-26-21	\$ 1,000,000.00	\$ 1,000,000.00	\$ 974,890.00	2.000%	Qtrly
11-06-17	Ladenburg Thalmann	FFCB (Callable Continuous)	06-06-19	\$ 1,000,000.00	\$ 1,000,000.00	\$ 991,130.00	1.600%	Continuous
11-20-16	Ladenburg Thalmann	FHLMC (Callable 5-20-18)	11-20-20	\$ 1,000,000.00	\$ 1,000,000.00	\$ 983,220.00	2.000%	Qtrly
12-11-17	Ladenburg Thalmann	FHLB (Callable 6-11-18)	12-11-20	\$ 999,750.00	\$ 1,000,000.00	\$ 981,640.00	2.000%	Qtrly
12-14-17	Stifel	FFCB (Callable 12-14-18)	12-14-20	\$ 1,000,000.00	\$ 1,000,000.00	\$ 983,020.00	2.060%	Continuous
01-16-18	Ladenburg Thalmann	FHLMC (Callable 7-16-18)	10-16-20	\$ 1,000,000.00	\$ 1,000,000.00	\$ 986,070.00	2.070%	Qtrly
01-26-18	Ladenburg Thalmann	FHLB (Callable 7-26-18)	01-26-21	\$ 999,650.00	\$ 1,000,000.00	\$ 985,980.00	2.250%	Qtrly
01-26-18	Stifel	FHLMC (Callable 7-26-18)	01-26-21	\$ 1,000,000.00	\$ 1,000,000.00	\$ 986,860.00	2.220%	Qtrly
01-29-18	Union Bank	FHLB (Callable 1-29-19)	01-29-21	\$ 1,000,000.00	\$ 1,000,000.00	\$ 984,480.00	2.200%	Qtrly
01-30-18	Union Bank	FHLB (Callable 1-30-19)	07-30-20	\$ 1,000,000.00	\$ 1,000,000.00	\$ 988,270.00	2.100%	Qtrly
02-01-18	Stifel	FFCB (Callable 8-1-18)	02-01-21	\$ 1,000,000.00	\$ 1,000,000.00	\$ 988,610.00	2.350%	Qtrly
02-08-18	Union Bank	FFCB	05-08-19	\$ 1,000,000.00	\$ 1,000,000.00	\$ 996,920.00	2.000%	Qtrly
02-12-18	Stifel	FHLB (Callable 2-12-19)	02-12-21	\$ 1,000,000.00	\$ 1,000,000.00	\$ 988,520.00	2.300%	Qtrly
03-26-18	Ladenburg Thalmann	FHLB STEP (Callable 6-26-18)	03-26-21	\$ 1,000,000.00	\$ 1,000,000.00	\$ 996,610.00	2.000%	Qtrly
03-29-18	Stifel	FHLMC STEP (Callable 6-29-18)	03-29-23	\$ 1,000,000.00	\$ 1,000,000.00	\$ 997,180.00	2.250%	Qtrly
04-17-18	Union Bank	FFCB	04-17-19	\$ 1,000,000.00	\$ 1,000,000.00	\$ 998,190.00	2.150%	Bullet
Total Government Agency				\$ 80,441,250.00	\$ 80,450,000.00	\$ 79,225,692.00		
							Weighted Mean YTM	1.635%
TOTAL INVESTED @ 04/30/18				\$ 119,483,161.53	\$ 119,406,391.53	\$ 118,177,644.16		
BALANCE @ 06/30/17				\$ 117,493,032.70				
INCREASE OR (DECREASE)				\$ 1,990,128.83				

DESERT WATER AGENCY
STATEMENT OF CASH RECEIPTS AND EXPENDITURES

WASTEWATER ACCOUNT

APRIL 2018

INVESTED
RESERVE FUNDS
\$1,277,974.41

BALANCE	APRIL 1, 2018	\$41,787.62	
ACCOUNTS RECEIVABLE - OTHER		\$0.00	
CUSTOMER DEPOSITS - CONSTRUCTION		0.00	
INTEREST EARNED - INVESTED FUNDS		4,633.23	
WASTEWATER REVENUE		85,431.26	
SEWER CAPACITY CHARGES		3,792.47	
MISCELLANEOUS		<u>0.00</u>	
TOTAL RECEIPTS		\$93,856.96	
PAYMENTS			
CHECKS UNDER \$10,000.00		\$20,559.99	
CHECKS OVER \$10,000.00 - SCH. #1		78,578.27	
CANCELLED CHECKS AND FEES		<u>0.00</u>	
TOTAL PAYMENTS		<u>\$99,138.26</u>	
NET INCOME		(\$5,281.30)	
INVESTED RESERVE FUNDS			
FUNDS MATURED		\$28,000.00	
FUNDS INVESTED – SCH. #2		<u>45,619.67</u>	
NET TRANSFER		(\$17,619.67)	\$17,619.67
BALANCE	APRIL 30, 2018	\$18,886.65	\$1,295,594.08

DESERT WATER AGENCY

WASTEWATER ACCOUNT

SCHEDULE # 1 - CHECKS OVER \$10,000

CHECK #	NAME	DESCRIPTION	AMOUNT
2546	COACHELLA VALLEY WATER DISTRICT	SEWER CAPACITY CHARGES	\$29,330.00
2547	COACHELLA VALLEY WATER DISTRICT	WASTEWATER REVENUE BILLING FOR MARCH 2018	\$49,248.27
** TOTAL			\$78,578.27

**DESERT WATER AGENCY
WASTEWATER FUND - LISTING OF INVESTMENTS
APRIL 30, 2018**

PURCH DATE	NAME	DESCRIPTION	MATURITY DATE	COST	PAR VALUE	MARKET VALUE	YIELD TO MATURITY
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Local Agency Invstment Fund

06-30-83	State of California	LAIF	Open	\$ 1,295,594.08	\$ 1,295,594.08	\$ 1,295,594.08	1.730%
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TOTAL INVESTED @ 04/30/18	\$ 1,295,594.08	\$ 1,295,594.08	\$ 1,295,594.08
BALANCE @ 06/30/17	\$ 1,142,620.01		
INCREASE OR (DECREASE)	\$ 152,974.07		

DESERT WATER AGENCY - OPERATING FUND
COMPARATIVE EARNINGS STATEMENT

MONTH 17-18 APRIL	THIS MONTH			FISCAL YEAR TO DATE			VARIANCE		
	THIS YEAR	LAST YEAR	BUDGET	THIS YEAR	LAST YEAR	BUDGET	YTD		PCT
OPERATING REVENUES									
WATER SALES	2,084,836.68	1,921,063.82	2,174,775.00	23,708,299.69	19,004,597.59	22,113,000.00	1,595,299.69		7
RECLAMATION SALES	107,047.59	99,566.46	100,500.00	1,203,186.21	1,104,534.04	1,095,300.00	107,886.21		10
POWER SALES	1,415.80	.00	2,000.00	24,537.73	15,212.73	20,000.00	4,537.73		23
OTHER OPER REVENUE	132,159.99	213,960.57	130,700.00	1,890,744.22	1,111,598.31	1,307,000.00	583,744.22		45
TOTAL OPER REVENUES	2,325,460.06	2,234,590.85	2,407,975.00	26,826,767.85	21,235,942.67	24,535,300.00	2,291,467.85		9
OPERATING EXPENSES									
SOURCE OF SUPPLY EXP	14,063.43	20,797.36	36,825.00	3,116,556.45	2,454,850.56	2,953,575.00	162,981.45		6
PUMPING EXPENSE	210,330.17	302,943.82	223,675.00	2,364,688.50	2,127,072.81	2,611,250.00	246,561.50		9
REGULATORY WATER TREAT	37,184.72	37,463.33	42,500.00	442,095.02	407,409.72	425,000.00	17,095.02		4
TRANS & DIST EXPENSE	533,567.06	255,973.77	437,800.00	3,268,146.42	3,034,460.11	4,378,000.00	1,109,853.58		25
CUSTOMER ACT EXPENSE	64,976.30	68,710.34	80,025.00	758,628.75	774,039.04	801,750.00	43,121.25		5
ADMIN & GEN EXPENSE	427,900.07	620,446.40	605,500.00	7,011,619.68	7,274,140.77	7,192,325.00	180,705.32		3
REGULATORY EXPENSE	10,850.63	5,144.29	25,125.00	190,103.32	166,038.33	251,400.00	61,296.68		24
SNOW CREEK HYDRO EXP	2,764.99	4,437.20	3,350.00	20,274.21	33,770.95	33,500.00	13,225.79		39
RECLAMATION PLNT EXP	135,108.66	83,317.22	207,925.00	1,029,808.77	366,888.04	2,078,700.00	1,048,891.23		50
SUB-TOTAL	1,436,746.03	1,399,233.73	1,662,725.00	18,201,921.12	16,638,670.33	20,725,500.00	2,523,578.88		12
OTHER OPER EXPENSES									
DEPRECIATION	489,819.14	453,731.65	471,200.00	4,704,508.71	4,631,252.57	4,712,000.00	7,491.29		0
SERVICES RENDERED	10,230.33	8,602.57	11,250.00	178,391.61	109,391.22	112,500.00	65,891.61		59
DIR & INDIR CST FOR WO	131,051.95	151,016.29	83,750.00	1,557,031.61	1,687,422.21	837,500.00	719,531.61		86
TOTAL OPER EXPENSES	1,805,743.55	1,710,551.66	2,061,425.00	21,527,789.83	19,691,891.91	24,712,500.00	3,184,710.17		13
NET INCOME FROM OPERATIONS	519,716.51	524,039.19	346,550.00	5,298,978.02	1,544,050.76	177,200.00	5,476,178.02		0
NON-OPERATING INCOME (NET)									
RENTS	1,818.44	3,396.33	3,425.00	64,228.57	65,580.10	65,900.00	1,671.43		3
INTEREST REVENUES	29,962.50	12,073.47	10,250.00	207,936.65	102,268.04	102,500.00	105,436.65		103
OTHER REVENUES	420.00	4,285.97	.00	496,449.16	6,310.97	.00	496,449.16		0
GAINS ON RETIREMENT	.00	.00	750.00	22,595.00	9,554.15	6,000.00	16,595.00		277
DISCOUNTS	16.84	.00	300.00	186.60	2,942.35	3,000.00	2,813.40		94
PR. YEAR EXPENSES	.00	70,026.09	.00	277,122.13	69,726.09	.00	277,122.13		0
LOSS ON RETIREMENTS	.00	.00	3,000.00	25,894.23	22,795.04	30,000.00	4,105.77		14
TOTAL NON-OPER INCOME	32,217.78	85,081.86	11,725.00	1,042,623.88	228,886.66	147,400.00	895,223.88		607
TOTAL NET INCOME	551,934.29	609,121.05	358,275.00	6,341,601.90	1,772,937.42	29,800.00	6,371,401.90		0

**STAFF REPORT
TO
DESERT WATER AGENCY
BOARD OF DIRECTORS**

MAY 15, 2018

**RE: REQUEST BOARD AUTHORIZATION FOR GENERAL MANAGER
TO EXECUTE LAND LEASE AGREEMENT WITH WILDCAT I
ENERGY STORAGE LLC.**

Wildcat I Energy Storage LLC is seeking a land lease agreement over a 100' by 100' portion of Desert Water Agency's property to install and maintain containerized batteries, transformers, and electrical equipment for a SCE project. The agreement includes a 12' wide ingress/egress access road and requires that the lessee install a chain link fence with screening around the perimeter of the equipment, as approved by the Agency.

Similar to a lease agreement that the Agency has for the Verizon cell tower located on the Agency's back lot, the lease shall be for ten (10) years with an automatic extension of two (2) additional five (5) year terms.

Attached for the Board's review is a copy of the proposed Land Lease Agreement. The first year's lease payment will be \$34,800. The lessee is also required to pay a one-time payment in the amount of \$5,000 to cover Agency costs associated with review and preparation of the lease agreement. After the first year, rent shall increase annually by an amount equal to the greater of 4% or the CPI increase based on the prior twelve-month period.


Staff requests Board authorization for the General Manager to execute the lease agreement document.

Land Space Location

Ingress/Egress

Land Space

Legend

 Land Space

Desquite Ave

San Luis Rey Dr

Dinah St

Google Earth

© 2018 Google



900 ft



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SITE NAME:
SITE NUMBER:
ATTY/DATE

LAND LEASE AGREEMENT

This Agreement, made this ____ day of _____, 2018 between Desert Water Agency with its principal offices located at 1200 Gene Autry Tail South, Palm Springs California 92264 (telephone number 760-323-4971), hereinafter designated LESSOR and Wildcat I Energy Storage LLC, a California limited liability company, with its principal office located at 65 Enterprise, 3rd Floor, Aliso Viejo, California 92656 (telephone number (949) 330-6300), hereinafter designated LESSEE. The LESSOR and LESSEE are at times collectively referred to hereinafter as the "Parties" or individually as the "Party".

LESSOR is the owner of that certain real property located in the City of Palm Springs, Riverside County, State of California, as more particularly described in Exhibit "A" (the entirety of LESSOR'S property is referred to hereafter as the "Property"). LESSEE desires to obtain an option to lease a portion of said property, with a right-of-way for access thereto, as substantially shown on Exhibit "A" attached hereto and made a part hereof.

1. PREMISES. LESSOR hereby leases to LESSEE a portion of that certain parcel of property (APN 680-180-034) is referred to hereinafter as the Property, located in Palm Springs, Riverside County, California, and being described as a one hundred (100) feet by one hundred (100) feet area containing ten thousand (10,000) square feet (the "Land Space"), together with the non-exclusive rights (the "Rights of Way"): (i) for ingress and egress, seven (7) days a week twenty-four (24) hours a day, on foot or motor vehicle, including trucks over or along a twelve (12) foot wide right-of-way extending from the nearest public right-of-way, Dinah Shore Drive, to the Land Space, and (ii) for the installation and maintenance of containerized batteries, transformers, electrical equipment, utility wires, cables, conduits, and pipes (hereinafter collectively referred to as the "Premises") being substantially as described and depicted herein in Exhibit "A" attached hereto and made a part hereof. The Property is also shown as Parcel 4 and lettered Lot D as shown by Parcel Map No.22700, on file in Book 153 Pages 66 and 67 of Parcel Maps, Records of Riverside County, California.

2. SURVEY. LESSOR also hereby grants to LESSEE the right to survey the Property and the Premises, and said survey shall then become Exhibit "B" which shall be attached hereto and made a part hereof, and shall control in the event of boundary and access discrepancies between it and Exhibit "A". Cost for such work shall be borne by the LESSEE.

3. TERM; RENTAL.

a. This Agreement shall be effective as of the date of execution by both Parties, provided, however, the initial term shall be for ten (10) years and shall commence on the Commencement Date (as hereinafter defined) at which time rental payments for the first year of the initial term shall commence and be due at a total annual rental of Thirty-four Thousand, Eight Hundred Dollars (\$34,800) to be paid in equal monthly installments on the first day of the month, in advance, to LESSOR or to such other person, firm or place as LESSOR may, from time to time, designate in writing at least thirty (30) days in advance of any rental payment date by notice given in accordance with Paragraph 23 below. The initial term shall commence based upon the date LESSEE commences construction on the Premises, or on the first day of March 2020, whichever

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occurs first. In the event the date of commencing construction is determinative and such date falls between the 1st and 15th of the month, the Agreement shall commence on the 1st of that month and if such date falls between the 16th and 31st of the month, then the Agreement shall commence on the 1st day of the following month (either of the foregoing or March 1, 2020, if applicable, being the "Commencement Date"). LESSOR and LESSEE agree that they shall acknowledge in writing the Commencement Date in the event the Commencement Date is based upon the date LESSEE commences construction on the Premises. In the event the Commencement Date is the fixed date set forth above, there shall be no written acknowledgement required. LESSOR and LESSEE acknowledge and agree that initial rental payment(s) shall not actually be sent by LESSEE until thirty (30) days after the Commencement Date or after a written acknowledgement confirming the Commencement Date, if such an acknowledgement is required. By way of illustration of the preceding sentence, if the Commencement Date is January 1 and no written acknowledgement confirming the Commencement Date is required, LESSEE shall send to the LESSOR the rental payments for January 1 and February 1 by February 1, and if the Commencement Date is January 1 and a required written acknowledgement confirming the Commencement Date is dated January 14, LESSEE shall send to the LESSOR the rental payments for January 1 and February 1 by February 13.

b. Upon agreement of the Parties, LESSEE may pay rent by electronic funds transfer and in such event, LESSOR agrees to provide to LESSEE bank routing information for such purpose upon request of LESSEE. If, at any time, LESSEE fails to make any payment within 10 days after its due date, then a late charge equal to five percent (5%) of such past due amount, as well as interest which shall accrue on the past due amount until paid in full at the rate of one percent (1%) per month or the maximum allowable by law, whichever is less.

c. **ONE-TIME PAYMENT.** Within forty-five (45) days after the full execution of this Agreement, LESSEE shall pay to LESSOR the sum of Five Thousand and No/100 Dollars (\$5,000.00) for LESSOR's costs associated with the review of and document preparation of this Agreement, and for the exclusive right to lease the Land Space, which payment shall be non-refundable.

4. **EXTENSIONS.** Provided that LESSEE is not then in default of this Agreement, this Agreement shall automatically be extended for two (2) additional five (5) year terms unless LESSEE terminates it at the end of the then current term by giving LESSOR written notice of the intent to terminate at least six (6) months prior to the end of the then current term.

5. **ANNUAL RENTAL INCREASE.** The annual rental shall increase annually on each anniversary of the Commencement Date by an amount equal to the greater of: (i) four percent (4%) or (ii) the increase during the prior twelve month period in the Consumer Price Index – All Urban Consumers, Los Angeles-Orange-Riverside County (All items; 1982-84 equals 100) issued by the U.S. Department of Labor, Bureau of Labor Statistics or any successor agency ("CPI-U").

6. **ADDITIONAL EXTENSIONS.** If at the end of the two (2) five (5) year extension term this Agreement has not been terminated by either Party by giving to the other written notice of an intention to terminate it at least three (3) months prior to the end of such term, and provided that LESSEE is not then in default of this Agreement, this Agreement shall continue in force upon the same covenants, terms and conditions for a further term of one (1) year and for one (1) year terms

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thereafter until terminated by either Party by giving to the other written notice of its intention to so terminate at least three (3) months prior to the end of such term. Annual rental for each such additional one (1) year term shall be equal to the annual rental payable with respect to the immediately preceding year, plus the applicable annual rent increase under Section 5. The initial term and all extensions shall be collectively referred to herein as the "Term".

7. TAXES. LESSOR hereby provides notice pursuant to California Revenue and Taxation Code Section 107.6, and LESSEE acknowledges that this Agreement may create a possessory interest and LESSEE may be subject to property taxes levied on such interest, as described in California Revenue and Taxation Code Section 107. LESSEE shall have the responsibility to pay any personal property, real estate taxes, assessments, or charges owed on the Property which LESSOR demonstrates is the result of LESSEE's use of the Premises and/or the installation, maintenance, and operation of the LESSEE's improvements, and any sales tax imposed on the rent (except to the extent that LESSEE is or may become exempt from the payment of sales tax in the jurisdiction in which the Property is located), including any increase in real estate taxes at the Property which LESSOR demonstrates arises from the LESSEE's improvements and/or LESSEE's use of the Premises. LESSOR and LESSEE shall each be responsible for the payment of any taxes, levies, assessments and other charges imposed including franchise and similar taxes imposed upon the business conducted by LESSOR or LESSEE at the Property. Notwithstanding the foregoing, neither Party shall not have the obligation to pay any tax, assessment, or charge that the Party is disputing in good faith in appropriate proceedings prior to a final determination that such tax is properly assessed provided that no lien attaches to the Property. Nothing in this Paragraph shall be construed as making either Party liable for any portion of the other Party's income taxes in connection with any property or otherwise. Except as set forth in this Paragraph, LESSOR shall have the responsibility to pay any personal property, real estate taxes, assessments, or charges owed on the Property and shall do so prior to the imposition of any lien on the Property.

LESSEE shall have the right, at its sole option and at its sole cost and expense, to appeal, challenge or seek modification of any tax assessment or billing for which LESSEE is wholly or partly responsible for payment. LESSOR shall reasonably cooperate with LESSEE at LESSEE's expense in filing, prosecuting and perfecting any appeal or challenge to taxes as set forth in the preceding sentence, including but not limited to, executing any consent, appeal or other similar document. In the event that as a result of any appeal or challenge by LESSEE, there is a reduction, credit or repayment received by the LESSOR for any taxes previously paid by LESSEE, LESSOR agrees to promptly reimburse to LESSEE the amount of said reduction, credit or repayment.

8. USE; GOVERNMENTAL APPROVALS.

a. LESSEE shall use the Premises only for the purpose of constructing, installing, maintaining, repairing, operating and removing a lithium ion battery-based energy storage facility comprised of containerized batteries, transformers, electrical equipment, telemetry, housing, and related equipment. All improvements, equipment, facilities, and conduits shall be at LESSEE's expense and their installation shall be at the discretion and option of LESSEE; provided that LESSEE shall not add, modify or otherwise vary from approved plans without the prior written consent of LESSOR. LESSEE shall constructed, as a

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minimum, a 6 feet tall chain-link fence with screening fabric around the perimeter of the Land Space. All costs associated with the installation and construction of the fencing shall be at LESSEE's expense. LESSOR shall approve fencing material, screening material, and location of fence prior to installation. LESSEE shall be responsible to maintain fencing and screening material, making repairs as required by LESSOR, all at LESSEE's expense. LESSEE shall have the right to replace or repair its utilities, equipment, and/or conduits or any portion thereof without the prior consent of LESSOR provided that such replacements or repairs do not expand installed equipment outside of the Land Space, interfere with facilities of LESSOR or other lessees located on the Property. LESSEE shall prepare and provide to LESSOR an Exhibit describing the replacement equipment, within 30 days of LESSOR's request for same. LESSEE may replace batteries that it operates during the Term, subject to compliance with Section 13 Interference.

b. It is understood and agreed that LESSEE's ability to use the Premises is contingent upon its obtaining all of the certificates, permits and other approvals (collectively the "Governmental Approvals") that may be required by any Federal, State or Local authorities as well as satisfactory soil boring tests which will permit LESSEE use of the Premises as set forth above. LESSOR shall reasonably cooperate with LESSEE in its effort to obtain such approvals and shall take no action which would adversely affect the status of the Property with respect to the proposed use thereof by LESSEE. In the event that prior to the Commencement Date, (i) any of such applications for such Governmental Approvals should be finally rejected; (ii) LESSEE determines that such Governmental Approvals may not be obtained in a timely manner; (iii) LESSEE determines that any soil boring tests are unsatisfactory; (iv) LESSEE determines that the Premises is no longer technically compatible for its use, or (v) LESSEE, in its sole discretion, determines that the use the Premises is obsolete or unnecessary, LESSEE shall have the right to terminate this Agreement. Notice of LESSEE's exercise of its right to terminate shall be given to LESSOR in writing by certified mail, return receipt requested, and shall be effective upon the mailing of such notice by LESSEE, or upon such later date as designated by LESSEE. All rentals paid to said termination date shall be retained by LESSOR. Upon such termination, this Agreement shall be of no further force or effect except to the extent of the representations, warranties and indemnities made by each Party to the other hereunder. Otherwise, the LESSEE shall have no further obligations for the payment of rent to LESSOR.

c. All improvements, installations and operations on the Premises by LESSEE shall comply in all material respects with all applicable rules and regulations of the California Public Utilities Commission (CPUC), Southern California Edison (SCE), and all applicable federal, state, city, county and local codes and regulations. LESSOR assumes no responsibility for the licensing, operation or maintenance of the LESSEE's facilities or activities on the Premises

d. LESSEE shall, at its own expense, install or have installed all facilities necessary to supply electricity, telephone and other utility services required to service the Premises, including a separate meter installed for LESSEE's electrical power usage. LESSEE shall pay the power and other utilities directly for such utility usage.

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9. INDEMNIFICATION. Subject to Paragraph 10 below, each Party shall indemnify and hold the other harmless against any claim of liability or loss from personal injury or property damage resulting from or arising out of the negligence or willful misconduct of the indemnifying Party, its employees, contractors or agents, except to the extent such claims or damages may be due to or caused by the negligence or willful misconduct of the other Party, or its employees, contractors or agents.

10. INSURANCE.

- a. Notwithstanding the indemnity in section 9, the LESSEE hereby waives and releases any and all rights of action for negligence against the LESSOR which may hereafter arise on account of damage to the Premises or to the Property, resulting from any fire, or other casualty of the kind covered by standard fire insurance policies with extended coverage, regardless of whether or not, or in what amounts, such insurance is now or hereafter carried by the LESSEE. This waiver and release shall apply to the LESSEE's claims and it shall also apply to any claims under or through the LESSEE as a result of any asserted right of subrogation. All such policies of insurance obtained by the LESSEE concerning the Premises or the Property shall waive the insurer's right of subrogation against the LESSOR.
- b. LESSEE will maintain at its own cost;
 - i. Commercial General Liability insurance with limits not less than \$1,000,000 for injury to or death of one or more persons in any one occurrence and \$1,000,000 for damage or destruction to property in any one occurrence
 - ii. Commercial Auto Liability insurance on all owned, non-owned and hired automobiles with a minimum combined limit of not less than one million (\$1,000,000) per occurrence
 - iii. Workers Compensation insurance providing the statutory benefits and not less than one million (\$1,000,000) of Employers Liability coverage.

LESSEE will include the LESSOR as an additional insured on the Commercial General Liability and Auto Liability policies.

- c. LESSOR will maintain at its own cost commercial general liability insurance with limits not less than \$1,000,000 for injury to or death of one or more persons in any one occurrence and \$500,000 for damage or destruction to property in any one occurrence. LESSOR will include the LESSEE as an additional insured.

11. LIMITATION OF LIABILITY. Except for indemnification pursuant to Paragraphs 9 and 29, LESSOR shall not be liable to the LESSEE, or any of its agents, representatives, employees for any lost revenue, lost profits, loss of technology, rights or services, incidental, punitive, indirect, special or consequential damages, loss of data, or interruption or loss of use of

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service, even if advised of the possibility of such damages, whether under theory of contract, tort (including negligence), strict liability or otherwise.

12. *[intentionally omitted]*

13. INTERFERENCE. LESSEE acknowledges that the primary purpose of the Property is to serve as the Headquarters for Desert Water Agency, and LESSEE shall conduct itself at all times in such a manner as to avoid disrupting, diminishing or interfering with the primary purpose of the Property, or the use or enjoyment of the Property by LESSOR's invitees or other lessees or licensees. Further, LESSEE acknowledges that LESSOR's use of the Property includes the installation of a Supervisory Control and Data Acquisition (SCADA) system, and similar two-way communications system. At least forty-five (45) days prior to operation of the telecommunication facilities on the Premises by LESSEE or its permitted sublessees, LESSEE agrees to submit to LESSOR proposed plans for any antenna type, size, and operating frequencies, effective radiated power and other necessary data for LESSOR's review and approval. LESSEE agrees to install equipment of the type and frequency which will not cause harmful interference which is measurable in accordance with then existing industry standards to any equipment of LESSOR as described above whether or not installed on the Property prior to the date this Agreement is executed by the Parties, or of other lessees of the Property which existed on the Property prior to the date this Agreement is executed by the Parties. In the event any after-installed LESSEE's equipment causes such interference, and after LESSOR has notified LESSEE in writing of such interference, LESSEE will take all commercially reasonable steps necessary to correct and eliminate the interference, including but not limited to, at LESSEE's option, powering down such equipment and later powering up such equipment for intermittent testing. LESSOR agrees that LESSOR and/or any other tenants of the Property who currently have or in the future take possession of the Property will be permitted to install only such equipment that is of the type and frequency which will not cause harmful interference which is measurable in accordance with then existing industry standards to the then existing equipment of LESSEE. The Parties acknowledge that there will not be an adequate remedy at law for noncompliance with the provisions of this Paragraph and therefore, either Party shall have the right to equitable remedies, such as, without limitation, injunctive relief and specific performance.

14. REMOVAL AT END OF TERM. LESSEE shall, upon expiration of the Term, or within thirty (30) days after any earlier termination of the Agreement, remove its Battery Facilities, and other building(s), equipment, conduits, fixtures, fencing, cement pads and footings, and all personal property and restore the Premises to its original condition, reasonable wear and tear and casualty damage excepted. LESSOR agrees and acknowledges that all of the equipment, conduits, fixtures and personal property of LESSEE shall remain the personal property of LESSEE and LESSEE shall have the right to remove the same at any time during the Term, whether or not said items are considered fixtures and attachments to real property under applicable Laws (as defined in Paragraph 33 below). If such time for removal causes LESSEE to remain on the Premises after termination of this Agreement, LESSEE shall pay rent at the then existing monthly rate or on the existing monthly pro-rata basis if based upon a longer payment term, until such time as the removal of the Battery Facilities and other building, antenna structures, fixtures and all personal property are completed.

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15. HOLDOVER. LESSEE has no right to retain possession of the Premises or any part thereof beyond the expiration of that removal period set forth in Paragraph 14 herein, unless the Parties are negotiating a new lease or lease extension in good faith. In the event that the Parties are not in the process of negotiating a new lease or lease extension in good faith, LESSEE holds over in violation of Paragraph 14 and this Paragraph 15, then the rent then in effect payable from and after the time of the expiration or earlier removal period set forth in Paragraph 14 shall equal to one hundred fifty percent (150%) of the rent applicable during the month immediately preceding such expiration or earlier termination.

16. [*intentionally omitted*].

17. [*intentionally omitted*]

18. QUIET ENJOYMENT. LESSOR covenants that LESSEE, on paying the rent and performing the covenants herein, shall peaceably and quietly have, hold and enjoy the Premises.

19. TITLE. LESSOR represents and warrants to LESSEE as of the execution date of this Agreement, and covenants during the Term that LESSOR is seized of good and sufficient title and interest to the Property and has full authority to enter into and execute this Agreement.

20. INTEGRATION. It is agreed and understood that this Agreement contains all agreements, promises and understandings between LESSOR and LESSEE and that no verbal or oral agreements, promises or understandings shall be binding upon either LESSOR or LESSEE in any dispute, controversy or proceeding at law, and any addition, variation or modification to this Agreement shall be void and ineffective unless made in writing signed by the Parties or in a written acknowledgment in the case provided in Paragraph 3. In the event any provision of the Agreement is found to be invalid or unenforceable, such finding shall not affect the validity and enforceability of the remaining provisions of this Agreement. The failure of either Party to insist upon strict performance of any of the terms or conditions of this Agreement or to exercise any of its rights under the Agreement shall not waive such rights and such Party shall have the right to enforce such rights at any time and take such action as may be lawful and authorized under this Agreement, in law or in equity.

21. GOVERNING LAW. This Agreement and the performance thereof shall be governed, interpreted, construed and regulated by the Laws of the State of California without giving effect to principles of conflicts of laws, and venue shall be in the courts of Riverside County and the federal Central District of California

22. ASSIGNMENT.

a. Except as contemplated in paragraph c of this Section, LESSEE may not assign this Agreement in whole or in part or sublet any portion of the Premises (including a sublease to an Affiliate) without the express written consent of the LESSOR. Notwithstanding the foregoing, LESSEE may assign this Agreement in whole to any person or business entity which is an "Affiliate" of LESSEE upon written notification to LESSOR. The term

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“Affiliate” means a person that (directly or indirectly) owns or controls, is owned or controlled by, or is under common ownership or control with, LESSEE. The term “own” means to own an equity interest (or the equivalent thereof) of more than 50 percent. LESSEE may not sublet any portion of the Premises to an Affiliate unless such a sublet is in accordance with paragraph b of this Section. Notwithstanding California Civil Code Sections 1995.260 and 1995.270, LESSOR can withhold its consent to any assignment or sublicense in its sole and complete discretion, if to a party other than an Affiliate. Any assignment consented to by LESSOR in its sole discretion shall not operate to release the assigning LESSEE from its liabilities and obligations arising hereunder unless specifically granted.

b. LESSEE must submit sublease requests to LESSOR in writing together with a fully executed copy of the sublease agreement and its appendices and exhibits with no redactions, and the sublease request review fee established from time to time by LESSOR, which shall be no less than five hundred dollars (\$500). LESSEE acknowledges that LESSOR may refuse to consent to any proposed sublease that involves the collocation of additional batteries, equipment or related facilities on the Premises unless (i) the proposed sublessee agrees in writing to abide by the terms and conditions of this Agreement, and (ii) the LESSEE agrees in writing (a) to pay to LESSOR as rent, in addition to the amount owed by LESSEE pursuant to Section 3 for its own use, an amount agreed to by the Parties, which may be established (if approved by LESSOR) as a fixed dollar amount or a fixed percentage of sublessee rent for each approved sublease; and (b) to provide LESSOR a copy of any future amendments to the sublease agreement. Any sublease that is entered into by LESSEE with the prior written consent of the LESSOR shall be subject to the provisions of this Agreement and shall be binding upon the successors, assigns, heirs and legal representatives of the respective Parties hereto.

c. LESSEE shall have the right to assign this Agreement for collateral purpose to any person providing debt or equity financing to LESSEE or in respect of the Battery Facilities.

d. Any purported assignment or sublease made without complying with this section shall be null and void and of no force or effect.

23. NOTICES. All notices hereunder must be in writing and shall be deemed validly given if sent by certified mail, return receipt requested or by commercial courier, provided the courier's regular business is delivery service and provided further that it guarantees delivery to the addressee by the end of the next business day following the courier's receipt from the sender, addressed as follows (or any other address that the Party to be notified may have designated to the sender by like notice):

LESSOR: Desert Water Agency
1200 Gene Autry Trail South
Palm Springs, CA 92264
Attn: Mark Krause, General Manager

DRAFT

LESSEE: Wildcat I Energy Storage LLC
c/o esVolta LP
65 Enterprise
Aliso Viejo, CA 92656
Attn: Rishad Olpadwala, VP Development

Notice shall be effective upon actual receipt or refusal as shown on the receipt obtained pursuant to the foregoing.

24. SUCCESSORS. This Agreement shall extend to and bind the heirs, personal representative, successors and permitted assigns of the Parties hereto.

25. SUBORDINATION AND NON-DISTURBANCE. At LESSOR's option, this Agreement shall be subordinate to any future master lease, ground lease, mortgage, deed of trust or other security interest (a "Mortgage") by LESSOR which from time to time may encumber all or part of the Property or right-of-way; provided, however, as a condition precedent to LESSEE being required to subordinate its interest in this Agreement to any future Mortgage covering the Property, LESSOR shall obtain for LESSEE's benefit a non-disturbance and attornment agreement for LESSEE's benefit in the form reasonably satisfactory to LESSEE, and containing the terms described below (the "Non-Disturbance Agreement"), and shall recognize LESSEE's right to remain in occupancy of and have access to the Premises as long as LESSEE is not in default of this Agreement beyond applicable notice and cure periods. The Non-Disturbance Agreement shall include the encumbering party's ("Lender's") agreement that, if Lender or its successor-in-interest or any purchaser of Lender's or its successor's interest (a "Purchaser") acquires an ownership interest in the Property, Lender or such successor-in-interest or Purchaser will (1) honor all of the terms of the Agreement, (2) fulfill LESSOR's obligations under the Agreement, and (3) promptly cure all of the then-existing LESSOR defaults under the Agreement. Such Non-Disturbance Agreement must be binding on all of Lender's participants in the subject loan (if any) and on all successors and assigns of Lender and/or its participants and on all Purchasers. In return for such Non-Disturbance Agreement, LESSEE will execute an agreement for Lender's benefit in which LESSEE (1) confirms that the Agreement is subordinate to the Mortgage or other real property interest in favor of Lender, (2) agrees to attorn to Lender if Lender becomes the owner of the Property and (3) agrees to accept a cure by Lender of any of LESSOR's defaults, provided such cure is completed within the deadline applicable to LESSOR. In the event LESSOR defaults in the payment and/or other performance of any mortgage or other real property interest encumbering the Property, LESSEE, may, at its sole option and without obligation, cure or correct LESSOR's default and upon doing so, LESSEE shall be subrogated to any and all rights, titles, liens and equities of the holders of such mortgage or other real property interest and LESSEE shall be entitled to deduct and setoff against all rents that may otherwise become due under this Agreement the sums paid by LESSEE to cure or correct such defaults.

26. RECORDING. LESSOR agrees to execute a Memorandum of this Agreement which LESSEE may record with the appropriate recording officer. The date set forth in the Memorandum of Lease is for recording purposes only and bears no reference to commencement of either the Term or rent payments.

27. DEFAULT.

- a. In the event there is a breach by LESSEE with respect to any of the provisions of this Agreement or its obligations under it, including the payment of rent, LESSOR shall give LESSEE written notice of such breach. After receipt of such written notice, LESSEE shall have fifteen (15) days in which to cure any monetary breach and thirty (30) days in which to cure any non-monetary breach, provided LESSEE shall have such extended period as may be required beyond the thirty (30) days if the nature of the cure is such that it reasonably requires more than thirty (30) days and LESSEE commences the cure within the thirty (30) day period and thereafter continuously and diligently pursues the cure to completion. LESSOR may not maintain any action or effect any remedies for default against LESSEE unless and until LESSEE has failed to cure the breach within the time periods provided in this Paragraph.
- b. In the event there is a breach by LESSOR with respect to any of the provisions of this Agreement or its obligations under it, LESSEE shall give LESSOR written notice of such breach. After receipt of such written notice, LESSOR shall have thirty (30) days in which to cure any such breach, provided LESSOR shall have such extended period as may be required beyond the thirty (30) days if the nature of the cure is such that it reasonably requires more than thirty (30) days and LESSOR commences the cure within the thirty (30) day period and thereafter continuously and diligently pursues the cure to completion. LESSEE may not maintain any action or effect any remedies for default against LESSOR unless and until LESSOR has failed to cure the breach within the time periods provided in this Paragraph. Notwithstanding the foregoing to the contrary, it shall be a default under this Agreement if LESSOR fails, within five (5) days after receipt of written notice of such breach, to perform an obligation required to be performed by LESSOR if the failure to perform such an obligation interferes with LESSEE's ability to conduct its business on the Property; provided, however, that if the nature of LESSOR's obligation is such that more than five (5) days after such notice is reasonably required for its performance, then it shall not be a default under this Agreement if performance is commenced within such five (5) day period and thereafter diligently pursued to completion.

28. REMEDIES. Upon a default, the non-defaulting Party may at its option (but without obligation to do so), perform the defaulting Party's duty or obligation on the defaulting Party's behalf, including but not limited to the obtaining of reasonably required insurance policies. The costs and expenses of any such performance by the non-defaulting Party shall be due and payable by the defaulting Party upon invoice therefore. In the event of a default by either Party with respect to a material provision of this Agreement, without limiting the non-defaulting Party in the exercise of any right or remedy which the non-defaulting Party may have by reason of such default, the non-defaulting Party may terminate the Agreement and/or pursue any remedy now or hereafter available to the non-defaulting Party under the Laws or judicial decisions of the state in which the Premises are located; provided, however, LESSOR shall use reasonable efforts to mitigate its damages in connection with a default by LESSEE. If LESSEE so performs any of LESSOR's

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obligations hereunder, the full amount of the reasonable and actual cost and expense incurred by LESSEE shall immediately be owing by LESSOR to LESSEE, and LESSOR shall pay to LESSEE upon demand the full undisputed amount thereof with interest thereon from the date of payment at the greater of (i) ten percent (10%) per annum, or (ii) the highest rate permitted by applicable Laws. Notwithstanding the foregoing, if LESSOR does not pay LESSEE the full undisputed amount within thirty (30) days of its receipt of an invoice setting forth the amount due from LESSOR, LESSEE may offset the full undisputed amount, including all accrued interest, due against all fees due and owing to LESSOR until the full undisputed amount, including all accrued interest, is fully reimbursed to LESSEE.

29. ENVIRONMENTAL.

a. For purposes of this Agreement, the term “**Hazardous Substances**” means: (a) any substance, products, waste, or other material of any nature whatsoever which is or becomes listed, regulated, or addressed pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 United States Code Section 9601 et seq.; the Resources Conservation and Recovery Act, 42 United States Code Section 6901 et seq.; the Hazardous Materials Transportation Conservation and Recovery Act, 42 United States Code Section 1801 et seq.; the Clean Water Act, 33 United States Code Section 1251 et seq.; the Toxic Substances Control Act, 15 United States Code Section 2601 et seq.; the California Hazardous Waste Control Act, Health and Safety Code Section 25100 et seq.; the Hazardous Substance Account Act, Health and Safety Code Section 25330 et seq.; the California Safe Drinking Water and Toxic Enforcement Act, Health and Safety Code Section 25249.5 et seq.; California Health and Safety Code Section 25280 et seq. (Underground Storage of Hazardous Substances); the California Hazardous Waste Management Act, Health and Safety Code Section 25170.1 et seq.; California Health and Safety Code Section 25501 et seq. (Hazardous Materials Release Response Plans and Inventory); or the California Porter-Cologne Water Quality Control Act, Water Code Section 13000 et seq., all as amended; or any other federal, state, or local statute, law, ordinance, resolution, code, rule, regulation, order or decree regulating, relating to, or imposing liability or standards of conduct concerning any Hazardous Substance, now or at any time hereinafter in effect; (b) any substance, product, waste or other material of any nature whatsoever which may give rise to liability under any of the above statutes or under any statutory or common law theory based on negligence, trespass, intentional tort, nuisance or strict liability or under any reported decisions of a state or federal court; (c) petroleum or crude oil, other than petroleum and petroleum products which are contained within regularly operated motor vehicles; and (d) asbestos.

b. LESSOR makes no warranty or representation whatsoever concerning the Premises, including without limitation, the condition, fitness or utility for any purpose thereof, of any improvements thereto with applicable laws, ordinances or governmental regulations. LESSEE’s right to use Premises is strictly on an “as is” basis with all faults. LESSOR hereby disclaims all warranties whatsoever, express or implied, the condition of the soil (or water), geology, and any warranty of merchantability or habitability or fitness for a particular purpose.

c. Except as otherwise specifically permitted under the terms of this Agreement, LESSEE shall not use, create, generate, store, deposit, dispose of or allow any Hazardous Substances on, under, about or within the Premises or Property in violation of any federal, state, or local law, rule, regulation, order, decree or other requirement listed in sub-Section 29(a).

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Storage batteries for emergency power, fuel for temporary generators during power outages, and ordinary paints, solvents and similar substances commonly used in small quantities and necessary for maintenance of the LESSEE's facilities are excepted from the preceding prohibition of use by LESSEE of Hazardous Substances on the Property, so long as LESSEE complies with all applicable federal, state and local laws rules and regulations governing the use of such items.

d. LESSOR or its officers, employees, contractors, or agents shall at all times have the right to go upon and inspect Premises and the operations conducted thereon to assure compliance with the requirements herein stated. This inspection may include taking samples for chemical analysis of substances and materials present and/or testing soils on Premises and taking photographs.

e. LESSEE shall, within forty-eight (48) hours of the discovery by LESSEE of the presence of, or believed presence of, a Hazardous Substance as defined herein, give written notice to LESSOR in the event that LESSEE knows or has reasonable cause to believe that any release of Hazardous Substance has come or will come to be located on, under, about or within Premises. The failure to disclose in a timely manner the release of a Hazardous Substance, including but not limited to, an amount which is required to be reported to a state or local agency pursuant to law (e.g., California's Hazardous Materials Storage and Emergency Response Act, Health and Safety Code Section 25550 et seq.) shall be grounds for termination of this Agreement by LESSOR in addition to actual damages and other remedies provided by law. LESSEE shall immediately clean up and completely remove all Hazardous Substances placed by LESSEE on, under, about or within Premises, in a manner that is in all respects safe and in accordance with all applicable laws, rules and regulations.

f. In the event Hazardous Substances are discovered, LESSEE shall disclose to LESSOR the specific information regarding LESSEE's discovery of any Hazardous Substances placed on, under, about or within Premises by LESSEE, and provide written documentation of its safe and legal disposal.

g. Breach of any of these covenants, terms, and conditions, and LESSEE's failure to cure within thirty (30) days of LESSEE's receipt of written notice from LESSOR, shall give LESSOR the authority to either immediately terminate this Agreement or to shut down LESSEE's operations thereon, at the sole discretion of LESSOR. In either case, LESSEE will continue to be liable under this Agreement to remove and mitigate all Hazardous Substances placed by LESSEE on, under, about or within Premises or the Property. LESSEE shall be responsible for, and bear the entire cost of removal and disposal of, all Hazardous Substances introduced to Premises by LESSEE during LESSEE's period of use and possession of Premises. Upon termination of this Agreement, LESSEE shall, in accordance with all laws, remove from Premises any equipment or improvements placed on Premises by LESSEE that may be contaminated by Hazardous Substances.

h. LESSEE shall defend, indemnify and hold LESSOR and its officials, officers, employees, contractors and agents free and harmless from any and all claims, liability, injury, damage, costs, or expenses (including, without limitation, the cost of attorney's fees) arising as a result of the presence of use of any Hazardous Substances placed or caused to be placed by LESSEE or its partners, affiliates, agents, officials, officers, contractors or employees on the

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Premises. LESSOR shall defend, indemnify and hold LESSEE and its officials, officers, employees, contractors and agents free and harmless from any and all claims, liability, injury, damage, costs, or expenses (including, without limitation, the cost of attorney's fees) arising as a result of the presence of use of any Hazardous Substances placed or caused to be placed by LESSOR or its partners, affiliates, agents, officials, officers, contractors or employees on the Premises. The foregoing indemnity is intended to operate as an agreement pursuant to, among other requirements, Section 107, subdivision (e) of CERCLA, 42 United States Code Section 9607, subdivision (e), and California Health and Safety Code Section 25364, to insure, protect, hold harmless and indemnify each Party from any liability created by the other Party pursuant to such sections.

i. The terms of this Section shall survive the expiration or earlier termination of this Agreement.

30. CASUALTY. In the event of damage by fire or other casualty to the Premises that cannot reasonably be expected to be repaired within forty-five (45) days following same or, if the Property is damaged by fire or other casualty so that such damage may reasonably be expected to disrupt LESSEE's operations at the Premises for more than forty-five (45) days, then LESSEE may, at any time following such fire or other casualty, provided LESSOR has not completed the restoration required to permit LESSEE to resume its operation at the Premises, terminate this Agreement upon fifteen (15) days prior written notice to LESSOR. Any such notice of termination shall cause this Agreement to expire with the same force and effect as though the date set forth in such notice were the date originally set as the expiration date of this Agreement and the Parties shall make an appropriate adjustment, as of such termination date, with respect to payments due to the other under this Agreement. Notwithstanding the foregoing, the rent shall abate during the period of repair following such fire or other casualty in proportion to the degree to which LESSEE's use of the Premises is impaired.

31. CONDEMNATION. In the event of any condemnation of all or any portion of the Property, this Agreement shall terminate as to the part so taken as of the date the condemning authority takes title or possession, whichever occurs first. If as a result of a partial condemnation of the Premises or Property, LESSEE, in LESSEE's sole discretion, is unable to use the Premises for the purposes intended hereunder, or if such condemnation may reasonably be expected to disrupt LESSEE's operations at the Premises for more than forty-five (45) days, LESSEE may, at LESSEE's option, to be exercised in writing within fifteen (15) days after LESSOR shall have given LESSEE written notice of such taking (or in the absence of such notice, within fifteen (15) days after the condemning authority shall have taken possession) terminate this Agreement as of the date the condemning authority takes such possession. LESSEE may on its own behalf make a claim in any condemnation proceeding involving the Premises for losses related to the equipment, conduits, fixtures, its relocation costs and its damages and losses (but not for the loss of its leasehold interest). Any such notice of termination shall cause this Agreement to expire with the same force and effect as though the date set forth in such notice were the date originally set as the expiration date of this Agreement and the Parties shall make an appropriate adjustment as of such termination date with respect to payments due to the other under this Agreement. If LESSEE does not terminate this Agreement in accordance with the foregoing, this Agreement shall remain in full force and effect as to the portion of the Premises remaining, except that the rent shall be reduced in the same proportion as the rentable area of the Premises taken bears to the total rentable area of

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the Premises. In the event that this Agreement is not terminated by reason of such condemnation, LESSOR shall promptly repair any damage to the Premises caused by such condemning authority.

32. SUBMISSION OF AGREEMENT/PARTIAL INVALIDITY/AUTHORITY. The submission of this Agreement for examination does not constitute an offer to lease the Premises and this Agreement becomes effective only upon the full execution of this Agreement by the Parties. If any provision herein is invalid, it shall be considered deleted from this Agreement and shall not invalidate the remaining provisions of this Agreement. Each of the Parties hereto warrants to the other that the person or persons executing this Agreement on behalf of such Party has the full right, power and authority to enter into and execute this Agreement on such Party's behalf and that no consent from any other person or entity is necessary as a condition precedent to the legal effect of this Agreement.

33. APPLICABLE LAWS. During the Term, LESSOR shall maintain the Property in compliance with all applicable laws, rules, regulations, ordinances, directives, covenants, easements, zoning and land use regulations, and restrictions of record, permits, building codes, and the requirements of any applicable fire insurance underwriter or rating bureau, now in effect or which may hereafter come into effect (including, without limitation, the Americans with Disabilities Act and laws regulating hazardous substances) (collectively "Laws"). LESSEE shall, in respect to the condition of the Premises and at LESSEE's sole cost and expense, comply with (a) all Laws relating solely to LESSEE's specific and unique nature of use of the Premises (other than general office use); and (b) all building codes requiring modifications to the Premises due to the improvements being made by LESSEE in the Premises.

34. SURVIVAL. The provisions of the Agreement relating to indemnification from one Party to the other Party shall survive any termination or expiration of this Agreement. Additionally, any provisions of this Agreement which require performance subsequent to the termination or expiration of this Agreement shall also survive such termination or expiration.

35. CAPTIONS. The captions contained in this Agreement are inserted for convenience only and are not intended to be part of the Agreement. They shall not affect or be utilized in the construction or interpretation of the Agreement.

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IN WITNESS WHEREOF, the Parties hereto have set their hands and affixed their respective seals the day and year first above written.

LESSOR:

WITNESS

By: _____
Its: _____
Date: _____

LESSEE:

WITNESS

By: _____
Its: _____
Date: _____

Exhibit "A"

(Sketch of Premises within Property)



**STAFF REPORT
TO
DESERT WATER AGENCY
BOARD OF DIRECTORS**

MAY 15, 2018

**RE: REQUEST BOARD ACTION WITH REGARD TO CLAIM FOR
DAMAGES FILED BY RAYMUNDO GONZALEZ**

Attached for the Board's review is a claim form submitted to the Agency by Raymundo Gonzalez. This claim is regarding a vehicle accident involving an Agency vehicle that occurred on December 11, 2017.

Mr. Gonzalez previously filed a claim for damages of \$7,687.69, a total loss of his 2006 BMW. The claim states that an Agency employee rear-ended him at the intersection of Vista Chino/Cerritos Rd. On March 6, 2018 that claim was rejected and sent to the Association of California Water Agencies Joint Powers Insurance Agency (ACWA-JPIA) for their handling.

The claim brought to you today is for an amount exceeding \$25,000 for personal injuries and other damages. Staff recommends that the Board reject this claim and instruct Staff to refer the matter to ACWA-JPIA for their handling.

MAY 04 2018

Claim Form

(A claim shall be presented by the claimant or by a person acting on his behalf.)

DESERT WATER AGENCY
MANAGEMENT

NAME OF DISTRICT: DESERT WATER AGENCY, 1200 S. Gene Autry Tr., 92264	
1	Claimant name, address (mailing address if different), phone number, social security number, e-mail address, and date of birth. <i>Effective January 1, 2010, the Medicare Secondary Payer Act (Federal Law) requires the District/Agency to report all claims involving payments for bodily injury and/or medical treatments to Medicare. As such, if you are seeking medical damages, we <u>MUST</u> have both your Social Security Number and your date of birth.</i>
	Name: Raymundo Gonzalez Phone Number: (760) 912-0959
	Address(es): 68200 33rd Ave., Apt. 186 Social Security No.:
	Cathedral City, CA 92234 Date of Birth: [REDACTED]
	E-mail: [REDACTED]
2	List name, address, and phone number of any witnesses. Unknown at this time. Investigation is continuing.
	Name:
	Address:
	Phone Number: ()
3	List the date, time, place, and other circumstances of the occurrence or transaction, which gave rise to the claim asserted.
	Date: 12/11/17 Time: 5:40 pm Place: Intersection of Vista Chino and Cerritos Road, Palm Springs
	Tell What Happened (give complete information):
	Claimant was in his vehicle at a red traffic signal, when an employee of Desert Water District failed to stop and collided into Claimant's vehicle, causing Claimant to sustain personal injuries and other damages.
NOTE: Attach any photographs you may have regarding this claim.	
4	Give a general description of the indebtedness, obligation, injury, damage, or loss incurred so far as it may be known at the time of presentation of the claim. See Attachment A.
5	Give the name or names of the public employee or employees causing the injury, damage, or loss, if known.
	Unknown at this time. Investigation is continuing.
6	The amount claimed if it totals less than ten thousand dollars (\$10,000) as of the date of presentation of the claim, including the estimated amount of any prospective injury, damage or loss, insofar as it may be known at the time of the presentation of the claim, together with the basis of computation of the amount claimed. If the amount claimed exceeds ten thousand dollars (\$10,000), no dollar amount shall be included in the claim. However, it shall indicate whether the claim would be a limited civil case.
	This claim exceeds \$25,000. Jurisdiction would vest in the Unlimited Superior Court.
Date: 5-02-2018 Time: 10:30 AM Signature: [Signature]	
ANSWER ALL QUESTIONS. OMITTING INFORMATION COULD MAKE YOUR CLAIM LEGALLY INSUFFICIENT!	

ATTACHMENT A

- 4. Give a general description of the indebtedness, obligation, injury, damage, or loss incurred so far as it may be down at the time of presentation of the claim.**

On December 11, 2017, at approximately 5:40 p.m., Claimant was in his vehicle, stopped at a red traffic signal at the intersection of Vista Chino and Cerritos, in the City of Palm Springs, when an employee of Desert Water Agency ("JOHN DOE") negligently, recklessly and unlawfully failed to stop for traffic and collided into Claimant's vehicle.

Upon impact of this collision, Claimant was violently thrust about within the restraint of his seatbelt, and he sustained personal injuries and other damages. Claimant has suffered both economic and non-economic damages including, but not limited to past and future medical expenses and loss of earnings, loss of earning capacity, pain, suffering, shock and trauma as a result of the injuries sustained this collision. Claimant also had to pay a \$500 deductible to get his vehicle repaired.

JOHN DOE was in the course and scope of his employment with Desert Water Agency when he negligently, carelessly, recklessly and unlawfully operated, maintained, managed and controlled a motor vehicle owned by Desert Water Agency, so as to cause it to collide with Claimant's vehicle.

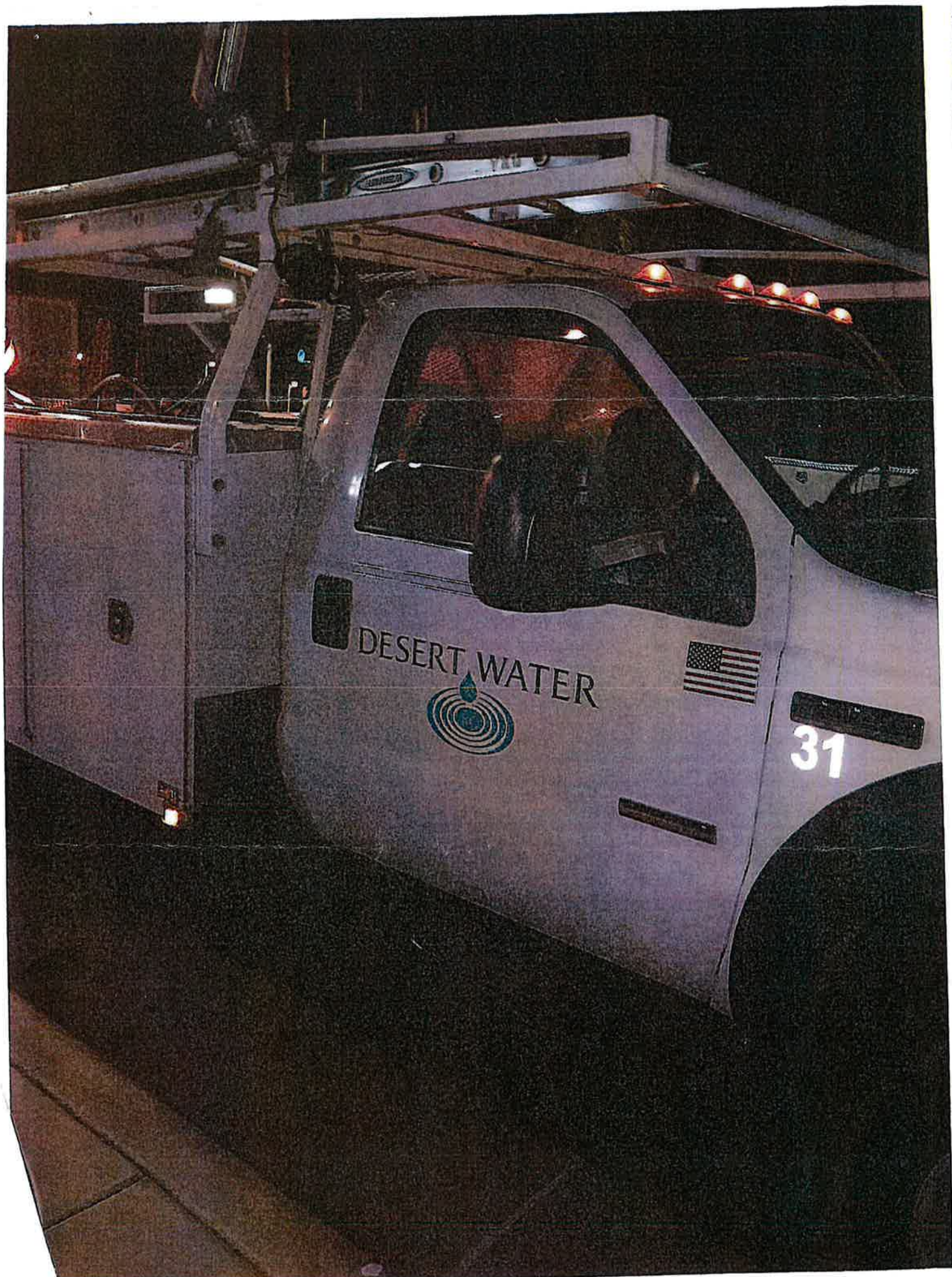
The Desert Water Agency is liable in *respondeat superior* for the torts of its employee, JOHN DOE, which were committed during the course and scope of JOHN DOE's employment under Government Code §815.2(a). This includes, but is not limited to, liability for negligent acts and omissions committed by JOHN DOE while he was acting within the course and scope of his employment with the Desert Water Agency. The Desert Water Agency is vicariously liable under Government Code §815.2(a) for all violations of state law by its employee, JOHN DOE, including, but not limited to, intentional torts and violation of California Veh. Code §21453(a). JOHN DOE is liable for his conduct to the same extent as a private person under Government Code §820(a).

Claimant further alleges that the Desert Water Agency improperly trained and/or improperly supervised their employee, JOHN DOE, and negligently entrusted the Desert Water Agency vehicle to JOHN DOE.

DESERT WATER



31



Association of California Water Agencies / Joint Powers Insurance Authority
P.O. Box 512552, Roseville, CA 95651-0552

CERTIFICATE OF COVERAGE

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THESE RIGHTS ARE THOSE PROVIDED IN THE COVERAGE DOCUMENT. THIS CERTIFICATE DOES NOT ALTER, EXTEND OR AFFECT THE COVERAGE AFFORDED BY THE COVERAGE DOCUMENTS LISTED HEREIN.

MEMBER

Desert Water Agency
P.O. Box 1710
Palm Springs, CA 92263-1710

COVERAGE INFORMATION

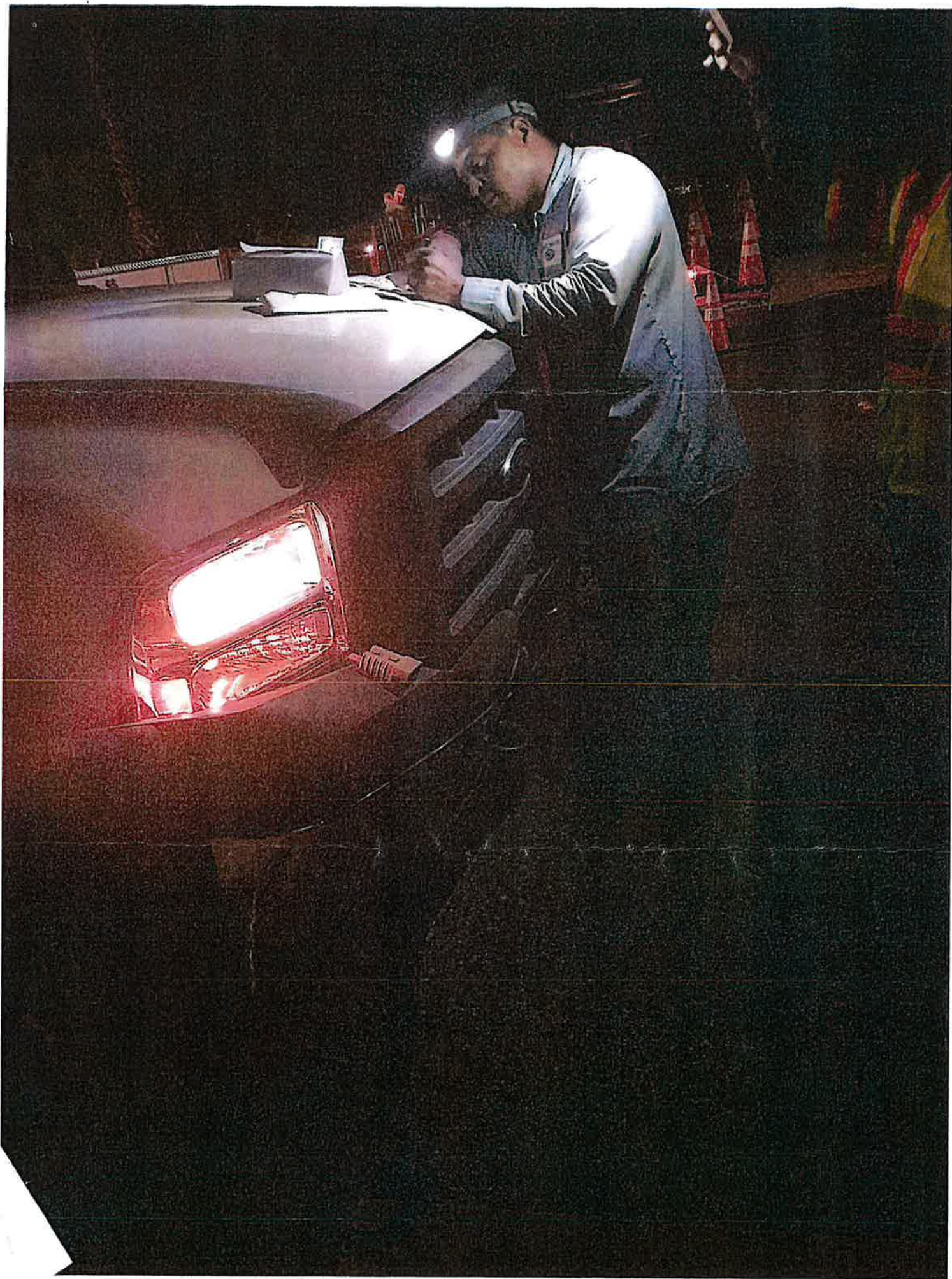
This is to certify that coverage documents listed herein have been issued to the Member Agency herein for the Coverage period indicated. Notwithstanding any requirements, terms or conditions of any contract or other document with respect to which this certificate may be issued or may pertain, the coverage afforded by the coverage documents listed herein is subject to all the terms, conditions and exclusions of such coverage documents.

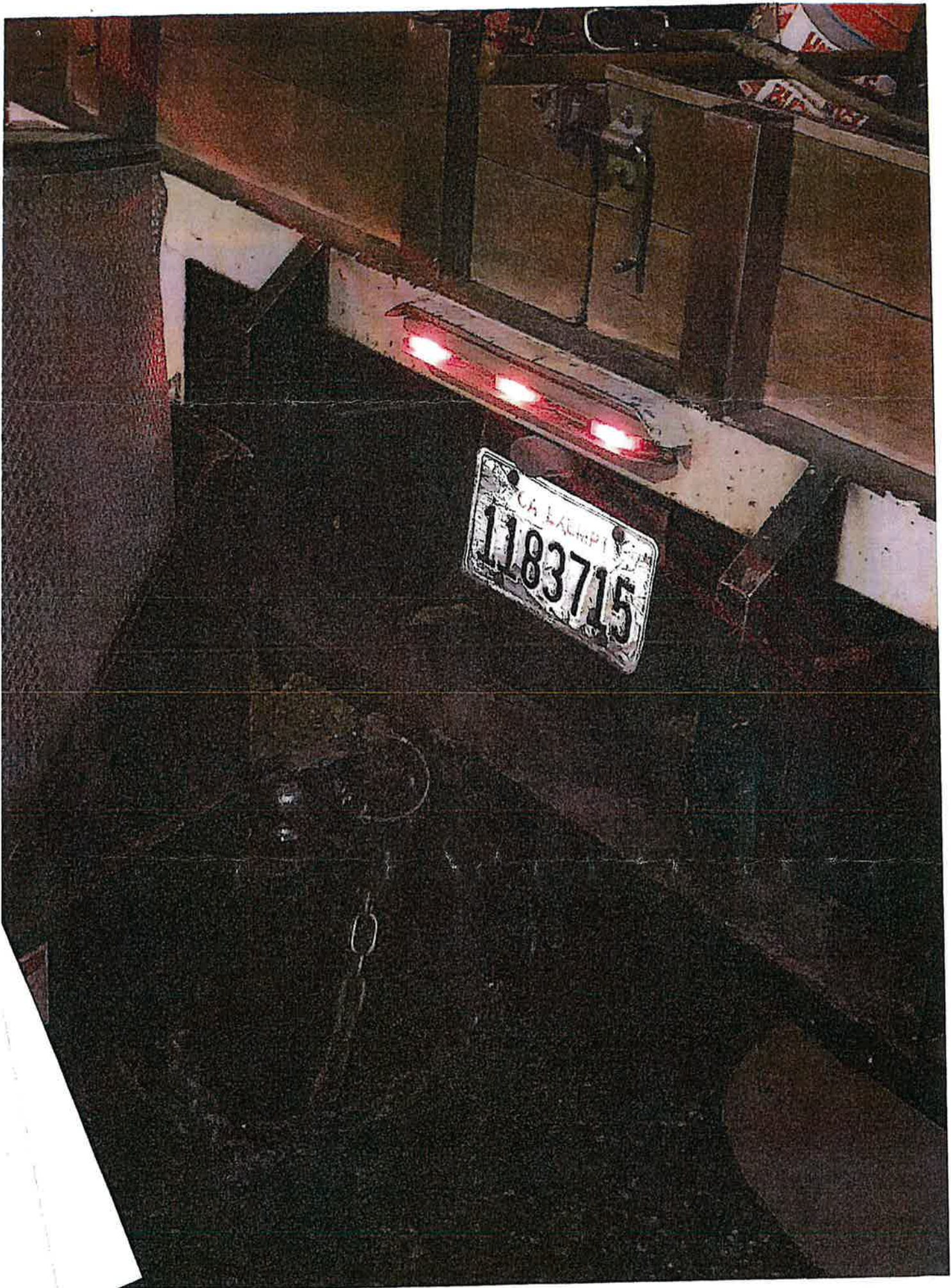
Type of Coverage	Coverage #	Effective Date	Expiration Date	Amount	Limit
General Liability	MOLC-100117	10/1/2017	10/1/2018	Aggregate Per Occurrence	\$1,000,000 \$1,000,000
<input type="checkbox"/> Commercial General Liability <input type="checkbox"/> Contractual Liability <input type="checkbox"/> Products/Completed Operations <input type="checkbox"/> Occurrence					
Auto Liability	MOLC-100117	10/1/2017	10/1/2018	Per Occurrence	\$1,000,000
<input type="checkbox"/> Owned Autos <input type="checkbox"/> Hired Autos <input type="checkbox"/> Non-Owned Autos					
Auto Physical Damage					
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Property					
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Workers' Compensation					
Coverage A - Workers' Comp.					
Coverage B - Employer's Liability					

DESCRIPTION

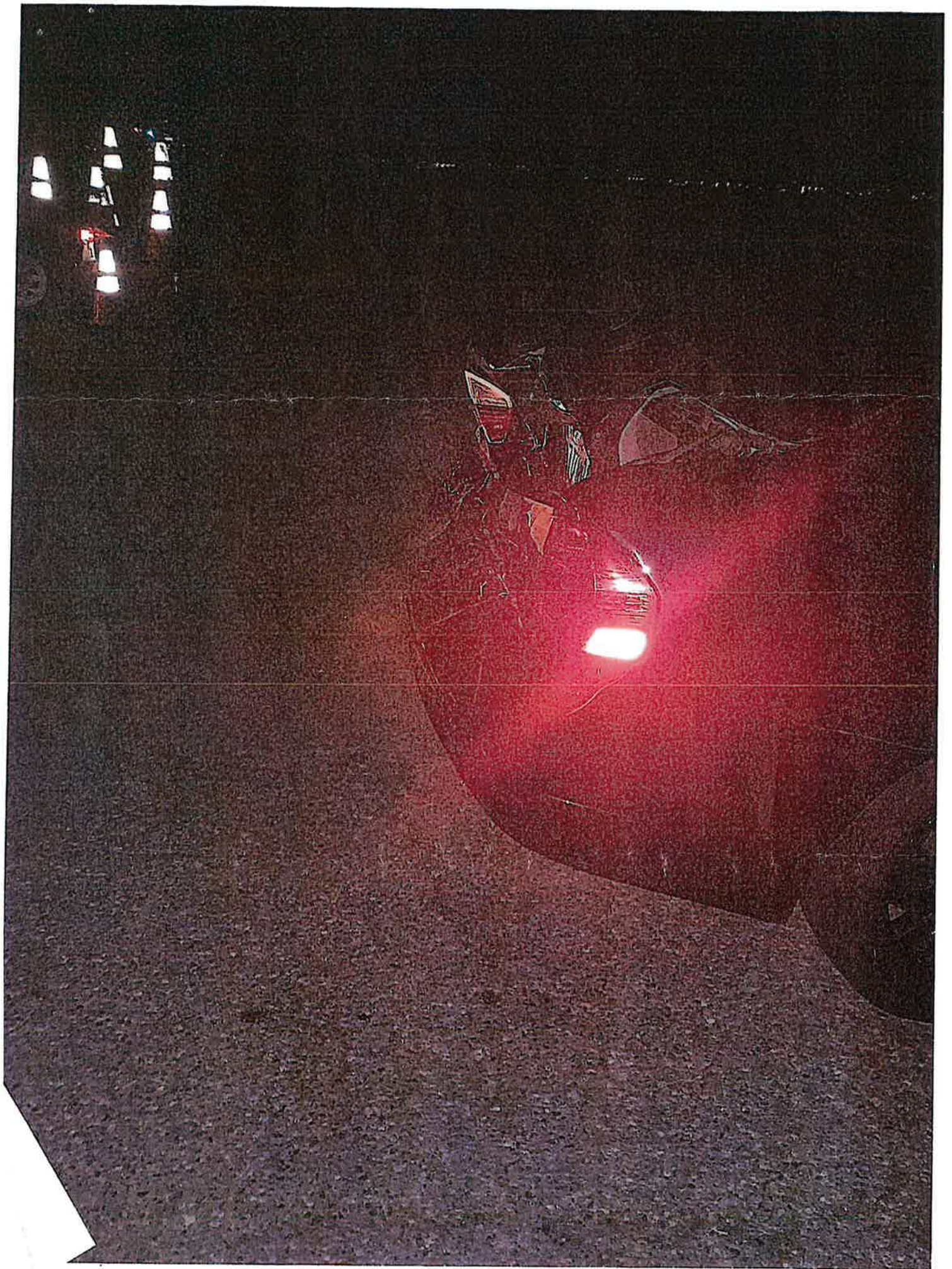
Amount of Auto Liability coverage for all owned vehicles

CANCELLATION

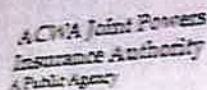












TO: Library Program Manager

FROM: John G. Carr, Member, Service Manager

DATE: August 19, 1968

SUBJECT: Proof of Financial Responsibility

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Fig. 1


 The McGraw-Hill Companies
 Copyright © 2005 The McGraw-Hill Companies. All rights reserved.

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1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

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Section 16020 (b) (4) of the California Vehicle Code specifically exempts public entities from having to provide proof of financial responsibility (i.e., insurance identification cards) for operation of vehicles owned or leased by them. Nonetheless, JPLA's Liability Program members report that frequently CHP and local police officers demand such proof from employees involved in accidents; often, the employee or member is cited for failure to provide such proof.

The JPIA has confirmed with the Department of California Highway Patrol that such action by officers is in error and unwarranted. A copy of a letter from the CHP Commissioner explaining this is enclosed.

The JPIA provides each member with an Accident Reporting Kit to be placed in each vehicle operated by a member. The Kit contains a small card that explains the exemption. Unfortunately, that does not seem to satisfy all peace officers.

In the future, the JPIA will include a copy of the Commissioner's letter in the Accident Reporting Kits when they are issued. In the meantime, the JPIA recommends that each member should reproduce the attached letter and place a copy of it in each vehicle. It is hoped that this additional documentation will eliminate future incidents.

It should also be noted that Section 4000.67 (a) (2) (A) of the Vehicle Code likewise exempts public entities from having to provide proof of insurance when registering a vehicle. This same letter may suffice to overcome objections of local Department of Motor Vehicles personnel who are demanding such proof of financial responsibility.

**STAFF REPORT
TO
DESERT WATER AGENCY
BOARD OF DIRECTORS**

MAY 15, 2018

RE: PUBLIC MEETING ON GROUNDWATER REPLENISHMENT

- (1) 2018/2019 MISSION CREEK GROUNDWATER
REPLENISHMENT ASSESSMENT**
- (2) 2018/2019 WEST WHITEWATER RIVER GROUNDWATER
REPLENISHMENT ASSESSMENT**
- (3) 2018/2019 GARNET HILL GROUNDWATER
REPLENISHMENT ASSESSMENT**

At its April 17, 2018 meeting, the Board discussed the draft Engineer's Report on Groundwater Replenishment Assessments for the Mission Creek, West Whitewater River and Garnet Hill Sub-basins. Today's meeting is intended to allow interested parties to come to the Board and provide their comments on the proposed assessments contained in the final Engineer's Reports. As indicated in the draft and final Replenishment Reports, the proposed Mission Creek, West Whitewater River and Garnet Hill Groundwater Replenishment Assessments will be set at \$140 per acre-foot.

Copies of the public hearing notices that were published in The Public Record on May 1 are attached.

Staff requests a determination be made that funds should be raised by a replenishment assessment, and the Board set the time and place for public hearing on the matter for June 5, 2018, to consider resolutions of findings of fact and levying replenishment assessments for the fiscal year 2018/2019.

**NOTICE OF PUBLIC HEARING
ON
PROPOSED REPLENISHMENT ASSESSMENT
FOR THE MISSION CREEK SUBBASIN
AREA OF BENEFIT**

DESERT WATER AGENCY

NOTICE is hereby given that the Board of Directors of the Desert Water Agency will hold a public meeting on May 15, 2018 and has called for a public hearing on June 5, 2018 at 8:00 AM in the Board Room at the Agency's Operations Center, 1200 Gene Autry Trail South, Palm Springs, California.

The purpose of the public hearing is to consider a proposed water replenishment assessment to be levied by the Desert Water Agency upon all water production, except as hereinafter provided, within the following described Area of Benefit:

That portion of the Mission Creek Subbasin of the Upper Coachella Valley Groundwater Basin
lying within the boundaries of the Desert Water Agency.

The proposed replenishment assessment will apply to both groundwater extractions and surface water diversions within or affecting the Area of Benefit. Minimal pumpers producing less than 10 AF/Yr, and diverters of stream flow that do not diminish said flow in excess of 10 AF/Yr, will be exempt from the replenishment assessment.

The purpose of the proposed assessment is to provide funds for fiscal year 2018/2019 to replenish groundwater supplies within the Area of Benefit. The Consulting Engineer of the Desert Water Agency has concluded that such groundwater supplies are in a condition of overdraft, and that the Agency should continue to request its maximum Table A water allocation of State Water Project water (and to exchange it for Colorado River water pursuant to an exchange agreement with the Metropolitan Water District of Southern California) for replenishment purposes.

The Consulting Engineer specifically recommends that the Agency request its maximum annual Table A allocation for 2018 and 2019 of 55,750 AF/Yr, and that the proposed 2018/2019 replenishment assessment rate for the Mission Creek Subbasin Area of Benefit increase to \$140.00/AF in accordance with the rates adopted by Desert Water Agency during the Proposition 218 proceedings held in Fall 2016. The 2018/2019 replenishment assessment is expected to raise approximately \$1,226,400 within the Mission Creek Subbasin Area of Benefit. The replenishment assessment will be collected from all non-exempt groundwater producers on a quarterly basis.

A copy of the engineering report prepared by the Agency's Consulting Engineer, entitled "Engineer's Report on Ground Water Replenishment and Assessment Program for the West Whitewater River Subbasin, Mission Creek Subbasin, and Garnet Hill Subbasin Areas of Benefit, Desert Water Agency, 2018/2019", is available for inspection at the office of the Desert Water Agency, 1200 Gene Autry Trail South, Palm Springs, California.

All interested parties are invited to attend the public hearing, and be heard in support of or in opposition to the proposed assessment. Those wishing to provide written support or opposition regarding the proposed assessment may provide same to the Agency at the following address and telephone number:

Desert Water Agency
P.O. Box 1710
Palm Springs, CA 92263-1710
(760) 323-4971
Attn: Mark S. Krause, General Manager-Chief Engineer

The law requires that the Board of Directors make specific findings upon all facts relevant and material to any replenishment assessment following the June 5, 2018 public hearing, and that action to levy any such assessment be taken before July 1st of this year.

Dated: May 1, 2018

Mark S. Krause
General Manager-Chief Engineer

**NOTICE OF PUBLIC HEARING
ON
PROPOSED REPLENISHMENT ASSESSMENT
FOR THE WEST WHITEWATER RIVER SUBBASIN
AREA OF BENEFIT**

DESERT WATER AGENCY

NOTICE is hereby given that the Board of Directors of the Desert Water Agency will hold a public meeting on May 15, 2018 and has called for a public hearing on June 5, 2018 at 8:00 AM in the Board Room at the Agency's Operations Center, 1200 Gene Autry Trail South, Palm Springs, California.

The purpose of the public hearing is to consider a proposed water replenishment assessment to be levied by the Desert Water Agency upon all water production, except as hereinafter provided, within the following described Area of Benefit:

That portion of the Whitewater River Subbasin of the Northwestern (Upper) Coachella Valley
Groundwater Basin lying within the boundaries of the Desert Water Agency.

The proposed replenishment assessment will apply to both groundwater extractions and surface water diversions within or affecting the Area of Benefit. Minimal pumpers producing less than 10 AF/Yr, and diverters of stream flow that do not diminish said flow in excess of 10 AF/Yr, will be exempt from the replenishment assessment.

The purpose of the proposed assessment is to provide funds for fiscal year 2018/2019 to replenish groundwater supplies within the Area of Benefit. The Consulting Engineer of the Desert Water Agency has concluded that such groundwater supplies are in a condition of overdraft, and that the Agency should continue to request its maximum Table A water allocation of State Water Project water (and to exchange it for Colorado River water pursuant to an exchange agreement with the Metropolitan Water District of Southern California) for replenishment purposes.

The Consulting Engineer specifically recommends that the Agency request its maximum annual Table A allocation for 2018 and 2019 of 55,750 AF/Yr, and that the proposed 2018/2019 replenishment assessment rate for the West Whitewater River Subbasin Area of Benefit increase to \$140.00/AF in accordance with the rates adopted by Desert Water Agency during the Proposition 218 proceedings held in Fall 2016. The 2018/2019 replenishment assessment is expected to raise approximately \$4,757,200 within the West Whitewater River Subbasin Area of Benefit. The replenishment assessment will be collected from all non-exempt water producers on a quarterly basis.

A copy of the engineering report prepared by the Agency's Consulting Engineer, entitled "Engineer's Report on Ground Water Replenishment and Assessment Program for the West Whitewater River Subbasin, Mission Creek Subbasin, and Garnet Hill Subbasin Areas of Benefit, Desert Water Agency, 2018/2019", is available for inspection at the office of the Desert Water Agency, 1200 Gene Autry Trail South, Palm Springs, California.

All interested parties are invited to attend the public hearing, and be heard in support of or in opposition to the proposed assessment. Those wishing to provide written support or opposition regarding the proposed assessment may provide same to the Agency at the following address and telephone number:

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The law requires that the Board of Directors make specific findings upon all facts relevant and material to any replenishment assessment following the June 5, 2018 public hearing, and that action to levy any such assessment be taken before July 1st of this year.

Dated: May 1, 2018

Mark S. Krause
General Manager-Chief Engineer

**NOTICE OF PUBLIC HEARING
ON
PROPOSED REPLENISHMENT ASSESSMENT
FOR THE GARNET HILL SUBBASIN
AREA OF BENEFIT**

DESERT WATER AGENCY

NOTICE is hereby given that the Board of Directors of the Desert Water Agency will hold a public meeting on May 15, 2018 and has called for a public hearing on June 5, 2018 at 8:00 AM in the Board Room at the Agency's Operations Center, 1200 Gene Autry Trail South, Palm Springs, California.

The purpose of the public hearing is to consider a proposed water replenishment assessment to be levied by the Desert Water Agency upon all water production, except as hereinafter provided, within the following described Area of Benefit:

That portion of the Garnet Hill Subbasin of the Upper Coachella Valley Groundwater Basin lying within the boundaries of the Desert Water Agency.

The proposed replenishment assessment will apply to both groundwater extractions and surface water diversions within or affecting the Area of Benefit. Minimal pumpers producing less than 10 AF/Yr, and diverters of stream flow that do not diminish said flow in excess of 10 AF/Yr, will be exempt from the replenishment assessment.

The purpose of the proposed assessment is to provide funds for fiscal year 2018/2019 to replenish groundwater supplies within the Area of Benefit. The Consulting Engineer of the Desert Water Agency has concluded that such groundwater supplies are in a condition of overdraft, and that the Agency should continue to request its maximum Table A water allocation of State Water Project water (and to exchange it for Colorado River water pursuant to an exchange agreement with the Metropolitan Water District of Southern California) for replenishment purposes.

The Consulting Engineer specifically recommends that the Agency request its maximum annual Table A allocation for 2018 and 2019 of 55,750 AF/Yr, and that the proposed 2018/2019 replenishment assessment rate for the Garnet Hill Subbasin Area of Benefit increase to \$140.00/AF in accordance with the rates adopted by Desert Water Agency during the Proposition 218 proceedings held in Fall 2016. The 2018/2019 replenishment assessment is expected to raise approximately \$65,800 within the Garnet Hill Subbasin Area of Benefit. The replenishment assessment will be collected from all non-exempt groundwater producers on a quarterly basis.

A copy of the engineering report prepared by the Agency's Consulting Engineer, entitled "Engineer's Report on Ground Water Replenishment and Assessment Program for the West Whitewater River Subbasin, Mission Creek Subbasin, and Garnet Hill Subbasin Areas of Benefit, Desert Water Agency, 2018/2019", is available for inspection at the office of the Desert Water Agency, 1200 Gene Autry Trail South, Palm Springs, California.

All interested parties are invited to attend the public hearing, and be heard in support of or in opposition to the proposed assessment. Those wishing to provide written support or opposition regarding the proposed assessment may provide same to the Agency at the following address and telephone number:

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The law requires that the Board of Directors make specific findings upon all facts relevant and material to any replenishment assessment following the June 5, 2018 public hearing, and that action to levy any such assessment be taken before July 1st of this year.

Dated: May 1, 2018

Mark S. Krause
General Manager-Chief Engineer

DESERT WATER



(760) 323-4971

POST OFFICE BOX 1710
PALM SPRINGS, CALIFORNIA 92263

1200 GENE AUTRY TRAIL SOUTH
PALM SPRINGS, CALIFORNIA 92264

FINAL DRAFT 5/10/2018

ENGINEER'S REPORT

**GROUNDWATER REPLENISHMENT
AND
ASSESSMENT PROGRAM
FOR THE
WEST WHITEWATER RIVER SUBBASIN,
MISSION CREEK SUBBASIN,
AND
GARNET HILL SUBBASIN
AREAS OF BENEFIT
DESERT WATER AGENCY
2018/2019**

MAY 2018

Prepared by



KRIEGER & STEWART
Engineering Consultants
3602 UNIVERSITY AVENUE
RIVERSIDE, CALIFORNIA 92501
(951) 684-6900

David F. Scriven
R.C.E. No. 42922

101-33.42
(DFS/blt)
(REPORTS/101-33P42RPT)

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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 Subbasin	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



<u>Term</u>	<u>Definition</u>
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 Subbasin	The entire Whitewater River Groundwater Subbasin as defined by the United States Geological Survey in <i>Geological Survey Water-Supply Paper 2027</i> (1974)
Mission Creek Subbasin	The entire Mission Creek Groundwater Subbasin as defined by the United States Geological Survey in <i>Geological Survey Water-Supply Paper 2027</i> (1974)
Garnet Hill Subbasin	The entire Garnet Hill Groundwater Subbasin as defined by the United States Geological Survey in <i>Geological Survey Water-Supply Paper 2027</i> (1974)
West Whitewater River Subbasin Management Area or WWR Management Area	The westerly portion of the Whitewater River Subbasin plus that portion of the Garnet Hill Subbasin (GH) that lies within CVWD's service area, 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

**Term****Definition**

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

Garnet Hill Subbasin Management
Area or GH Management Area

The portion of the Garnet Hill Subbasin that lies within DWA's service area, as specifically defined in Chapter II

Garnet Hill Subbasin Area of
Benefit or GH AOB

Since CVWD considers the portion of the Garnet Hill Subbasin within its service area to be a part of CVWD's WWR AOB, the GH AOB is the same as the GH Management Area

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 2017/2018 Engineer's Reports, the WWR Management Area was referred to simply as the Whitewater River Subbasin. However, the Whitewater River Subbasin includes separate groundwater management areas in both the westerly and easterly portions of the Whitewater River Subbasin. Also, the westerly management area has two areas of benefit (AOBs), one managed by DWA and one managed by CVWD. For these reasons, the following terms and definitions are adopted herein and for future Engineer's Reports:

- "Whitewater River Subbasin" – the entire Whitewater River Groundwater Subbasin as defined by the United States Geological Survey
- "West Whitewater River Subbasin Management Area" or "WWR Management Area" – the westerly portion of the Whitewater River Subbasin plus that portion of the Garnet Hill Subbasin (GH) that lies within CVWD's service area, 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, DWA'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".

Through the 2015/2016 Engineer's Reports, each of DWA's AOBs in the Western (Upper) Coachella Valley was described in its own separate report. Beginning with the 2016/2017 Engineer's Report, all of DWA's AOBs (Whitewater River Subbasin (now referred to a West Whitewater River Subbasin or WWR), Mission Creek Subbasin or MC, and Garnet Hill Subbasin or GH) have been included in a single report.

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, MC, and GH 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 87,000 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 overdraft, without artificial replenishment, will result in declining groundwater levels and increasing pump lifts, thereby increasing energy consumption for groundwater extraction. Extreme cumulative 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 groundwater overdraft.

The AOBs for DWA's portion of the groundwater replenishment program are those portions of the Whitewater River Subbasin, MC, and GH and tributaries—including subbasins (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 the 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 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). *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 WWR, MC, and GH Management Areas. The three parties also agreed to investigate whether the GH was in fact benefitting from the artificial recharge programs within the WWR and MC Management Areas and to prepare the MC/GH WMP.

The MC/GH WMP determined that, since artificial recharge activities began, the GH has benefitted from artificial recharge in both the westerly portion of the WWR and the MC: the former by means of infiltration from the Whitewater River channel, from subsurface flow across the Garnet Hill Fault from the westerly portion of the WWR into the upper and central portions of the GH, and by retardation of subsurface outflow from the lower portion of the GH 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 GH from either the westerly portion of the Whitewater River Subbasin or the MC, and stated that hydrologic data for such a determination is currently lacking and, based on data available, it is unclear and uncertain as to the exact relative contribution from these sources to the replenishment of the GH. Regardless, the GH is dependent on both the westerly portion of the WWR and the MC for its groundwater replenishment, both natural and artificial.

The benefits resulting from artificial groundwater infiltration from the Whitewater River channel and subsurface flow of groundwater from the MC and from the westerly portion of the Whitewater River Subbasin is evidenced by the response observed by groundwater levels in wells within the GH. Historic groundwater levels within the GH and historic quantities of imported water delivered to the Whitewater River and Mission Creek Replenishment Facilities are shown in **Exhibit 3**. The rising groundwater levels

correlate with the large quantities of groundwater recharge, particularly in those groundwater wells located in the westerly and central portions of the GH, especially for the periods 1983 through 1987, 1995 through 2000, and 2009 through 2012.

Since the GH benefits from CVWD's and DWA's recharge programs in the WWR and MC Management Areas, CVWD and DWA have the authority to levy replenishment assessment charges on production within the GH under the provisions set forth in the Settlement Agreement.

Because groundwater production continues to exceed natural groundwater replenishment and cumulative groundwater 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 overdraft, and to reduce the resultant threat to the groundwater supply. There are currently no artificial replenishment facilities within the GH.

DWA has requested its maximum 2018 Table A SWP water allocation of 55,750 AF pursuant to its SWP Contract, which was increased from 38,100 AF in 2004 to 50,000 AF in 2005 and to 55,750 in 2010, for the purpose of groundwater replenishment. CVWD plans to do the same with its maximum 2018 Table A water allocation, which was increased in quantity from 23,100 AF in 2003 to 33,000 AF in 2004, to 121,100 AF in 2005, and to 138,350 AF in 2010.

By virtue of the 2003 Exchange Agreement, The Metropolitan Water District of Southern California (MWD) assigned 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. According to communications with MWD management, it is unlikely that MWD will recall any water in the foreseeable future.

According to current projections for 2018, California Department of Water Resources (CDWR) will deliver 30% of Table A water allocation requests, resulting in deliveries of 58,230 AF of Table A water to the Coachella Valley agencies (based on notification from DWR dated January 29, 2018). For 2018, 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 to DWA via MWD for 2018. Up to approximately

100,000 AF of water under the Yuba River Accord is estimated to be available for 2018, of which DWA and CVWD have requested 692 AF and 1,718 AF, respectively. 97,050 AF of Article 56 water carried over from 2017 has already been delivered to the agencies in 2018. In addition, CVWD is anticipated to receive up to approximately 48,603 AF of non-SWP water deliverable to the Whitewater River Replenishment Facility.

The maximum replenishment assessment rate permitted by Desert Water Agency Law for Table A water for the 2018/2019 fiscal year is \$214.32/AF. The \$214.32 rate is based on estimated Applicable SWP Charges of \$9,488,016 (see **Table 5** for DWA applicable charges for 2018 and 2019) and estimated combined assessable production of 44,270 AF for the WWR, MC, and GH Areas of Benefit (estimated for WWR based on the production for 2013 minus 13% for implementation of permanent conservation measures, and based on 2017 production for MC and GH: 34,550 AF within the WWR AOB, 9,250 AF within the MC AOB, and 470 AF within the GH AOB).

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**. Historically, the estimated assessable production has been based on the assessable production for the previous year; however, the production during 2015 and 2016 was unusually low due to mandatory water conservation measures imposed as a result of the Governor's April 1, 2015 executive order mandating water restrictions on urban water use statewide, and demanding a 32% reduction in water use within DWA. Only a portion of the effects of these severe water restrictions are anticipated to be permanent; therefore, for 2016/2017, DWA elected to estimate assessable groundwater production based on the 2014 assessable groundwater production minus a factor of 10% to account for the effects of permanent water conservation measures. However, since the State urban water use restrictions were based on water usage in 2013 as a baseline, DWA elected, for 2017/2018 and for 2018/2019, to estimate assessable groundwater production based on the 2013 assessable groundwater production minus a factor of 15% for 2017/2018 to account for the effects of permanent water conservation measures. For 2018/2019, DWA elected to use a conservation factor of 13%, and apply the conservation factor only to producers within WWR. Anticipated production within MC and GH is estimated based on 2017 production.

For the 2012/2013 fiscal year, DWA's effective replenishment assessment rate was based on the actual payments made to the SWP by DWA for the previous calendar year divided by the assessable production for that calendar year. This change was made due to a history of variability in the estimated charge

projections published by CDWR in Appendix B of Bulletin 132, which have occasionally diverged significantly from the amounts actually charged by CDWR. However, due to significant quantities of surplus and carryover water from 2011 delivered in 2012, DWA paid significantly higher SWP charges in 2012 than in 2011. It became clear that the variability in the actual payment of effective replenishment assessment rates was no less than the variability previously observed in CDWR's estimated charge projections. Therefore, beginning in 2013/2014, DWA's estimated effective replenishment assessment rate is based on CDWR's projected charges, since carryover and surplus water quantities cannot be projected.

Pursuant to the terms of the Water Management Agreement between CVWD and DWA, and based on DWA's allocated SWP charges amount of \$8,659,340 and estimated assessable production of 44,270 AF for the 2018 calendar year (shown in **Table 6** as the estimated assessable production for the 2018/2019 fiscal year), the effective replenishment assessment rate component for Table A water is \$195.60/AF for the 2018/2019 fiscal year. This represents a relatively steep increase from the previous year's effective rate of \$158/AF. The effective rate increase is the result of an increase in CDWR's estimated SWP reliability factor from 58% to 62% and the Agency's decision to eliminate the use of a reliability factor to account for potential MWD call-backs in the future.

During the Proposition 218 proceedings held in Fall 2016, DWA elected to adopt anticipated rate ranges for fiscal years 2017/2018 through 2020/2021, based on estimated projections of expenses and revenues at the time of adoption. Since rates are anticipated to increase sharply over the next several years and then stabilize, the rate ranges adopted for the transitional period of fiscal years 2017/2018 through 2019/2020 were calculated to incorporate a diminishing deficit, to be recovered in subsequent years. The rate range adopted for the 2018/2019 fiscal year was \$120 to \$140. It should be noted that at the time these rate ranges were adopted, the rates were being estimated using a lower 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. Although Proposition 218 was determined in December 2017 by the California Supreme Court to be inapplicable to groundwater pumping fees such as DWA's replenishment assessment, DWA has elected to comply with the rate ranges adopted in the 2016 Proposition 218 proceedings. Therefore, although the 2018/2019 effective rate exceeds the maximum rate of the specified range for 2018/2019, DWA will levy a rate of \$140 AF for FY 2018/2019, which is the maximum of the specified range.

At that rate, DWA's replenishment assessment for the entire Replenishment Program will be about \$6,197,800, based on estimated assessable production of 44,270 AF (34,550 AF for the WWR AOB,

9,250 AF for the MC AOB, and 470 AF for the GH AOB). Accordingly, DWA will bill approximately \$4,837,000 for the WWR AOB, approximately \$1,295,000 for the MC AOB, and approximately \$65,800 for the GH 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**.

It should be noted that there is currently no independent replenishment program for the GH Management Area. Assessment of the GH Management Area production began in the 2015/2016 fiscal year as a result of the MC/GH WMP findings that the GH benefits from artificial replenishment activities in the WWR and MC Management Areas. The estimated assessable production within the GH AOB for the 2018 calendar year is 470 AF, yielding \$65,800 in replenishment assessments.

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 624,000 AF in the WWR Management Area (since 1956) and 105,000 AF in the MC Management Area (since 1978). Thus, there is a continuing need for groundwater replenishment. Even though DWA has requested of CDWR its full SWP Table A allocation of 55,750 AF, CDWR currently (as of April 12, 2018) expects to deliver 30% of this allocation during the coming year, and DWA has elected to adopt a groundwater replenishment assessment rate for 2018/2019 of \$140.00/AF.

CHAPTER II

INTRODUCTION

CHAPTER II 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). There are five subbasins within the Coachella Valley Groundwater Basin: the Whitewater River Subbasin, MC, San Gorgonio Pass Subbasin, Desert Hot Springs Subbasin, and GH (USGS 1974).

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:

- Mission Creek Subbasin (Subbasin 7-21.02 per CDWR Bulletin 118, 2003)
- Desert Hot Springs Subbasin (Subbasin 7-21.03 per CDWR Bulletin 118, 2003)
 - Miracle Hill Subarea
 - Sky Valley Subarea
 - Fargo Canyon Subarea
- Garnet Hill Subbasin (considered a subarea of the Indio Subbasin in CDWR Bulletin 118, 2013)
- San Gorgonio Pass Subbasin (Subbasin 7-21.04 per CDWR Bulletin 118, 2003)

- Whitewater River Subbasin (Subbasin 7-21.01 per CDWR Bulletin 118, 2003, referred to therein as the Indio Subbasin)
 - Palm Springs Subarea
 - Thermal Subarea
 - Thousand Palms Subarea
 - Oasis Subarea

DWA's groundwater replenishment program encompasses portions of four of the five subbasins (Whitewater River, Mission Creek, San Gorgonio Pass, and Garnet Hill). DWA's replenishment program does not include the Desert Hot Springs Subbasin. **Figure 2** illustrates the subbasin boundaries per the MC/GH WMP (Montgomery Watson Harza (MWH) 2003) and DWA's Areas of Benefit of the 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 (2003). The subbasin is bounded on the south by the Banning Fault and on the north and east by the Mission Creek 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 GH, 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 Subbasin. CVWD, DWA, and MSWD jointly 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. Garnet Hill Subbasin (GH)

The area between the Garnet Hill Fault and the Banning Fault, named the Garnet Hill Subarea of the Indio (Whitewater River) 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. The Garnet Hill Fault does not reach the surface, and is probably effective as a barrier to lateral groundwater movement only below a depth of about 100 feet (MWH 2013).

The 2013 MC/GH WMP states groundwater production is low in the GH 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 response to large replenishment quantities from the Whitewater River Groundwater Replenishment Facility, while levels are relatively flat in the easterly portion of the subbasin. The lack of wells in the subbasin limits the hydrogeologic understanding of how this subbasin operates relative to the MC and Whitewater River Subbasin.

Although some natural replenishment to this subbasin 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 replenishment to the subbasin comes from the Whitewater River through the permeable deposits which underlie Whitewater Hill (MWH 2013).

This subbasin is considered part of the Whitewater River (Indio) Subbasin in CDWR's Bulletin 118 (2003) and therefore was not designated with a separate number therein. There are no assessable groundwater pumpers within CVWD's portion of the GH, and CVWD considers the portion of the GH within its boundaries to be a part of their WWR AOB. There are two assessable producers

within DWA's portion of the GH, which together produced a total of 470.46 AF of groundwater from the subbasin in 2017. DWA considers the portion of the GH within its service area to be a separate AOB.

d. 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.

e. Whitewater River (Indio) Subbasin

The Whitewater River Subbasin, designated the Indio Subbasin (Basin No. 7 21.01) in CDWR Bulletin No. 118 (2003), 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 Garnet Hill, Mission Creek, and Desert Hot Springs Subbasins to the north and east by the Garnet Hill and San Andreas Faults (CDWR 1964). The Garnet Hill Fault, which extends southeasterly from the north side of San Gorgonio Pass to the Indio Hills, is a relatively effective

barrier to lateral groundwater movement from the GH into 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 five 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 Subbasin to replace consumptive uses created by the resort recreation economy and permanent resident population.



The Whitewater River 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 West Whitewater River Subbasin 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 Subbasin is divided into four subareas: the Palm Springs, 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 two 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 fan conglomerate 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 Geronio Pass Subbasin and GH. Deep percolation of direct precipitation on the Palm Springs Subarea is considered negligible as it is consumed by evapotranspiration (CDWR 1964).

2) 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 Subbasin.

CVWD recently completed a study to evaluate the entire Coachella Valley Groundwater Basin. This led to the development and adoption of the 2010 CVWMP Update. 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 CVWMP.

3) 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 Subbasin. Groundwater levels in this area show similar patterns to those of the adjacent Thermal Subarea, suggesting a hydraulic connectivity (CDWR 1964).

4) 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).

5) 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 West Whitewater River Subbasin 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 III-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 Groundwater 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).

6) Summary

The Whitewater River Subbasin consists of four subareas: the Palm Springs, 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 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, MC, and GH 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 Subbasin, a portion of the San Geronio Pass Subbasin, and the entire MC and GH (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 Subbasin as a complete unit rather than as individual segments underlying the individual agencies' boundaries. This management area consists of the Palm Springs and Thousand Palms Subareas and the westerly portion of the Thermal Subarea, which is experiencing a significantly declining water table. The management area was established to encompass the area of groundwater overdraft as

evidenced by declining water table 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.

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.

- The Garnet Hill Subbasin (GH) Management Area

CVWD considers the portion of the GH within its boundaries to be a part of its WWR AOB. DWA considers the portion of the GH within its service area to be a separate management area and AOB.

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 Subbasin, MC, GH, and tributaries thereto, situated within DWA's service area boundary (see **Figure 2**). DWA has three AOBs within its replenishment program: the West Whitewater River Subbasin (WWR) AOB, the Mission Creek Subbasin (MC) AOB, and the Garnet Hill Subbasin (GH) AOB.

DWA's **WWR AOB** consists of that portion of the WWR Management Area situated within DWA's service area boundary (including a portion of the San Geronio Pass Subbasin).

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

DWA's **GH AOB** consists of that portion of the GH 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, MC, and GH 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. CVWD's WWR AOB includes the portion of the GH within CVWD's service area (see **Figure 2**).

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 has been acquired by DWA), 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 or GH Areas of Benefit. DWA's WWR AOB also includes subsurface tributary flows from the San Geronio 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, MC Management Area, and GH Management Area. The WWR, MC, and GH 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). Currently, there is no Water Management Agreement between CVWD and DWA specifically for the GH Management Area because direct artificial groundwater replenishment has not been implemented within the subbasin. However, groundwater in the GH Management Area is managed under the provisions of the Whitewater River and Mission Creek Subbasin Water Management Agreements.

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 Areas of Benefit, if found that recharge activities benefit those subbasins.

The Management Committee engaged MWH to prepare the MC/GH WMP, which was completed in January 2013. According to the MC/GH WMP, the GH benefits from the recharge activities in both the MC and Whitewater River Subbasin. It benefits from the recharge activities in the MC via subsurface flow across the Banning Fault, and from the recharge activities in the westerly portion of the Whitewater River 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 northerly end of the GH 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 GH cannot be ascertained at this time with currently available hydrologic data.

The Water Management Agreements call for maximum importation of SWP Contract Table A water allocations (formerly "entitlements") 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):

"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 GH Management Area, 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 GH 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 2017, CVWD and DWA have replenished the WWR and MC Management Areas with approximately 3,481,276 AF (3,318,182 AF to WWR

Management Area and 159,561 AF to MC Management Area). Of this total, 3,223,627 AF consisted of exchange deliveries (Colorado River water exchanged for SWP water, including advance deliveries) and 3,806,172 AF consisted of exchange deliveries and advance deliveries converted to exchange deliveries, but excluding advance deliveries not yet converted to exchange deliveries. See **Exhibit 6**.

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 1,152,351 AF. During drought conditions, MWD has periodically met exchange delivery obligations with water from its advance delivery account. By December 2017, MWD had converted approximately 827,243 AF of advance delivered water to exchange water deliveries, leaving a balance of approximately 325,108 AF in MWD's advance delivery account (see **Exhibit 6**, 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 2017, the final allocation was 85% of maximum Table A allocations. However, the Table A water deliveries during 2017 were approximately 34% of maximum Table A allocations, with the remainder delivered in 2018 as Article 56 carry-over water and flexible storage pay-back at Lake Perris. As of the writing of this report, Table A water deliveries in 2018 are projected to be 30% of maximum Table A allocations. Long-term average Table A allocations are currently predicted to be approximately 62% 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. In the first three

months of 2018, 97,050 AF of Article 56 water carried over from 2017 has been delivered to CVWD and DWA.

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 previous 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 2003 Exchange Agreement and its implementation. According to communications from MWD management, it is unlikely that MWD will make any recalls for the foreseeable future; therefore, this factor has not been applied to future estimates. "Probable Table A Water Deliveries" are herein assumed to be 62% of the aforementioned Probable Table A Water Allocations, based on estimated SWP reliability.

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 Exchange Agreement

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 new exchange agreement, which became effective January 1, 2005, permits 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 gives 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 must notify CVWD and DWA of its intentions regarding call-back or recall of the 100,000 AF or 50,000 AF increment thereof.

In implementing the 2003 Exchange Agreement, MWD advised CVWD and DWA that it would probably recall the 100,000 AF/Yr assigned to the two Coachella Valley agencies from 2005 through 2009. In fact, it did recall the full 100,000 AF/Yr in 2005, but it has not recalled any water since that time. According to communications with MWD management, it is unlikely that MWD will recall any water in the foreseeable future.

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 6**.

In 2017, DWA and CVWD were allocated 1,131 AF of SWP surplus water under the Turn-Back Water Pool Program. Based on current projections, CVWD and DWA will not receive any Pool A or Pool B water in 2018.

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 2018 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 2018.

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. Up to approximately 100,000 AF of water under the Yuba River Accord is estimated to be available for 2018, of which DWA and CVWD have requested 692 AF and 1,718 AF, respectively.

5) Multi-Year Water Pool

In 2012, the State Water Contractors began discussions regarding options for expanding the water market within the confines of the existing SWP

Contracts. The Contractors and CDWR developed a demonstration program called the 2013-2014 Multi-Year Water Pool (MYWP) Demonstration Program, whereby participating buyers and sellers would commit to buying water from the pool or selling water into the pool during calendar years 2013 and 2014. This MYWP Demonstration Program was designed to allow water-short State Water Contractors to purchase SWP water from other willing State Water Contractors, for two consecutive years, at a reasonable cost. Price and acre-foot amounts would vary as a function of the June 1 SWP allocation of water available each year.

The MYWP Demonstration Program is separate from the single year Turn-Back Pool program, and was developed to address issues with the single year Turn-Back Pool program resulting from low pricing.

In February 2015, in response to continuing dry conditions statewide, CDWR began administering a 2015-2016 MYWP Demonstration Program.

MWD requested that DWA participate in the 2015-2016 MYWP Demonstration Program on their behalf. They requested that DWA request up to 1,000 AF in 2015 and 5,000 AF in 2016. MWD will accept delivery of this water and DWA will pay CDWR the cost of the water and its delivery (transportation). If MWD chooses to keep this water and not exchange it, they will reimburse DWA the cost of the water and the cost of transportation. If MWD chooses to credit the water against the advanced delivery account balance, or deliver the water to the Replenishment Facility, they will reimburse DWA only the cost of the water, and DWA will be responsible for the typical costs associated with Table A water deliveries.

So far, 633 AF of water (67 AF in 2015 and 566 AF in 2016) have been delivered to MWD under the 2015-2016 MYWP Demonstration Program, and DWA was reimbursed by MWD for same.

e. Past Year Water Deliveries

Total artificial recharge (to both the Whitewater River and Mission Creek Replenishment Facilities) for 2017 was 395,242 AF (including CVWD's MWD Quantitative Settlement Agreement purchases). 385,994 was delivered to the Whitewater River Replenishment Facility and 9,248 AF was delivered to the Mission Creek Replenishment Facility. 35,000 AF were delivered under CVWD's Second Supplemental Agreement to their Delivery and Exchange Agreement for the Delivery of 35,000 AF, dated June 14, 2013 (see **Exhibit 6**).

f. Water Available in Current Year

The estimated quantity of water available for artificial recharge in the Upper Coachella Valley during 2018, based on delivery of 30% of the maximum Table A allocation, is as follows: 58,230 AF of Table A water (30% allocation) plus 97,050 AF of Article 56 carry-over water from 2017. The estimated quantity of supplemental water is as follows: 0 AF of Turn-Back Pool water, 0 AF of Article 21 water, 2,410 AF of Yuba water, 13,603 AF of Rosedale/Glorious Land water (CVWD), and 35,000 AF of CVWD QSA water, for a grand total of approximately 206,293 AF. During the first three months of 2018, a total of 12,607 AF of Colorado River water has already been delivered to the Whitewater River Replenishment Facility, and a total of 383 AF of Colorado River water has already 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 well as the GH. 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
- 1995 - 2000: 609,000 AF Recharged
- 2009 - 2012: 760,000 AF Recharged

Exhibit 1 includes hydrographs for a collection of groundwater wells within the Whitewater River Subbasin (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 subbasin.

MSWD's Wells 25 and 26 are located upstream of the Whitewater River Replenishment Facility overlying the portion of the San Geronio Pass Subbasin, a tributary to the Whitewater River Subbasin, within the 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, and also rose following the other significant recharge events.

Exhibit 2 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 spreading basins. The magnitude of the response to the

groundwater recharge is inversely proportional to the distance the wells are located from the Replenishment Facility.

Exhibit 3 includes hydrographs from a collection of groundwater wells within the Garnet Hill Subbasin (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 Subbasin responded rapidly when replenishment activities commenced at the Whitewater River Replenishment Facility in the 1970s.

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 WWR Management Area. 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. Well locations are shown on **Figure 2**.

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 recharge) is estimated at roughly 3,876,000 AF in the WWR Management Area (since 1956) and 262,000 AF in the MC Management Area (since 1978). Cumulative net overdraft, (cumulative gross overdraft offset by artificial replenishment) is currently estimated at 624,000 AF in the WWR Management Area and 105,000 AF in the MC Management Area. There is

insufficient data to determine groundwater overdraft in the GH Management Area.

CDWR has been unable to deliver full annual Table A water allocations for the past decade, 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 recharge, non-consumptive return, and groundwater in storage, if necessary. Artificial recharge is based on the 2013 SWP reliability projections (based on existing conditions) excluding all potential surplus water deliveries which may become available during any particular year.

In contrast to the data presented in past Engineer's Reports, which relied primarily on the linear regression of the previous 10-year period of recorded groundwater production, 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 Mission Creek and Garnet Hill Subbasins Water Management Plan (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 92% of imported water deliveries in 2018 will be directed to the WWR Management Area and 8% to the MC Management Area based on 2017 production (see **Exhibit 5**). 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

Continuous availability of SWP allocations will require complete development of the SWP, which currently has only about half of the water supply capacity needed to meet maximum Table A obligations during times of drought. Available water supplies are being further threatened by new and increasing constraints on the development of new water supply facilities and on the operation of existing facilities. In particular, the Wanger decisions regarding protection of the Delta smelt, concerns about reliability of the Delta levees, and other concerns led the CDWR to issue a revision in June 2012 of *The State Water Project Reliability Report 2009*, dated August 2010, wherein the long-term reliability of SWP supplies was reduced from an estimated 75% to 85% of maximum Table A allocations to approximately 60% of maximum allocations. The 2013 SWP Final Reliability Report, dated December 2014, further reduced the long-term reliability of SWP supplies to 58%. Without the construction of additional Sacramento-San Joaquin Delta facilities and certain water storage reservoirs, the water supply capability of the SWP will remain limited and State Water Contractors will have to

share reduced quantities of available supplies, especially during droughts.

With continued progress in the completion of California WaterFix (formerly known as the Bay Delta Conservation Plan (BDCP)), the balance between more reliable SWP water supplies and ecosystem restoration will be increased. The BDCP was a long-term conservation strategy designed to set forth actions required for a healthy Delta that will be implemented over the next 50 years, with an estimated cost of about \$20 billion. California WaterFix is a refinement of the BDCP that involves a shorter term of implementation and incidental take authorization, and a narrowing of scope: the principal habitat restoration effort of the BDCP has been isolated as a separate program called "California EcoRestore."

California WaterFix itself involves 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 requires 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 redirection.

Currently, the capital cost of the full California WaterFix Project is estimated at about \$17 billion for two tunnels. On February 6, 2018, due to difficulties in raising funds for the project, DWR announced that the project would initially be reduced in scope to a single tunnel, at cost of \$10.7 billion. On April 10, 2018, MWD announced that it would provide the balance of the funds necessary to complete the original two-tunnel project. Eventually, SWP water supply reliability, quality, and delivered quantities and the overall health of the Delta may improve; however, it is unlikely that the costs for Delta improvements will be allocated to the State Water Contractors before 2020.

2) California Drought

In addition to the existing restrictions on water supplies from the SWP, California has just experienced over four consecutive years of severe drought. The four-year period between fall 2011 and fall 2015 was the State's driest since record keeping began in 1895. High temperatures worsened its effects, with 2014 and 2015 being the two hottest years in the State's recorded history. In late 2016 and early 2017, a series of winter storms produced record-level rainfall, resulting in the Governor's declaration ending the statewide drought emergency. Additionally, the US Drought Monitor report for California showed that DWA went from "Exceptional Drought", the most severe categorization, to "Abnormally Dry", the least severe.

During the course of the drought, the state implemented a number of mandatory water conservation measures. On January 17, 2014, Governor Jerry Brown, prompted by record dry conditions in California, proclaimed a drought state of emergency, followed by several executive orders continuing the state of emergency and extending government assistance. On April 25, 2014, the Governor issued a proclamation of a continued state of emergency based on drought conditions. Subsequently, in July 2014, the Office of Administrative Law approved emergency regulations mandating water conservation measures set forth by the State Water Resources Control Board (SWRCB).

On April 1, 2015, Governor Brown issued Executive Order B-29-15, finding that drought conditions persisted, and ordering that the SWRCB impose mandatory water use restrictions in order to achieve a statewide 25% reduction in potable urban water usage (as compared to usage in 2013) from June 2015 through February 2016.

In order to reach the statewide 25% reduction mandate, the SWRCB assigned each urban water supplier a conservation standard that ranged between 4% and 36%, based on the supplier's residential gallons per

capita per day water use for the months of July through September 2014. The SWRCB tasked DWA, CVWD, and MSWD to reduce potable urban water use within their service areas, ultimately by 32%, 32%, and 24%, respectively. Actual cumulative statewide water use reductions generally complied with the Governor's 25% reduction mandate through May 2016. As of May 2016, DWA achieved a 27% cumulative water savings, CVWD a 26% savings, and MSWD a 19% savings.

On May 9, 2016, the Governor issued another executive order establishing a new water use efficiency framework for California. The order established longer-term water conservation measures, including permanent monthly water use reporting, new urban water use targets customized to fit the unique conditions of each water supplier, requirements to reduce system leaks and eliminate clearly wasteful practices, strengthen urban drought contingency plans, and improve agricultural water management and drought plans. The framework was prepared by DWR, SWRCB, California Public Utilities Commission, California Department of Food and Agriculture and California Energy Commission with the assistance of two stakeholder groups: The Urban Advisory Group and the Agricultural Advisory Group.

On May 18, 2016, the SWRCB adopted a statewide water conservation approach (effective from June 2016 through January 2017) that replaced the prior percentage reduction-based water conservation standard with a localized Water Supply Reliability Certification and Data Submission (which was commonly called the "stress test" approach) that mandates urban water suppliers act to ensure at least a three-year supply of water to their customers under drought conditions similar to those experienced from 2012 through 2015. Cumulative, statewide water conservation figures dropped to approximately 18% over the summer of 2016, but began to increase again in the fall.

In response to the "stress test" regulation, DWA, CVWD, and MSWD all self-certified that sufficient water had been identified to meet all

anticipated demands with existing conservation programs and plans in place, effectively placing their local conservation targets at 0%. Despite passing the stress test, DWA elected to retain a 10% to 13% conservation target for its customers for the purposes of long-term sustainability.

Based on reports to the SWRCB, DWA's cumulative water savings (as compared to 2013) through January 2017 was 23.9%, that of CVWD 22.6%, and that of MSWD 16.9%.

The winter storms of late 2016 and early 2017 resulted in the removal of the "exceptional drought" designation from the State's drought monitor. As of March 7, 2017, about 76% of the State was identified as drought-free; and, on April 7, 2017, after 22 months of restrictions, Governor Brown proclaimed an end to the drought state of emergency, with the exception of Fresno, Kings, Tulare, and Tuolumne Counties. Water reporting requirements and prohibitions on wasteful practices remain in place.

During 2017, several pieces of legislation were proposed to implement the Governor's Framework. At the end of the session, two bills, AB 1668 (Friedman) and SB 606 (Hertzberg/Skinner/Friedman) were held, making them two-year bills. CVWD will continue to stay engaged in the regulatory activity related to this legislation in 2018.

The calendar year 2017 turned out to be the third hottest year in the State's recorded history after 2014 and 2015; and it had the hottest summer in the State's recorded history. However, the 2016-2017 water year was the second wettest water year in California history, exceeded in total runoff only by the 1982-1983 water year. DWR's eight-station precipitation index for 2016-2017 (which tracks conditions in the largest Central Valley watersheds important for water supplies) set a new record of nearly 95 inches, as compared to the long-term average of 50 inches. The record precipitation of 2016-2017 led to record deliveries of State Water Project Exchange Water at the Whitewater River Replenishment

Facility during 2017. However, despite a promising beginning to the water year in late 2017, rainfall in the early months of 2018 has been below average; and dry conditions are beginning to resume. According to the National Integrated Drought Information System, as of April 12, 2018, about 66% of the State is experiencing "abnormally dry" conditions, and about 37% of the State is experiencing moderate to severe 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, DWR issued the 2015 SWP Deliverability Capability Report. Beginning with said Report, DWR 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). DWR 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 DWR's 2015 Delivery Capability Report.

In March of 2018, DWR issued its final 2017 Delivery Capability Report, which includes 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 accounts for land use, upstream flow regulations, and sea levels characteristic of 2017, and DWR judges 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 estimates 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 incorporates recent drought-related data pertaining to low allocations in the years 2013-2015, the 62% long-term average deliverability figure set forth in said 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 GH 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 GH. DWA's replenishment assessment program was initiated in this subbasin in fiscal year 2015/2016. Currently, there is no assessable production in the Garnet Hill Subbasin 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 Areas of Benefit, water production within said Areas of Benefit, 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. GROUNDWATER PRODUCTION

Annual water production (groundwater extractions plus surface water diversions) within the West Whitewater River Subbasin (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 poor economic conditions reducing demands for construction water and water conservation programs implemented by both agencies.

During the past five calendar years (2013 through 2017), average annual water production within the WWR Management Area has been about 162,000 AF/Yr, approximately three-fourths of which took place within CVWD's AOB and approximately one-fourth within DWA's AOB. Current (2017 calendar year) and historic groundwater production and surface water diversion data for the WWR Management Area is set forth in **Table 1**.

B. 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 52,000 AF/Yr, while natural outflow is currently estimated at approximately 22,600 AF/Yr (MWH 2011). Thus, approximately 29,400 AF (natural inflow less natural outflow) of natural, or native, groundwater is available for water supply each year.

C. NON-CONSUMPTIVE RETURN

Consumptive use of water represents the use of water that is not returned to the aquifer (for example, water that is evapotranspired 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 a part of 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, MWH 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.

D. ARTIFICIAL REPLENISHMENT

Total artificial replenishment (to both the WWR and MC Management Areas) for 2017 was 395,242 AF (including CVWD's MWD Quantitative Settlement Agreement purchases). Of this quantity, 385,994 AF were delivered to the Whitewater River Replenishment Facility (the largest annual delivery to Whitewater in history), and 9,248 AF were delivered to the Mission Creek Replenishment Facility. 35,000 AF of this quantity were delivered under CVWD's Second Supplemental Agreement to their Delivery and Exchange Agreement for the Delivery of 35,000 AF, dated June 14, 2013. (see **Exhibit 6**).



E. GROUNDWATER IN STORAGE

Average annual reported production within the WWR Management Area of 162,000 AF for the past five years (including approximately 500 AF of annual production by minimal pumpers) has been met with approximately 29,400 AF of net natural recharge, approximately 49,800 AF of non-consumptive return, and 88,700 AF of net artificial recharge (less evaporative losses), resulting in a net increase in groundwater in storage of about 5,900 AF/Yr over the past five years.

F. 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 recharge) is now estimated to have averaged approximately 87,000 AF/Yr over the last five years. Since 1956, cumulative gross overdraft (net pumpage minus net natural recharge) is currently estimated at approximately 3,876,000 AF, and cumulative net overdraft (cumulative gross overdraft offset by artificial recharge) is currently estimated to be about 624,000 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 Mission Creek Subbasin (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. It 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 (2013 through 2017), 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 (2017 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 GH, 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 32% of total estimated production, or about 5,000 AF/Yr (average for the past five years).

D. ARTIFICIAL REPLENISHMENT

Total artificial replenishment (to both the WWR and MC Management Areas) for 2017 was 395,242 AF (including CVWD's MWD Quantitative Settlement Agreement purchases). Of this quantity, 9,248 AF were delivered to the Mission Creek Replenishment Facility. (see **Exhibit 6**).

Based on the production relationship between the Whitewater River Subbasin and the MC, in accordance with the Mission Creek Groundwater Replenishment Agreement, about 92% of imported water deliveries in 2018 will be directed to the WWR Management Area and 8% to the MC Management Area based on 2017 production (see **Exhibit 5**). 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 3,300 AF of net natural recharge, approximately 5,000 AF of non-consumptive return, and 3,100 AF of net artificial recharge (less evaporative losses),



resulting in a net decrease in groundwater in storage of about 2,600 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 3,600 AF/Yr from 1955 through 2017, and 2,400 AF/Yr from 1998 through 2017 (see **Exhibit 4**).

F. OVERDRAFT STATUS

Gross groundwater overdraft within the MC (excluding artificial recharge) is now estimated at approximately 6,000 AF/Yr during the last five years. Since 1978, cumulative gross overdraft (net pumpage minus net natural recharge) is currently estimated at approximately 262,000 AF, and cumulative net overdraft (cumulative gross overdraft offset by artificial recharge) is currently estimated to be about 105,000 AF.

CHAPTER V
GARNET HILL SUBBASIN
PRODUCTION AND REPLENISHMENT

CHAPTER V

GARNET HILL SUBBASIN MANAGEMENT AREA PRODUCTION AND REPLENISHMENT

A. GROUNDWATER PRODUCTION

During the past five calendar years (2013 through 2017), average annual water production within the Garnet Hill Subbasin (GH) Management Area has been about 310 AF/Yr; most, if not all, of which took place within DWA's GH AOB. There are no reporting groundwater pumpers within CVWD's service area in the GH, which is within CVWD's WWR AOB. Current (2017 calendar year) and historic groundwater production and surface water diversion data for the GH Management Area (DWA's GH AOB) are set forth in **Table 1**.

B. NATURAL RECHARGE

Natural recharge includes precipitation, surface water runoff, and subsurface inflow. The GH is separated from the Whitewater River Subbasin to the south by the Garnet Hill Fault and from the MC to the north by the Banning Fault.

As stated in the MC/GH WMP, the principle form of natural recharge within the GH comes from mountain-front runoff derived from precipitation and snow melt, as well as return flow from water use.

The GH receives no direct artificial recharge; however, it does receive artificial recharge via infiltration from the Whitewater River channel on the west end of the subbasin, subsurface flows from the MC, and subsurface flows from the Whitewater River Subbasin when water levels are high due to large volumes of artificial recharge at the Whitewater River Replenishment Facility (MWH 2013).

The estimated flow across the Banning Fault from the MC to the GH ranges from approximately 2,000 AF/Yr (Tyley 1974) to 8,250 AF/Yr (Psomas, 2010, based on pre-development, steady-state conditions). The outflow to the Whitewater River Subbasin is estimated to be approximately 4,000 AF/Yr (Psomas 2012, based on then current conditions).



C. NON-CONSUMPTIVE RETURN

Consumptive use and non-consumptive return are discussed in **Chapter III, Section C**. Within the GH Management Area, non-consumptive return is currently estimated at approximately 20% of production, or about 62 AF/Yr.

D. ARTIFICIAL REPLENISHMENT

Direct artificial groundwater replenishment has not yet been implemented within the GH. However, the 2013 MC/GH WMP has shown that the GH benefits from replenishment activities within both the Whitewater River Subbasin and the MC.

E. GROUNDWATER IN STORAGE

The quantity of groundwater in storage within the GH in 1974 was estimated to be approximately 1,520,000 AF (USGS 1974). Production in the subbasin has been limited, so groundwater in storage has not decreased significantly.

With minimal pumping occurring within the subbasin, cumulative groundwater storage in the GH was generally based on wet and dry periods and the introduction of imported water to the Coachella Valley. Changes in storage can be attributed to the rise and fall in the recorded groundwater levels observed in wells throughout the GH.

The recharge program in the WWR Management Area began in 1973, which resulted in rising water levels within the GH in rough proportion to the quantities recharged. Higher water levels in the WWR Management Area reduce the outflow from the GH across the Garnet Hill Fault, increasing storage volume in the GH.

F. OVERDRAFT STATUS

As part of the Coachella Valley Groundwater Basin, the GH is presumed to be in a state of overdraft since it is reliant on flows from the Whitewater River Subbasin and the MC for replenishment, in accordance with the conclusions set forth in the MC/GH WMP.

CHAPTER VI
REPLENISHMENT ASSESSMENT

CHAPTER VI 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 West Whitewater River Subbasin (WWR) Management Area. In 2002, DWA and CVWD commenced recharge activities in the Mission Creek Subbasin (MC) Management Area, in addition to continuing their ongoing activities in the WWR Management Area. The Areas of Benefit for Groundwater Replenishment and Assessment herein consist of those portions of the West Whitewater River Subbasin Management Area (including a portion of the San Geronio Pass Subbasin

and tributaries thereto), the MC Management Area, and the Garnet Hill Subbasin (GH) Management Area, situated within DWA's service area boundary (**Figure 2**).

The groundwater replenishment assessment and replenishment assessment rate for 2018/2019 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 or GH 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, the Mission Creek Subbasin, the Garnet Hill Subbasin, and a portion of the San Geronio Pass Subbasin.)
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 a portion of the San Geronio Pass Subbasin), MC Management Area, and GH Management Area, the Allocated SWP Charges component of the replenishment assessment rate is uniform throughout the WWR Subbasin AOB, MC AOB, and GH AOB; however, due to the independent and separate nature of various other aspects of the groundwater replenishment program within the WWR AOB (including a portion of the San Geronio Pass Subbasins), MC AOB, and GH AOB, the other charges and costs component need not be uniform; they are specific to each AOB.

A. ACTUAL 2017 WATER PRODUCTION AND ESTIMATED 2018/2019 ASSESSABLE WATER PRODUCTION

Estimated assessable production within DWA's WWR AOB (including a portion of the San Geronio Pass Subbasin), MC AOB, and GH 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 water production which, with the exception of Bel Air Greens, whose well has not been metered or measured nor assessed, and Whitewater Ranch, whose wells are metered and measured but not assessed. Bel Air Greens and Whitewater Ranch wells are located within the Agua Caliente Band of Cahuilla Indian Reservation. 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. As discussed in previous reports, the past water production for Bel Air Greens has been estimated at 127 AF/yr. The Bel Air Greens golf course is now closed, and the property is currently being sold for residential and hotel development.

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**. Historically, the estimated assessable production has been based on the assessable production for the previous year; however, production during 2015 and 2016 was unusually low due to mandatory water conservation measures imposed as a result of the Governor's April 1, 2015 executive order mandating water restrictions on urban water use statewide, and demanding a 32% reduction in water use within DWA. Only a portion of the effects of these severe water restrictions are anticipated to be permanent; therefore, for 2016/2017, DWA elected

to estimate assessable groundwater production based on the 2014 assessable groundwater production minus a factor of 10% to account for the effects of permanent water conservation measures. However, since the State urban water use restrictions were based on water usage in 2013 as a baseline, DWA elected, for 2017/2018 and 2018/2019, to estimate assessable groundwater production based on the 2013 assessable groundwater production minus a factor to account for the effects of permanent water conservation measures. For 2017/2018, the factor was 15%; for 2018/2019 the factor is 13%, and is applied only to producers within the West Whitewater River Subbasin AOB. Anticipated production within MC and GH is estimated based on 2017 production.

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

In 2017, actual reported production within CVWD's AOB within the WWR Management Area was about 3.5 times that within DWA's AOB, 120,383 AF versus 34,689 AF, whereas actual production within DWA's AOB within the MC Management Area was about 2.2 times that within CVWD's AOB, 9,250 AF versus 4,281 AF. Production within DWA's GH AOB accounts for 100% of the total production, at 471 AF. DWA's 2017 actual production accounts for approximately 26.3% of the 169,074 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 132-17.

Since CDWR has been unable to deliver maximum Table A allocations for 17 of the past 18 years, the amounts of the Applicable SWP Charges for 2018/2019 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% is being applied in 2018.

Since the 2003 Exchange Agreement allows 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 and future years 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, according to MWD management, it is unlikely that MWD will recall any water for the foreseeable future. Therefore, commencing with this 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 State Project water for future years, including the 2018/2019 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 132-17, 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 62% reliability of the probable Table A Water allocation.

It should be noted that the increase of the SWP reliability factor from 58% to 62% and the elimination of the MWD reliability factor will result in higher estimates for future deliveries--including for 2018/2019--than previously projected during the Proposition 218 proceedings; and, consequently, higher estimates for effective Table A assessment rates.

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, 2013 through 2017, DWA has been responsible for approximately 21.9% of the water produced within the WWR Management Area, and 68.6% 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 2017, DWA was responsible for approximately 26.3% of the combined water production within the Management Areas. On the assumption that DWA's relative production for 2018 and thereafter will be about the same as for 2017, DWA's share of the combined Applicable SWP Charges (i.e. Allocated Charges) for the next 18 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 increase by about 42% between 2017 and 2018, decrease by about 3% between 2018 and 2019 and increase by about 5% between 2019 and 2020. 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 2018 Allocated Charges are about 91% 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 2018/2019 is \$214.32/AF, based on DWA's estimated Applicable Charges (Delta Water Charge, Variable Transportation Charge, and Off-Aqueduct Power Charge) of \$9,488,016 (average of estimated 2018 and 2019 Applicable Charges) and estimated 2018/2019 combined assessable production of 44,270 AF within the WWR, MC, and GH 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**.

According to the terms of the Water Management Agreement between DWA and CVWD, and based on DWA's estimated 2018/2019 Allocated Charges of \$8,659,340 and estimated 2018 calendar year assessable production (shown in **Table 6** as estimated 2018/2019 assessable production) of 44,270 AF within the Whitewater River, MC, and GH, the effective replenishment assessment rate component for Table A water for the 2018/2019 fiscal year is \$196/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, State Water Project 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.

The charges levied on the producers within the GH AOB are assessed as part of the replenishment programs for the WWR and MC Management Areas based on the proportional production, in accordance with the Mission Creek Subbasin Settlement Agreement discussed in **Chapter II, Section B.3**. As shown in **Exhibit 5**, the portion of total production within the Whitewater River Subbasin and MC was approximately 92% and 8% respectively for 2017. Therefore, since there is no direct replenishment program for the GH, and since it benefits from both replenishment programs, the total production

within the GH will be assessed as a proportion of the total production within those subbasins. For example, the total assessable production within the GH was 470 AF in 2017. Of that 470 AF, 92% (432 AF) is assessed as part of the Whitewater River Subbasin, and 8% (38 AF) as part of the MC.

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 next 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 Sustainable Groundwater Management Act (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.

4. Proposed 2018/2019 Replenishment Assessment Rates

As shown in **Table 6**, the estimated effective Table A Assessment Rate is \$196/AF, which includes consideration of an increase of the SWP reliability factor from 58% to 62%, and the elimination of the separate MWD reliability factor (MWD reliability factor effectively set to 100%, but still subject to the 62% SWP reliability factor). However, this rate exceeds the maximum rate of \$140/AF established in the Proposition 218 proceedings for 2018/2019. Therefore, as shown in **Table 7**, the recommended replenishment assessment rates proposed for 2018/2019 are:

- **\$140.00/AF** for the West Whitewater River Subbasin (WWR) AOB,
- **\$140.00/AF** for the Mission Creek Subbasin (MC) AOB, and
- **\$140.00/AF** for the Garnet Hill Subbasin (GH) AOB.

Historic replenishment assessment rates for both DWA and CVWD within the Whitewater River Subbasin are included in **Exhibit 7**.

C. ESTIMATED WATER REPLENISHMENT ASSESSMENTS FOR 2018/2019

The maximum replenishment assessment that can be levied by DWA for combined estimated production of 44,270 AF (see **Table 2**) within the WWR, MC, and GH AOBs based on a replenishment assessment rate of \$140.00/AF is approximately \$6,197,800 (\$4,837,000 in the WWR AOB, \$1,295,000 in the MC AOB, and \$65,800 in the GH AOB).

DWA will continue to be the major producer within the WWR AOB, with assessable production of approximately 33,060 AF; seven other producers will be responsible for the remaining 1,490 AF of estimated assessable production. DWA will also be the major assessee with an estimated replenishment assessment of \$4,628,400. The seven other producers will be responsible for the remaining \$208,600. DWA will therefore be responsible for approximately 96% of both the estimated assessable water production and the estimated replenishment assessment for the WWR AOB; the other seven producers will be responsible for the remaining 4%.

MSWD will be the major producer within the MC AOB, with assessable production of approximately 7,210 AF; four other producers will be responsible for the remaining 2,040 AF of estimated assessable production. MSWD will also be the major assessee with an estimated replenishment assessment of \$1,009,400. The four other producers will be responsible for the remaining \$285,600. MSWD will be responsible for approximately 78% 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 22%.

MSWD and the Indigo Power Plant are the major producers in the GH AOB, with assessable production of approximately 450 AF and 20 AF, respectively. MSWD will also be the major assessee with an estimated replenishment assessment of \$63,000, while the Indigo Power Plant is responsible for the remaining \$2,800. MSWD will be responsible for approximately 96% of both the estimated assessable water production and the estimated replenishment in the GH AOB; Indigo Power Plant will be responsible for the remaining 4%.

CHAPTER VII
BIBLIOGRAPHY



CHAPTER VII BIBLIOGRAPHY

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FIGURES

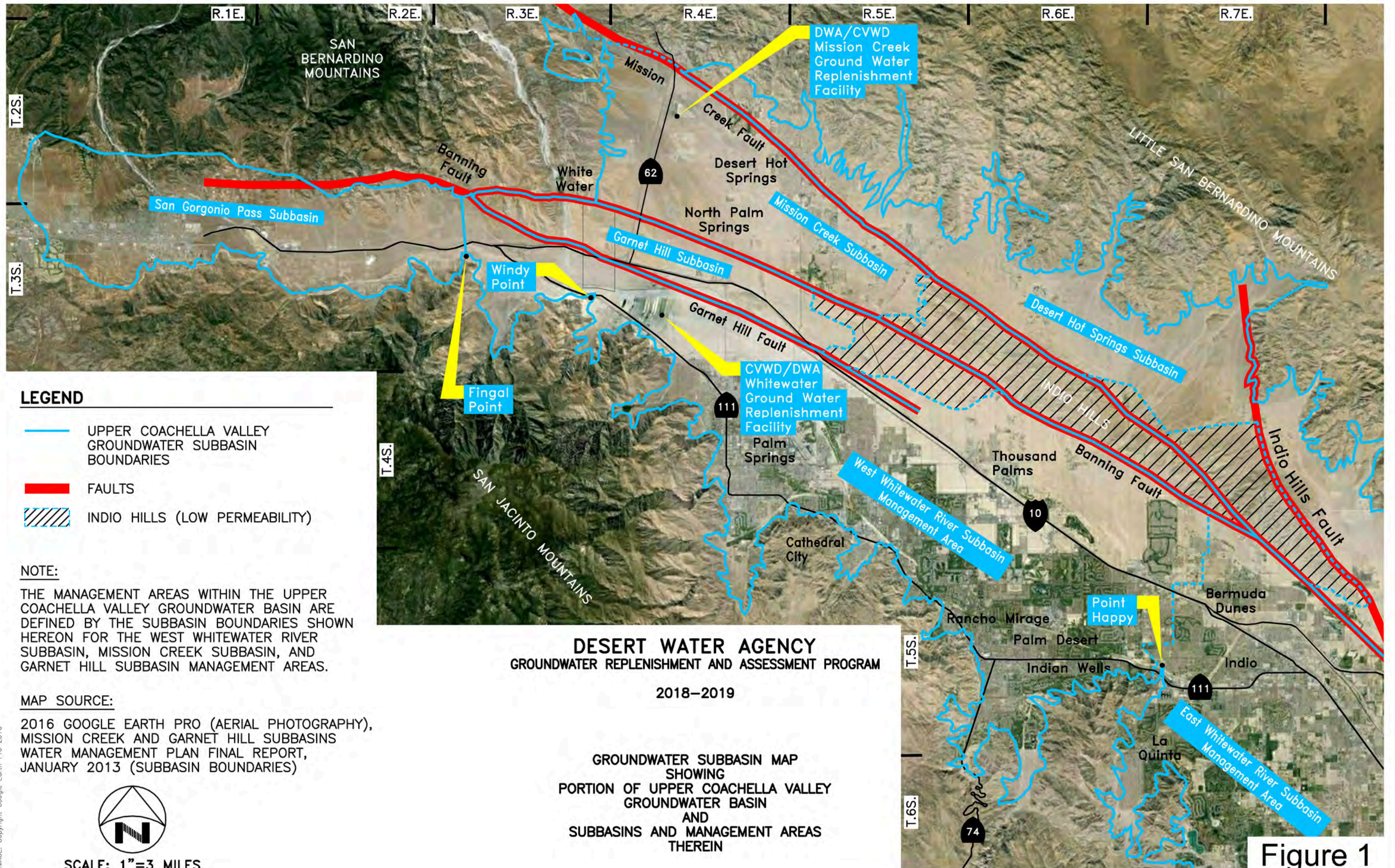
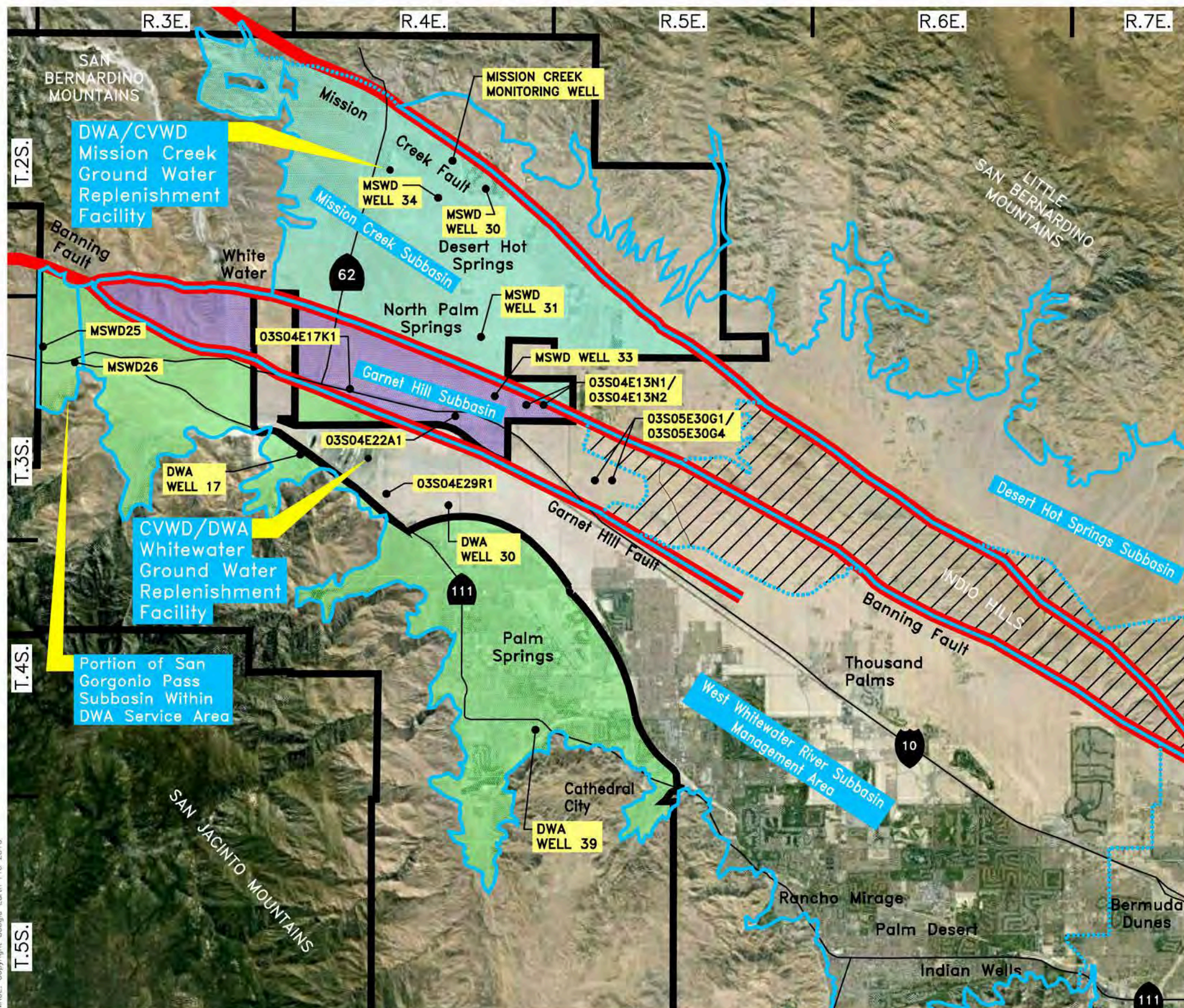


Figure 1

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IMAGE: Copyright Google Earth Pro 2016



DESERT WATER AGENCY GROUNDWATER REPLENISHMENT AND ASSESSMENT PROGRAM

2018-2019

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
 - DWA GARNET HILL SUBBASIN AREA OF BENEFIT
 - INDIO HILLS (LOW PERMEABILITY)
- GROUNDWATER WELL

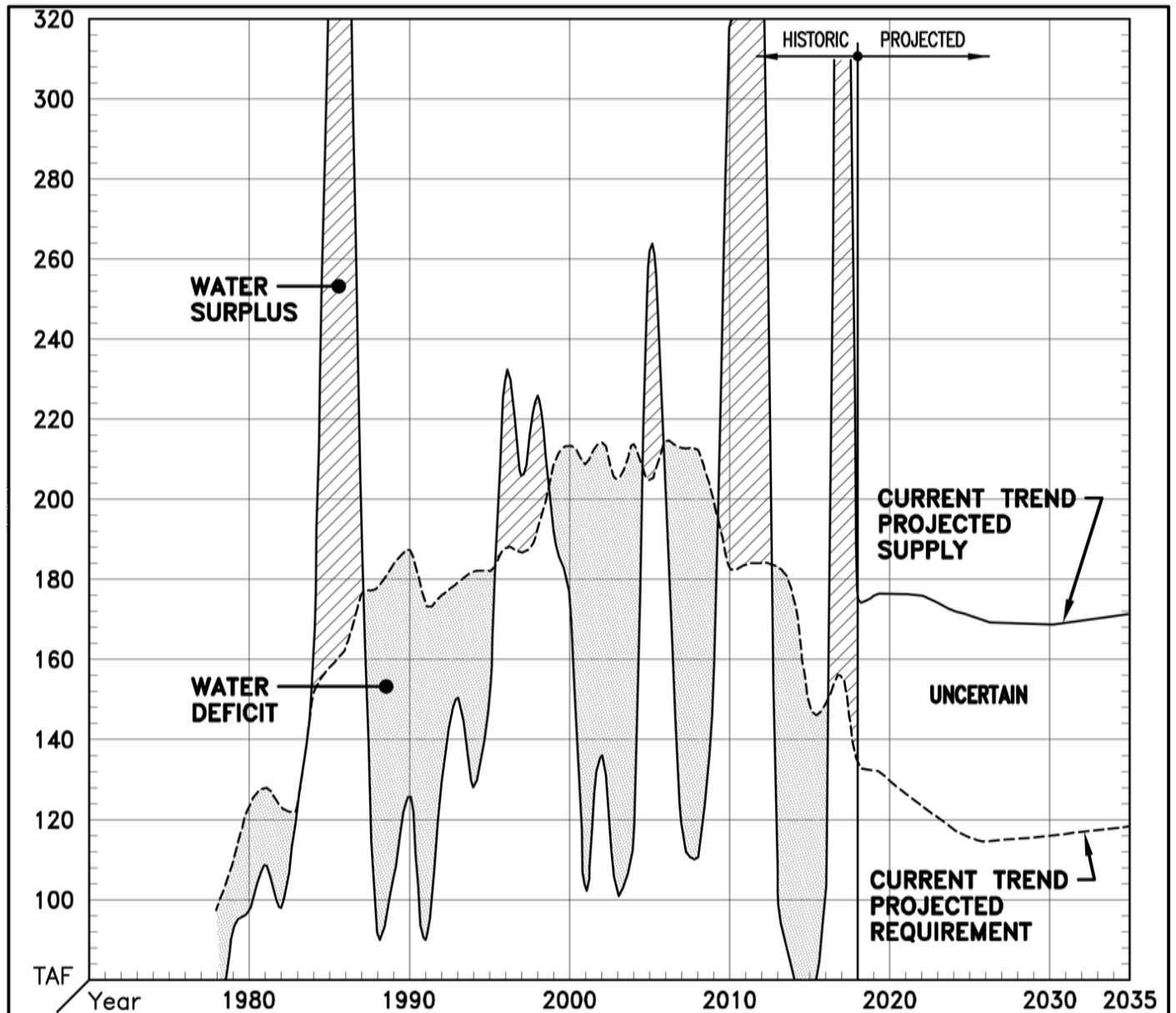
MAP SOURCE:

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



SCALE: 1"=2.5 MILES

Figure 2



YEARS	1980	1990	2000	2010	2020	2030	2035
NET INFLOW (ACRE FEET)	98,000	125,800	174,500	317,100	176,739	1687,609	171,683
NONCONSUMPTIVE RETURN	43,200	65,700	74,500	64,300	42,000	37,000	38,000
NET ARTIFICIAL RECHARGE	25,800	31,100	71,000	223,800	101,100	95,900	95,100
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.

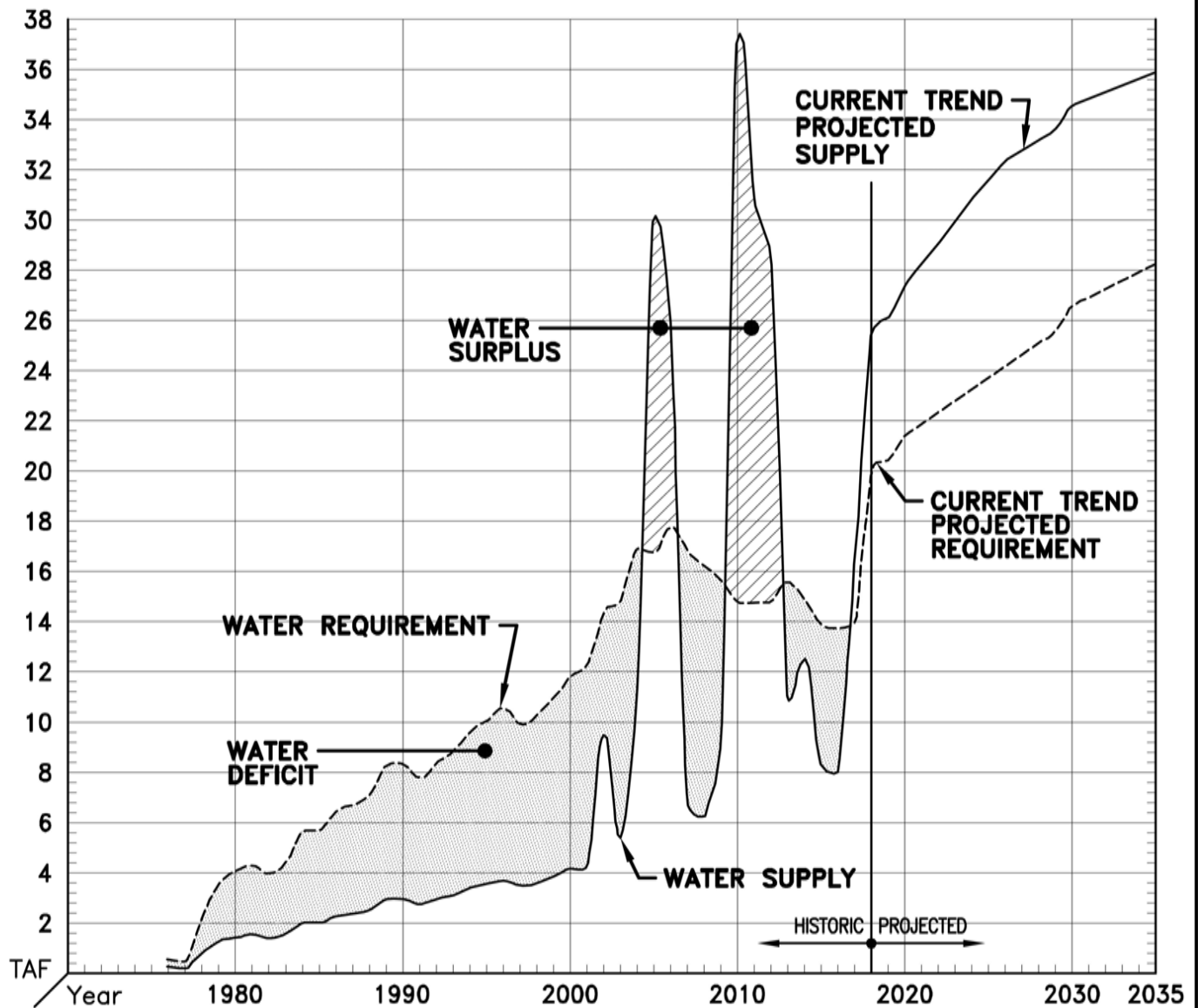
K&S KRIEGER & STEWART
Engineering Consultants
3602 University Avenue • Riverside, CA 92501
www.kriegerandstewart.com • 951-684-6900

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: 04/04/18 DRAWN BY: MRN CHECKED BY: DFS W.O.: 101-33.42



YEARS	1980	1990	2000	2010	2020	2030	2035
NET INFLOW (ACRE FEET)	1,400	2,900	4,100	37,700	27,400	34,500	35,900
NONCONSUMPTIVE RETURN	1,400	2,900	4,100	5,200	6,600	8,200	8,800
NET ARTIFICIAL RECHARGE	0	0	0	32,500	16,800	22,000	22,800
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.

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) , AND GARNET HILL SUBBASIN (GH) MANAGEMENT AREAS

YEAR	CVWD PRODUCTION		DWA PRODUCTION					COMBINED CVWD & DWA PRODUCTION						WWR PRODUCTION PERCENTAGES		COMBINED WWR, MC, GH PRODUCTION PERCENTAGES		MC PRODUCTION PERCENTAGES		
	GWE		GWE		GH	SWD	TOTAL	TOTAL	WWR		MC	GH	COMB	CVWD	DWA	CVWD	DWA	CVWD	DWA	
	WWR AF	MC AF	WWR AF	MC AF	AF	WWR AF	WWR AF	AF	AF	AF	AF	AF	AF							
1978	61,172		28,100			8,530	36,630	36,630	89,272	8,530	97,802		97,802	62.55%	37.45%					
1979	72,733		29,393			7,801	37,194	37,194	102,126	7,801	109,927		109,927	66.16%	33.84%					
1980	84,142		32,092			7,303	39,395	39,395	116,234	7,303	123,537		123,537	68.11%	31.89%					
1981	86,973		33,660			7,822	41,482	41,482	120,633	7,822	128,455		128,455	67.71%	32.29%					
1982	83,050		33,382			6,512	39,894	39,894	116,432	6,512	122,944		122,944	67.55%	32.45%					
1983	84,770		33,279			6,467	39,746	39,746	118,049	6,467	124,516		124,516	68.08%	31.92%					
1984	104,477		38,121			7,603	45,724	45,724	142,598	7,603	150,201		150,201	69.56%	30.44%					
1985	111,635		39,732			7,143	46,875	46,875	151,367	7,143	158,510		158,510	70.43%	29.57%					
1986	115,185		40,965			6,704	47,669	47,669	156,150	6,704	162,854		162,854	70.73%	29.27%					
1987	125,229		44,800			5,644	50,444	50,444	170,029	5,644	175,673		175,673	71.29%	28.71%					
1988	125,122		47,593			5,246	52,839	52,839	172,715	5,246	177,961		177,961	70.31%	29.69%					
1989	129,957		47,125			5,936	53,061	53,061	177,082	5,936	183,018		183,018	71.01%	28.99%					
1990	136,869		45,396			5,213	50,609	50,609	182,265	5,213	187,478		187,478	73.01%	26.99%					
1991	126,360		42,729			4,917	47,646	47,646	169,089	4,917	174,006		174,006	72.62%	27.38%					
1992	128,390		42,493			4,712	47,205	47,205	170,883	4,712	175,595		175,595	73.12%	26.88%					
1993	131,314		41,188			6,363	47,551	47,551	172,502	6,363	178,865		178,865	73.42%	26.58%					
1994	134,223		42,115			5,831	47,946	47,946	176,338	5,831	182,169		182,169	73.68%	26.32%					
1995	134,580		41,728			5,809	47,537	47,537	176,308	5,809	182,117		182,117	73.90%	26.10%					
1996	137,410		45,342			5,865	51,207	51,207	182,752	5,865	188,617		188,617	72.85%	27.15%					
1997	137,406		43,658			5,626	49,284	49,284	181,064	5,626	186,690		186,690	73.60%	26.40%					
1998	142,620		41,385			7,545	48,930	48,930	184,005	7,545	191,550		191,550	74.46%	25.54%					
1999	157,148		44,350			6,941	51,291	51,291	201,498	6,941	208,439		208,439	75.39%	24.61%					
2000	161,834		44,458			6,297	50,755	50,755	206,292	6,297	212,589		212,589	76.13%	23.87%					
2001	159,767		44,112			4,928	49,040	49,040	203,879	4,928	208,807		208,807	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	50,037	11,862	516	3,490	53,527	65,905	207,524	3,490	211,014	16,409	516	227,423	74.63%	25.37%	71.25%	28.98%	27.71%	72.29%
2008	161,695	4,543	45,405	11,232	330	3,593	48,998	60,560	207,100	3,593	210,693	15,775	330	226,468	76.74%	23.26%	73.40%	26.74%	28.80%	71.20%
2009	155,793	4,813	41,913	10,295	357	1,443	43,356	54,008	197,706	1,443	199,149	15,108	357	214,257	78.23%	21.77%	74.96%	25.21%	31.86%	68.14%
2010	141,481	4,484	39,352	9,820	288	1,582	40,934	51,042	180,833	1,582	182,415	14,304	288	196,719	77.56%	22.44%	74.20%	25.95%	31.35%	68.65%
2011	141,028	4,653	40,071	9,607	497	1,724	41,795	51,899	181,099	1,724	182,823	14,260	497	197,083	77.14%	22.86%	73.92%	26.33%	32.63%	67.37%
2012	141,379	4,582	39,507	9,634	177	2,222	41,729	51,540	180,886	2,222	183,108	14,216	177	197,324	77.21%	22.79%	73.97%	26.12%	32.23%	67.77%
2013	143,108	4,415	37,730	10,341	202	1,802	39,532	50,075	180,838	1,802	182,640	14,756	202	197,396	78.36%	21.64%	74.73%	25.37%	29.92%	67.34%
2014	136,027	4,154	36,372	9,937	239	1,787	38,159	48,335	172,399	1,787	174,186	14,091	239	188,516	78.09%	21.91%	74.36%	25.64%	29.48%	70.52%
2015	115,558	4,090	30,332	8,927	334	1,539	31,871	41,132	145,890	1,539	147,429	13,017	334	160,780	78.38%	21.62%	74.42%	25.58%	31.42%	68.58%
2016	115,659	4,175	30,408	9,044	297	2,031	32,439	41,780	146,067	2,031	148,098	13,219	297	161,614	78.10%	21.90%	74.15%	25.85%	31.58%	68.42%
2017	120,383	4,281	32,693	9,250	471	1,996	34,689	44,410	153,076	1,996	155,072	13,531	471	169,074	77.63%	22.37%	73.73%	26.27%	31.64%	68.36%

NOTES:
Cumulative CVWD and DWA West Whitewater River Subbasin Management Area production 2013 through 2017: 807,425 AF
Cumulative CVWD and DWA Mission Creek Subbasin Management Area production 2013 through 2017: 68,614 AF
Average annual CVWD and DWA West Whitewater River Subbasin Management Area production 2013 through 2017 (rounded): 161,490 AF
Average annual CVWD and DWA Mission Creek Subbasin Management Area production 2013 through 2017 (rounded): 13,720 AF
Average annual DWA West Whitewater River Subbasin Area of Benefit production 2013 through 2017 (rounded): 35,340 AF
Average annual DWA Mission Creek Subbasin Area of Benefit production 2013 through 2017(rounded): 9,500 AF
Average DWA West Whitewater River Subbasin Area of Benefit production percentage 2013 through 2017: 21.89%
Average DWA Mission Creek Subbasin Area of Benefit production percentage 2013 through 2017: 68.64%

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



TABLE 2
DESERT WATER AGENCY
GROUNDWATER REPLENISHMENT AND ASSESSMENT PROGRAM
ESTIMATED WEST WHITEWATER RIVER SUBBASIN, MISSION CREEK SUBBASIN, AND GARNET HILL SUBBASIN AREAS OF BENEFIT
WATER PRODUCTION AND ESTIMATED WATER REPLENISHMENT ASSESSMENTS
2018/2019

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

Area of Benefit	Estimated Assessable Water Production	Water Replenishment Assessment Rate	Water Replenishment Assessment	
	AF	\$/AF	\$	Percent
West Whitewater River Subbasin AOB	34,550	\$140.00	\$4,837,000	78%
Mission Creek Subbasin AOB	9,250	\$140.00	\$1,295,000	21%
Garnet Hill Subbasin AOB	470	\$140.00	\$65,800	1%
Combined AOBs	44,270		\$6,197,800	100%

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

Producer	2017 Water Production (1)			Estimated 2018/2019 Assessable Water Production AF ⁽³⁾	Estimated Water Replenishment Assessment @ \$140/AF	
	Groundwater Extraction	Surface Water Diversion	Combined Water Production		\$	Percent
	AF	AF	AF			
West Whitewater River Subbasin AOB						
Desert Water Agency (Chino, Falls, Snow Creeks)	31,330.14	1,396	32,726	32,460	\$4,544,400	93.95%
Desert Water Agency (Whitewater)	0.00	601	601	600	\$84,000	1.74%
Caltrans Rest Stop	39.22	0	39	40	\$5,600	0.12%
Canyon Country Club	0.00	0	0	0	\$0	0.00%
Palm Springs Country Club	0.00	0	0	0	\$0	0.00%
Desert Oasis Golf Management - Welk Resort	344.07	0	344	340	\$47,600	0.98%
Los Compadres	40.24	0	40	40	\$5,600	0.12%
Mission Springs Water District (Wells 25 & 25A and 26 & 26A)	155.72	0	156	150	\$21,000	0.43%
Seven Lakes Country Club	174.59	0	175	170	\$23,800	0.49%
Bel Air Greens	0.00 ⁽²⁾	0	0	150 ⁽²⁾	\$21,000	0.43%
Escena	609.24	0	609	600	\$84,000	1.74%
Palm Springs Village	0.00	0	0	0	\$0	0.00%
Palm Springs West	0.00	0	0	0	\$0	0.00%
Subtotal	32,693.22	1,996	34,689	34,550	\$4,837,000	100.00%
Mission Creek Subbasin AOB						
Mission Springs Water District	7,207	0	7,207	7,210	\$1,009,400	77.95%
Hidden Springs Country Club	402	0	402	400	\$56,000	4.32%
Mission Lakes Country Club	1,006	0	1,006	1,010	\$141,400	10.92%
Sands RV Resort	364	0	364	360	\$50,400	3.89%
CPV-Sentinel	271	0	271	270	\$37,800	2.92%
Subtotal	9,250.19	-	9,250	9,250	\$1,295,000	100.00%
Garnet Hill Subbasin AOB						
Mission Springs Water District	449	0	449	450	\$63,000	95.74%
Indigo Power Plant	22	0	22	20	\$2,800	4.26%
Subtotal	470	0	471	470	\$65,800	100.00%
Total	42,414	1,996	44,410	44,270	\$6,197,800	

⁽¹⁾ 2017 Metered water production, except for Exempt Production and Estimated Production.

⁽²⁾ Bel Air Greens is closed, but is currently in the planning process for conversion to a hotel and residential development. In 2018, approximately 150 AF of water from the well is anticipated to be used for construction and landscape irrigation.

⁽³⁾ WWR Proportioned to 2013 Production minus 13% conservation; MC and GH based on 2017 Production, all rounded to nearest 10 AF.

* Exempt Production (10 AF or less).

**TABLE 3
COACHELLA VALLEY WATER DISTRICT
APPLICABLE STATE WATER PROJECT CHARGES⁽¹⁾**

Year	Table A Water Allocation		Probable Table A Water Delivery ⁽³⁾	Delta Water Charge		Variable Transportation Charge		Off-Aqueduct Power Charge		CVWD Applicable Table A Charges	
	Maximum	Probable ⁽²⁾	AF	Amount ⁽⁴⁾	Unit	Amount ⁽⁵⁾	Unit	Amount ⁽⁶⁾	Unit	Amount	Unit ⁽⁷⁾
	AF	AF		\$	\$/AF	\$	\$/AF	\$	\$/AF	\$	\$/AF
2017	138,350	88,124	88,124	6,069,981	68.88	11,047,030	125.36	137,794	1.56	17,254,805	195.80
2018	138,350	138,350	85,777	9,611,175	69.47	14,095,734	164.33	131,239	1.53	23,838,148	277.91
2019	138,350	138,350	85,777	9,279,115	67.07	13,417,238	156.42	415,161	4.84	23,111,514	269.44
2020	138,350	138,350	85,777	8,975,854	64.88	15,265,733	177.97	11,151	0.13	24,252,738	282.74
2021	138,350	138,350	85,777	9,389,537	67.87	14,812,830	172.69	11,151	0.13	24,213,518	282.28
2022	138,350	138,350	85,777	8,933,879	64.57	15,800,981	184.21	11,151	0.13	24,746,012	288.49
2023	138,350	138,350	85,777	9,167,261	66.26	15,506,766	180.78	11,151	0.13	24,685,178	287.78
2024	138,350	138,350	85,777	9,200,420	66.50	14,894,318	173.64	11,151	0.13	24,105,889	281.03
2025	138,350	138,350	85,777	9,207,859	66.55	15,460,446	180.24	11,151	0.13	24,679,457	287.72
2026	138,350	138,350	85,777	9,209,135	66.56	14,734,773	171.78	11,151	0.13	23,955,059	279.27
2027	138,350	138,350	85,777	9,628,302	69.59	15,340,359	178.84	11,151	0.13	24,979,811	291.22
2028	138,350	138,350	85,777	9,664,328	69.85	14,925,198	174.00	11,151	0.13	24,600,677	286.80
2029	138,350	138,350	85,777	9,702,372	70.13	15,260,586	177.91	11,151	0.13	24,974,109	291.15
2030	138,350	138,350	85,777	9,588,608	69.31	14,827,412	172.86	11,151	0.13	24,427,172	284.78
2031	138,350	138,350	85,777	9,743,996	70.43	16,461,464	191.91	11,151	0.13	26,216,611	305.64
2032	138,350	138,350	85,777	9,941,825	71.86	14,137,765	164.82	11,151	0.13	24,090,741	280.85
2033	138,350	138,350	85,777	10,086,241	72.90	16,358,532	190.71	11,151	0.13	26,455,924	308.43
2034	138,350	138,350	85,777	10,338,546	74.73	14,373,652	167.57	11,151	0.13	24,723,349	288.23
2035	138,350	138,350	85,777	10,405,738	75.21	18,229,328	212.52	11,151	0.13	28,646,217	333.96

(1) As set forth in CDWR Bulletin 132-17, Appendix B (Appendix B).

(2) Probable Table A water allocation is based on currently existing CVWD allocation augmented by TLBWSD, KCWA, and MWD transfers,

(3) Probable Table A water delivery is based on 0.62 reliability of CVWD allocation augmented by TLBWSD, KCWA, and MWD transfers

(4) Amount is based on probable 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.

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

(6) 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.

(7) 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	Table A Water Allocation		Probable Table A Water Delivery ⁽³⁾	Delta Water Charge		Variable Transportation Charge		Off-Aqueduct Power Charge		DWA Applicable Table A Charges	
	Maximum	Probable ⁽²⁾	AF	Amount ⁽⁴⁾	Unit	Amount ⁽⁵⁾	Unit	Amount ⁽⁶⁾	Unit	Amount	Unit ⁽⁷⁾
	AF	AF		\$	\$/AF	\$	\$/AF	\$	\$/AF	\$	\$/AF
2017	55,750	31,681	31,681	2,182,187	68.88	3,971,460	125.36	118,209	3.73	6,271,856	197.97
2018	55,750	55,750	34,565	3,872,953	69.47	5,680,066	164.33	109,917	3.18	9,662,936	279.56
2019	55,750	55,750	34,565	3,739,145	67.07	5,406,657	156.42	167,295	4.84	9,313,096	269.44
2020	55,750	55,750	34,565	3,616,942	64.88	6,151,533	177.97	4,493	0.13	9,772,968	282.74
2021	55,750	55,750	34,565	3,783,641	67.87	5,969,030	172.69	4,493	0.13	9,757,164	282.28
2022	55,750	55,750	34,565	3,600,027	64.57	6,367,219	184.21	4,493	0.13	9,971,739	288.49
2023	55,750	55,750	34,565	3,694,072	66.26	6,248,661	180.78	4,493	0.13	9,947,226	287.78
2024	55,750	55,750	34,565	3,707,433	66.50	6,001,867	173.64	4,493	0.13	9,713,793	281.03
2025	55,750	55,750	34,565	3,710,431	66.55	6,229,996	180.24	4,493	0.13	9,944,920	287.72
2026	55,750	55,750	34,565	3,710,945	66.56	5,937,576	171.78	4,493	0.13	9,653,015	279.27
2027	55,750	55,750	34,565	3,879,854	69.59	6,181,605	178.84	4,493	0.13	10,065,952	291.22
2028	55,750	55,750	34,565	3,894,371	69.85	6,014,310	174.00	4,493	0.13	9,913,175	286.80
2029	55,750	55,750	34,565	3,909,702	70.13	6,149,459	177.91	4,493	0.13	10,063,654	291.15
2030	55,750	55,750	34,565	3,863,859	69.31	5,974,906	172.86	4,493	0.13	9,843,259	284.78
2031	55,750	55,750	34,565	3,926,475	70.43	6,633,369	191.91	4,493	0.13	10,564,337	305.64
2032	55,750	55,750	34,565	4,006,193	71.86	5,697,003	164.82	4,493	0.13	9,707,689	280.85
2033	55,750	55,750	34,565	4,064,387	72.90	6,591,891	190.71	4,493	0.13	10,660,772	308.43
2034	55,750	55,750	34,565	4,166,057	74.73	5,792,057	167.57	4,493	0.13	9,962,607	288.23
2035	55,750	55,750	34,565	4,193,132	75.21	7,345,754	212.52	4,493	0.13	11,543,380	333.96

(1) As set forth in CDWR Bulletin 132-17, Appendix B (Appendix B).

(2) Probable Table A water allocation is based on currently existing DWA allocation augmented by TLBWSD, KCWA, and MWD transfers

(3) Probable Table A water delivery is based on 0.62 reliability of DWA allocation augmented by TLBWSD, KCWA, and MWD transfers

(4) Amount is based on probable 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.

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

(6) 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.

(7) 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)	
						\$	%
2016	16,266,406	5,310,606	21,577,012	15,908,731	5,668,281	512,173	9
2017	17,254,805	6,271,856	23,526,661	17,346,207	6,180,454	2,620,281	42
2018	23,838,148	9,662,936	33,501,083	24,700,349	8,800,735	(282,790)	(3)
2019	23,111,514	9,313,096	32,424,610	23,906,665	8,517,945	420,608	5
2020	24,252,738	9,772,968	34,025,706	25,087,153	8,938,553	(14,455)	0
2021	24,213,518	9,757,164	33,970,683	25,046,584	8,924,098	196,255	2
2022	24,746,012	9,971,739	34,717,751	25,597,398	9,120,353	(22,420)	0
2023	24,685,178	9,947,226	34,632,404	25,534,471	9,097,933	(213,502)	(2)
2024	24,105,889	9,713,793	33,819,683	24,935,252	8,884,431	211,393	2
2025	24,679,457	9,944,920	34,624,377	25,528,553	9,095,824	(266,983)	(3)
2026	23,955,059	9,653,015	33,608,074	24,779,233	8,828,841	377,681	4
2027	24,979,811	10,065,952	35,045,764	25,839,242	9,206,522	(139,733)	(2)
2028	24,600,677	9,913,175	34,513,852	25,447,063	9,066,789	137,631	2
2029	24,974,109	10,063,654	35,037,763	25,833,343	9,204,420	(201,578)	(2)
2030	24,427,172	9,843,259	34,270,430	25,267,588	9,002,842	659,513	7
2031	26,216,611	10,564,337	36,780,948	27,118,593	9,662,355	(783,507)	(8)
2032	24,090,741	9,707,689	33,798,430	24,919,583	8,878,848	871,708	10
2033	26,455,924	10,660,772	37,116,695	27,366,139	9,750,556	(638,555)	(7)
2034	24,723,349	9,962,607	34,685,956	25,573,955	9,112,001	1,445,806	16
2035	28,646,217	11,543,380	40,189,596	29,631,789	10,557,807		

(1) Proportioned in accordance with 2017 Water Management Area production percentages; CVWD is responsible for 73.73% and DWA is responsible for 26.27% of total combined production for the Whitewater River, Mission Creek, and Garnet Hill 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
2018/2019 ⁽⁴⁾	8,659,340	44,270	195.60	196.00
2019/2020 ⁽⁴⁾	8,728,249	45,973	189.86	190.00
2020/2021 ⁽⁴⁾	8,931,326	45,900	194.58	195.00
2021/2022 ⁽⁴⁾	9,022,226	45,595	197.88	198.00
2022/2023 ⁽⁴⁾	9,109,143	45,291	201.12	201.00
2023/2024 ⁽⁴⁾	8,991,182	44,986	199.87	200.00
2024/2025 ⁽⁴⁾	8,990,128	44,812	200.62	201.00
2025/2026 ⁽⁴⁾	9,151,173	44,774	204.39	204.00
2026/2027 ⁽⁴⁾	9,017,682	44,999	200.40	200.00
2027/2028 ⁽⁴⁾	9,136,656	45,482	200.89	201.00
2028/2029 ⁽⁴⁾	9,135,605	45,965	198.75	199.00
2029/2030 ⁽⁴⁾	9,103,631	46,661	195.10	195.00
2030/2031 ⁽⁴⁾	9,332,599	47,305	197.29	197.00
2031/2032 ⁽⁴⁾	9,270,602	47,684	194.42	194.00
2032/2033 ⁽⁴⁾	9,314,702	48,062	193.81	194.00
2033/2034 ⁽⁴⁾	9,431,279	48,438	194.71	195.00
2034/2035 ⁽⁴⁾	9,834,904	48,814	201.48	201.00

(1) From Table 5.

(2) Projections based on model runs for Coachella Valley 2010 Water Management Plan and 2014 Water Management Plan Status Update.

(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

Fiscal Year	Assessment Rate								Assessments											Payments			
	Table A Allocation ⁽¹⁾	WWR		MC		GH		Estimated ⁽⁴⁾	Levied ⁽⁵⁾	Collected ⁽⁶⁾	Delinquent ⁽⁷⁾	Made		Surplus (Deficit)									
		Other Charges or Costs ⁽²⁾	Total ⁽³⁾	Other Charges or Costs ⁽²⁾	Total ⁽³⁾	Other Charges or Costs ⁽²⁾	Total ⁽³⁾					\$	\$	\$	\$	Table A	Annual	Cumulative ⁽⁸⁾					
\$/AF	\$/AF	\$/AF	\$/AF	\$/AF	\$/AF	WWR	MC	GH	WWR	MC	GH	TOTAL	WWR	MC	GH	\$	\$	\$					
13/14	111.00	(19.00)	92.00	(19.00)	92.00			3,779,360	785,587		3,809,930	785,587		3,809,930	785,587		4,595,517	0	0		6,078,542	(1,483,025)	(24,151,461)
14/15	106.00	(4.00)	102.00	(4.00)	102.00			3,684,919	756,041		3,684,919	561,213		3,684,919	561,213		4,246,132	0	0		3,798,705	447,427	(23,704,034)
15/16	112.00	(10.00)	102.00	(10.00)	102.00	(10.00)	102.00	3,846,970	989,318	24,480	3,243,582	711,876	0	3,243,582	711,876	0	3,955,458	0	0	0	7,304,465	(3,349,007)	(27,053,041)
16/17	144.00	(42.00)	102.00	(42.00)	102.00	(42.00)	102.00	3,443,112	892,273	31,235	3,443,112	892,273	31,235	3,577,041	748,643	0	4,325,684	0	0	0	3,782,326	543,358	543,358
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	3,410,450	1,583,978	34,771	2,407,364 ⁽¹⁰⁾	506,457	34,771	2,948,592	0 ⁽¹¹⁾	0	0	7,490,595 ⁽¹²⁾	(4,542,002)	(3,998,644)
18/19	196.00	(56.00)	140.00	(56.00)	140.00	(56.00)	140.00	4,004,471	2,147,467	45,862	4,004,471	2,147,467	45,862	4,004,471	2,147,467	45,862	6,197,800	0			8,659,340	(2,461,540)	(6,460,184)
19/20	190.00	(35.00)	155.00	(35.00)	155.00	(35.00)	155.00	4,521,661	2,551,420	52,700	4,521,661	2,551,420	52,700	4,521,661	2,551,420	52,700	7,125,781	0			8,728,249	(1,602,468)	(8,062,652)
20/21	195.00	(30.00)	165.00	(30.00)	165.00	(30.00)	165.00	4,709,800	2,807,562	56,100	4,709,800	2,807,562	56,100	4,709,800	2,807,562	56,100	7,573,462	0			8,931,326	(1,357,863)	(9,420,515)
21/22	198.00	(23.00)	175.00	12.63	175.00	12.63	175.00	4,880,123	3,039,568	59,500	4,880,123	3,039,568	59,500	4,880,123	3,039,568	59,500	7,979,191	0			9,022,226	(1,043,035)	(10,463,550)
22/23	201.00	12.63	213.63	12.63	213.63	12.63	213.63	5,816,910	3,786,003	72,635	5,816,910	3,786,003	72,635	5,816,910	3,786,003	72,635	9,675,549	0			9,109,143	566,406	(9,897,144)
23/24	201.00	12.63	213.63	12.63	213.63	12.63	213.63	5,676,336	3,861,434	72,635	5,676,336	3,861,434	72,635	5,676,336	3,861,434	72,635	9,610,405	0			8,991,182	619,223	(9,277,921)
24/25	201.00	12.63	213.63	12.63	213.63	12.63	213.63	5,563,681	3,936,938	72,635	5,563,681	3,936,938	72,635	5,563,681	3,936,938	72,635	9,573,255	0			8,990,128	583,127	(8,694,794)
25/26	204.00	12.63	216.63	12.63	216.63	12.63	216.63	5,555,146	4,070,639	73,655	5,555,146	4,070,639	73,655	5,555,146	4,070,639	73,655	9,699,440	0			9,151,173	548,267	(8,146,526)
26/27	204.00	12.63	216.63	12.63	216.63	12.63	216.63	5,523,627	4,150,906	73,655	5,523,627	4,150,906	73,655	5,523,627	4,150,906	73,655	9,748,187	0			9,017,682	730,506	(7,416,020)
27/28	204.00	12.63	216.63	12.63	216.63	12.63	216.63	5,548,013	4,231,172	73,655	5,548,013	4,231,172	73,655	5,548,013	4,231,172	73,655	9,852,840	0			9,136,656	716,185	(6,699,835)
28/29	204.00	12.63	216.63	12.63	216.63	12.63	216.63	5,572,315	4,311,439	73,655	5,572,315	4,311,439	73,655	5,572,315	4,311,439	73,655	9,957,409	0			9,135,605	821,805	(5,878,031)
29/30	204.00	12.63	216.63	12.63	216.63	12.63	216.63	5,596,259	4,438,355	73,655	5,596,259	4,438,355	73,655	5,596,259	4,438,355	73,655	10,108,269	0			9,103,631	1,004,638	(4,873,393)
30/31	204.00	12.63	216.63	12.63	216.63	12.63	216.63	5,619,843	4,554,386	73,655	5,619,843	4,554,386	73,655	5,619,843	4,554,386	73,655	10,247,884	0			9,332,599	915,285	(3,958,108)
31/32	204.00	12.63	216.63	12.63	216.63	12.63	216.63	5,643,320	4,612,883	73,655	5,643,320	4,612,883	73,655	5,643,320	4,612,883	73,655	10,329,858	0			9,270,602	1,059,257	(2,898,851)
32/33	204.00	12.63	216.63	12.63	216.63	12.63	216.63	5,666,714	4,671,379	73,655	5,666,714	4,671,379	73,655	5,666,714	4,671,379	73,655	10,411,748	0			9,314,702	1,097,046	(1,801,805)
33/34	204.00	12.63	216.63	12.63	216.63	12.63	216.63	5,689,791	4,729,876	73,655	5,689,791	4,729,876	73,655	5,689,791	4,729,876	73,655	10,493,323	0			9,431,279	1,062,044	(739,760)
34/35	204.00	12.63	216.63	12.63	216.63	12.63	216.63	5,712,636	4,788,373	73,655	5,712,636	4,788,373	73,655	5,712,636	4,788,373	73,655	10,574,664	0			9,834,904	739,760	(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, second and third quarters of assessment period.
(11) Delinquent assessment is estimated based on first, second and third quarters of assessment period.
(12) For 2017/2018 and beyond, Payments Made are estimated based on estimated allocated Table A charges.



EXHIBITS

EXHIBIT 1
DESERT WATER AGENCY
WEST WHITEWATER RIVER SUBBASIN MANAGEMENT AREA
RECHARGE QUANTITIES AND GROUNDWATER WELL HYDROGRAPHS

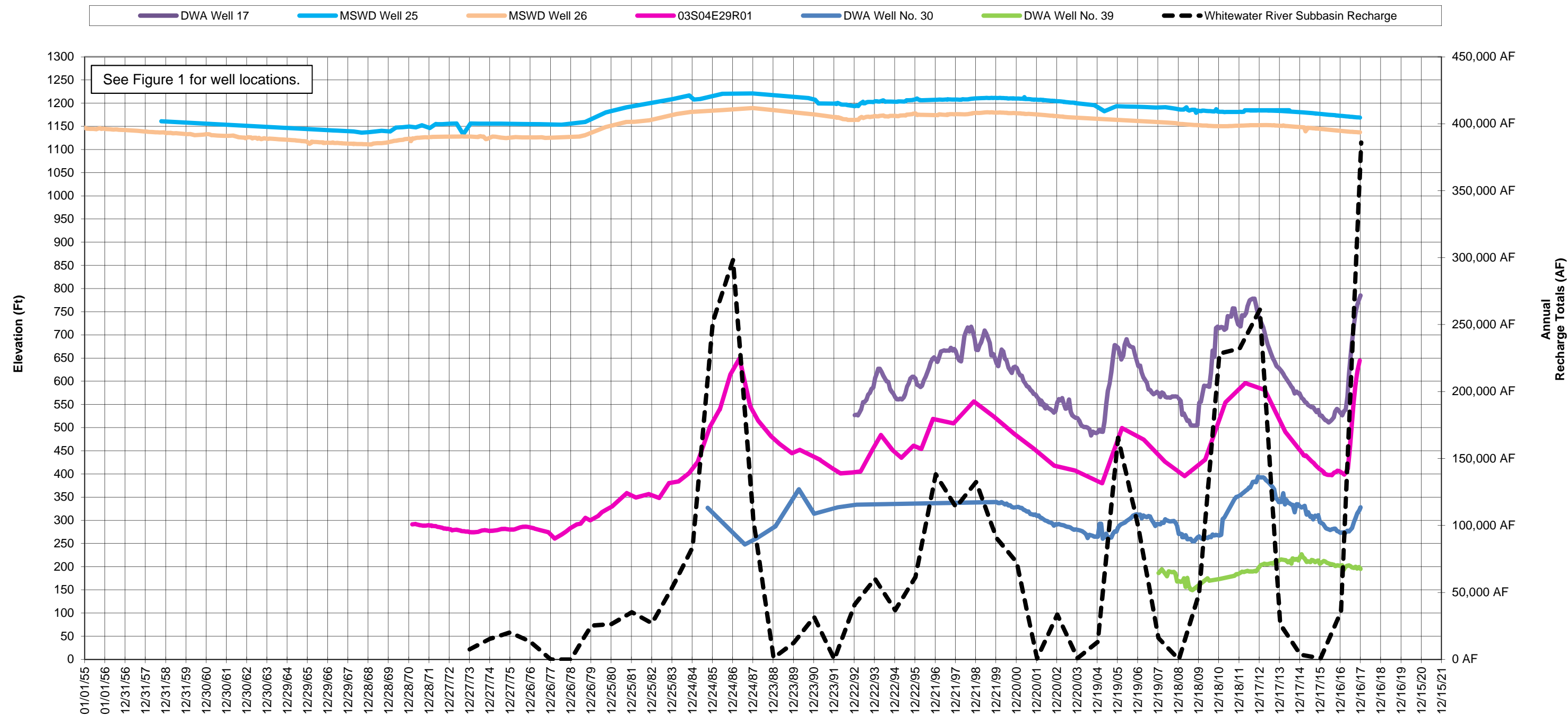


EXHIBIT 2
DESERT WATER AGENCY
MISSION CREEK SUBBASIN MANAGEMENT AREA
RECHARGE QUANTITIES AND GROUNDWATER WELL HYDROGRAPHS

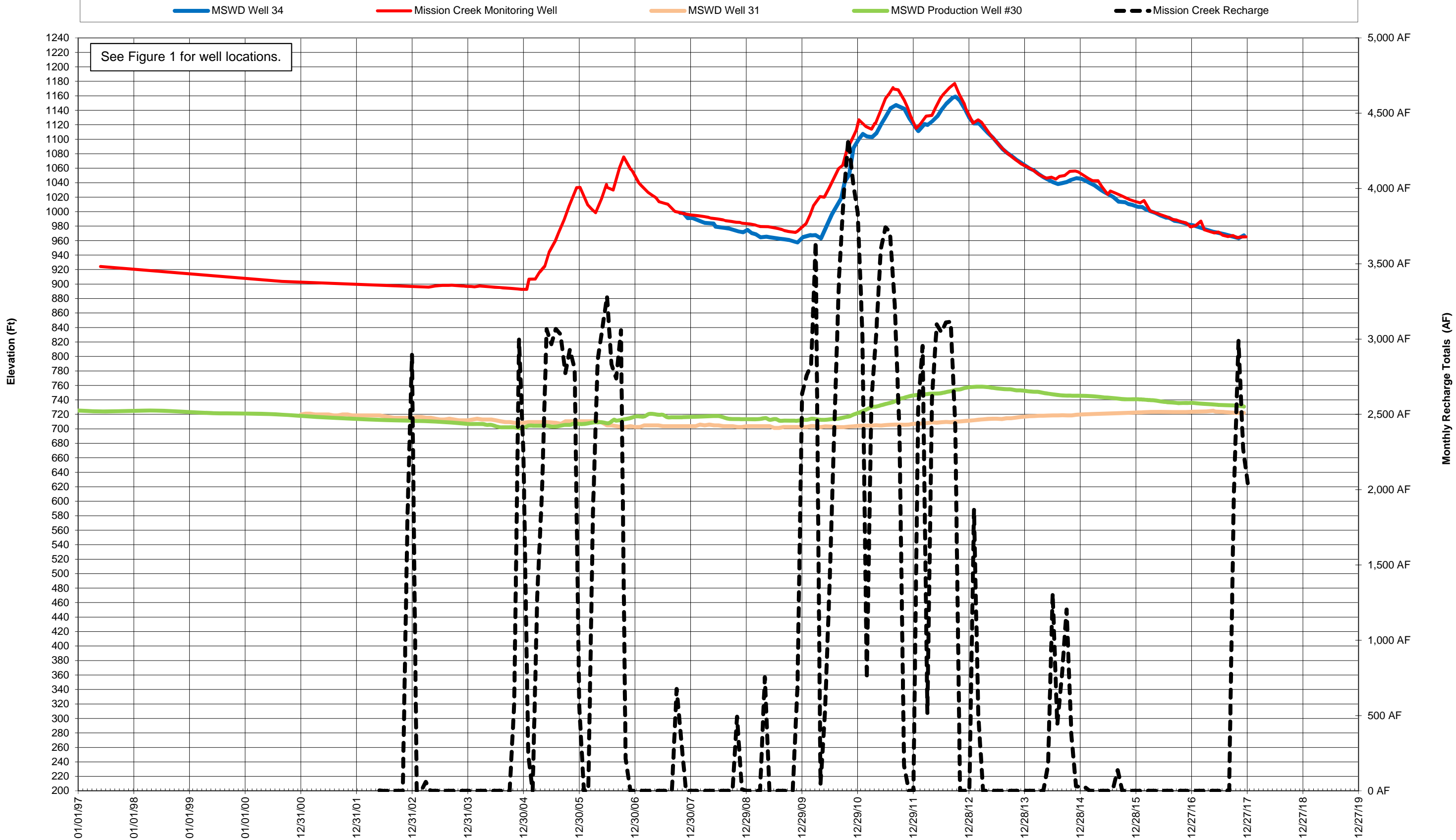


EXHIBIT 3
GARNET HILL SUBBASIN MANAGEMENT AREA GROUNDWATER WELL HYDROGRAPHS AND
GROUNDWATER RECHARGE QUANTITIES AT WHITEWATER RIVER AND MISSION CREEK REPLENISHMENT FACILITIES

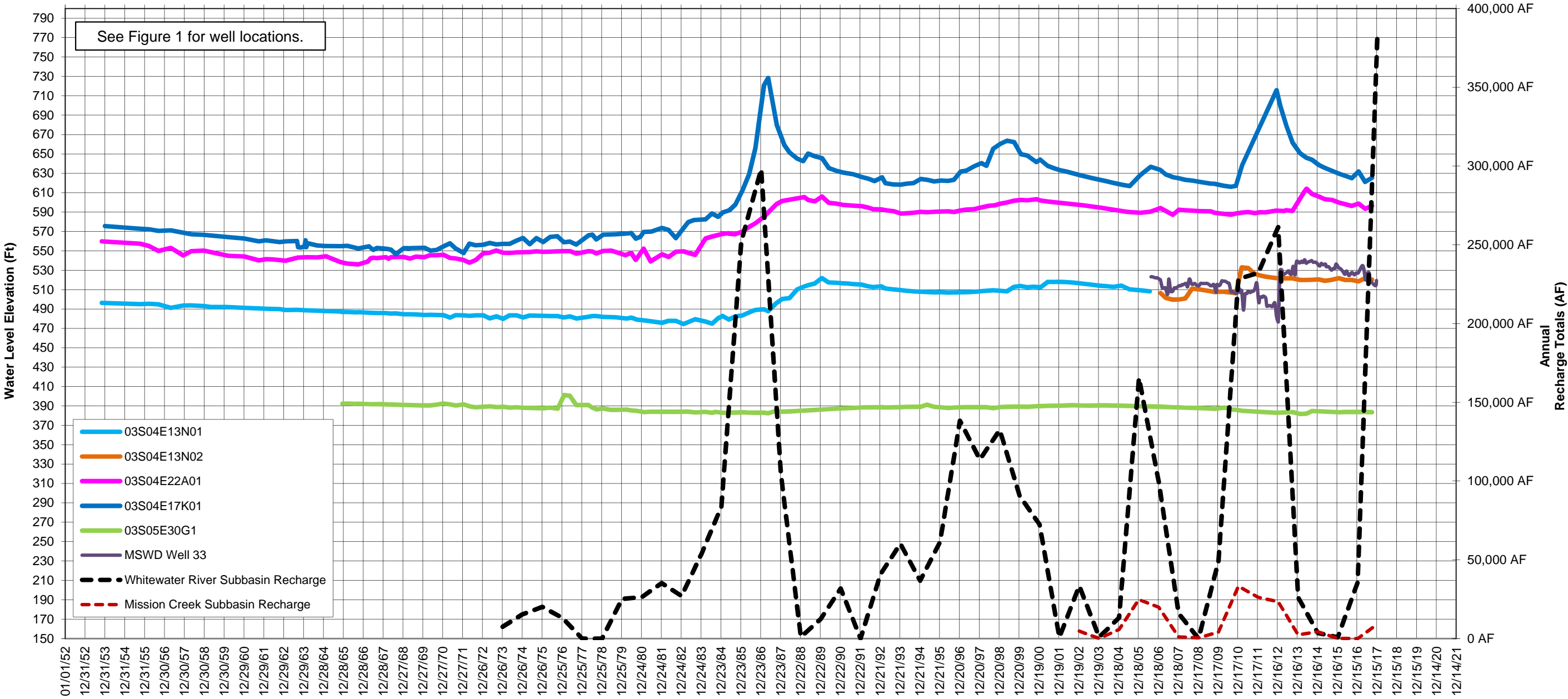


EXHIBIT 4
DESERT WATER AGENCY
MISSION CREEK SUBBASIN AREA OF BENEFIT⁽¹⁾
HISTORIC VOLUME OF GROUNDWATER IN STORAGE⁽²⁾

TIME PERIOD	PRE-1955	1955 - 1978	1979 - 1997	1998 - 2017	1955 - 2017
Number of Years		24	19	19	62
Water Level Decline, FT ⁽³⁾		20	30	13	63
Period Reduction in Storage, AF		71,200	106,800	46,280	224,280
Annual Reduction in Storage, AF/Yr		3,000	5,600	2,400	3,600
Change in Storage		0.047	0.074	0.035	0.148
Remaining Storage, AF	1,511,800	1,440,600	1,333,800	1,287,520	1,287,520

(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 5
DESERT WATER AGENCY
COMPARISON OF WATER PRODUCTION AND GROUNDWATER REPLENISHMENT
WEST WHITEWATER RIVER SUBBASIN (WWR) AND MISSION CREEK SUBBASIN (MC) MANAGEMENT AREAS

YEAR	PRODUCTION ⁽¹⁾							
	WWR		MC		TOTAL		RATIO OF PRODUCTION	
	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	211,014	1,259,590	16,409	95,115	227,423	1,354,705	92.8%	7.2%
2008	210,693	1,470,283	15,775	110,890	226,468	1,581,173	93.0%	7.0%
2009	199,149	1,669,432	15,108	125,998	214,257	1,795,430	92.9%	7.1%
2010	182,415	1,851,847	14,304	140,302	196,719	1,992,149	92.7%	7.3%
2011	182,823	2,034,670	14,260	154,562	197,083	2,189,232	92.8%	7.2%
2012	183,108	2,217,778	14,216	168,778	197,324	2,386,556	92.8%	7.2%
2013	182,640	2,400,418	14,756	183,534	197,396	2,583,952	92.5%	7.5%
2014	174,186	2,574,604	14,091	197,625	188,277	2,772,229	92.5%	7.5%
2015	147,429	2,722,033	13,017	210,642	160,446	2,932,675	91.9%	8.1%
2016	148,098	2,870,131	13,219	223,861	161,317	3,093,992	91.8%	8.2%
2017	155,072	3,025,203	13,531	237,392	168,603	3,262,595	92.0%	8.0%

YEAR	RECHARGE (TOTAL)							
	WWR		MC		TOTAL		RATIO OF RECHARGE	
	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	3,533	1,141,079	4,325	150,142	7,858	1,291,221	45.0%	55.0%
2015	865	1,141,944	171	150,313	1,036	1,292,257	83.5%	16.5%
2016	35,699	1,177,643	0	150,313	35,699	1,327,956	100.0%	0.0%
2017	385,994	1,563,637	9,248	159,561	395,242	1,723,198	97.7%	2.3%

YEAR	RECHARGE (SWP EXCHANGE ONLY) ⁽²⁾							
	WWR		MC		TOTAL		RATIO OF RECHARGE	
	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%

(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.

EXHIBIT 6
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											MWD Delivery Surplus/(Deficit) Prior to Exchange and Delivery Agreement			
SWP Contract Water												Non-SWP Contract Water																				
SWP Surplus Water												CVWD					DWA	From SWP Exchange Account			From Other Accounts											
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	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																					
Year	Table A DWA/CVWD Combined Allocation	Table A Allocation Delivered to MWD	% Delivery to MWD	Carry- Over	SWP Surplus Water							SWP Total	CVWD						DWA	From SWP Exchange Account			From Other Accounts			Advance Deliveries Converted to Exchange Deliveries	Advance Delivery Account ⁽⁵⁾ Credit/(Debit)								
					Pool A	Pool B	Multi-Year Pool	Article 21	Flood	Yuba	Other		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	Annual	Balance
1984 (Jul-Dec) ⁽⁶⁾	N/A	14,919	N/A								14,919								14,919	32,796		32,796				32,796		32,796	32,796	16,570	16,570 ⁽⁸⁾	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		53,556	(53,556)	465,413			
1989	58,373	58,373	100%								58,373								58,373	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		29,479	(29,479)	390,039			
1991	61,200	18,360	30%								18,360								18,360	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		1,047	(1,047)	383,892			
1994	61,200	37,359	61%								37,359								37,359	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		118	118	383,414			
1996	61,200	61,200	100%			103,641					103,641	164,841							164,841	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		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		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		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		28,108	(28,108)	262,198			
2001	61,200	23,868	39%			242					242	24,110							24,110	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				902		59	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				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	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 *					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			8,302	132,458							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			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			19,468	0	4,325	7,858	3,533		3,533	3,533	4,325	11,391	7,858		11,610	(11,610)	248,803		
2015	194,100	38,820	20%						67		426	493	39,313			9,500			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			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	1,131						16,776 ⁽¹¹⁾	17,907	110,147			5,397			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	
TOTALS ⁽¹²⁾	3,891,611	2,309,635	---	94,907	5,160	292,681	633	42,272	47,286	10,085	17,279	415,396	2,819,938	8,393	62,897	32,000	10,000	221,057	8,350	3,162,608	2,717,889	151,211	3,223,627	249,299	8,350	257,649	3,318,182	159,561	3,481,276	3,223,627	1,152,351	827,243	---	---	

EXHIBIT 7
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

YEAR	DWA		CVWD WEST WHITEWATER		CVWD MISSION CREEK	
	\$/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%	\$172.56 *	20%	\$149.07 *	10%

* Proposed replenishment assessment rate

APPENDIX A

APPENDIX A
UPPER COACHELLA VALLEY
MONTHLY AND ANNUAL RECORDED PRECIPITATION DATA
(INCHES)
2017

STATION NAME	WHITEWATER NORTH	SNOW CREEK	DESERT HOT SPRINGS	TACHEVAH DAM	TRAM VALLEY	CATHEDRAL CITY	THOUSAND PALMS	PALM SPRINGS SUNRISE	EDOM HILL	OASIS	MECCA LANDFILL III	THERMAL AIRPORT
LOCATION	WWR	WWR	MC	WWR	WWR	WWR	WWR	WWR	MC	EWR	EWR	EWR
STATION NUMBER	233	207	57	216	224	34	222	442	436	431	432	443
JANUARY	10.40	11.30	3.51	4.73	8.81	2.57	2.12	4.27	2.49	1.41	0.94	1.39
FEBRUARY	2.89	3.41	2.09	1.49	2.68	2.05	1.62	1.74	1.48	0.69	0.50	0.68
MARCH	0.30	0.52	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01
APRIL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MAY	0.03	0.01	0.00	0.00	0.08	0.02	0.02	0.00	0.00	0.02	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	0.03	0.00	0.00	0.00	0.02	0.00	0.05	0.06	0.00
AUGUST	0.09	0.09	0.34	0.00	0.56	0.55	0.78	0.93	0.25	0.16	0.01	0.08
SEPTEMBER	0.00	0.02	0.20	1.29	0.81	0.32	0.04	1.71	0.07	0.16	0.39	1.09
OCTOBER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NOVEMBER	0.02	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DECEMBER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	13.73	15.38	6.15	7.54	12.94	5.51	4.58	8.68	4.29	2.49	1.91	3.25
AVERAGE: UPPER	8.76											
AVERAGE: LOWER										2.55		
AVERAGE: ALL	7.20											

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:

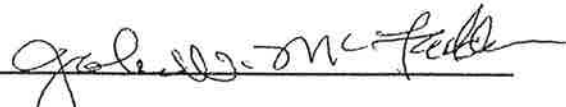
Desert Water Agency,
a public agency of the State of California


By 
Its: President

By 
Its: Vice President

CVWD:

Coachella Valley Water District,
a California county water district

By 
Its: President

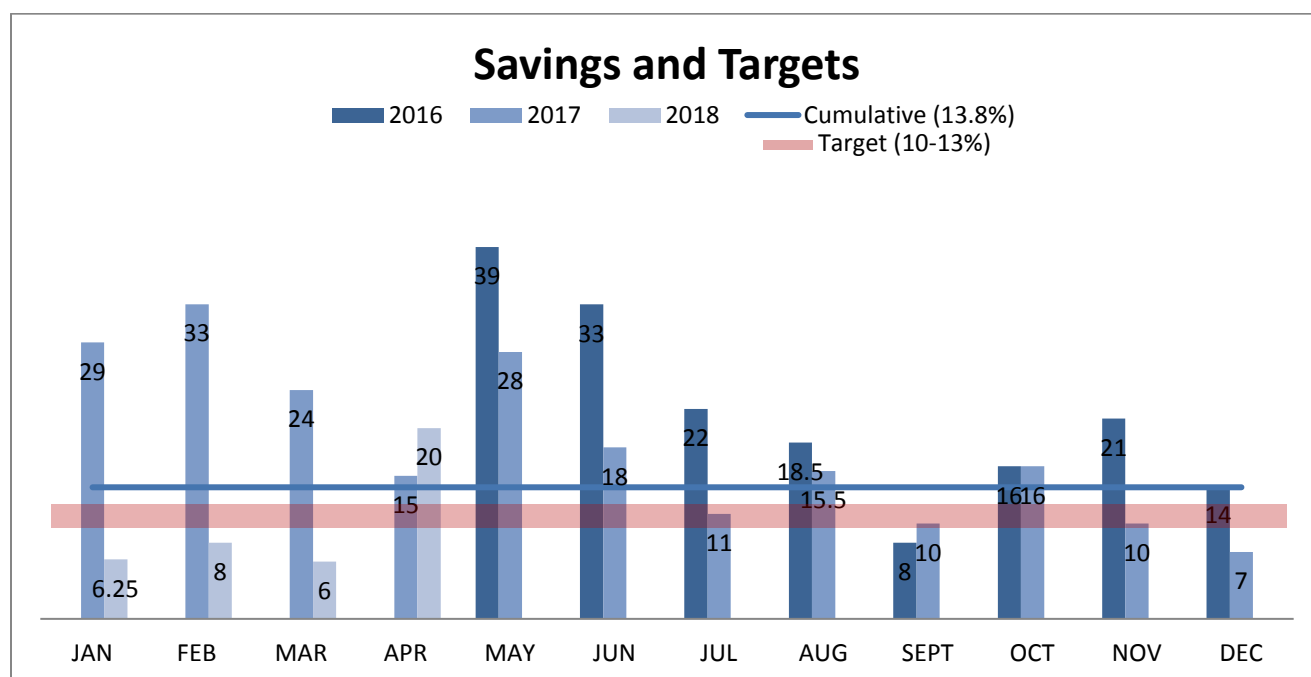
By 
Its: Vice President

STAFF REPORT TO DESERT WATER AGENCY BOARD OF DIRECTORS

MAY 15, 2018

RE: APRIL 2018 WATER USE REDUCTION FIGURES

Desert Water Agency and its customers achieved a 20.4% percent reduction in potable water production during April 2018 compared to the same month in 2013 – the baseline year used by the State Water Resources Control Board (State Water Board) to measure statewide conservation achievements. DWA continues to report its production to the state on a monthly basis, despite mandatory conservation ending in April 2017.



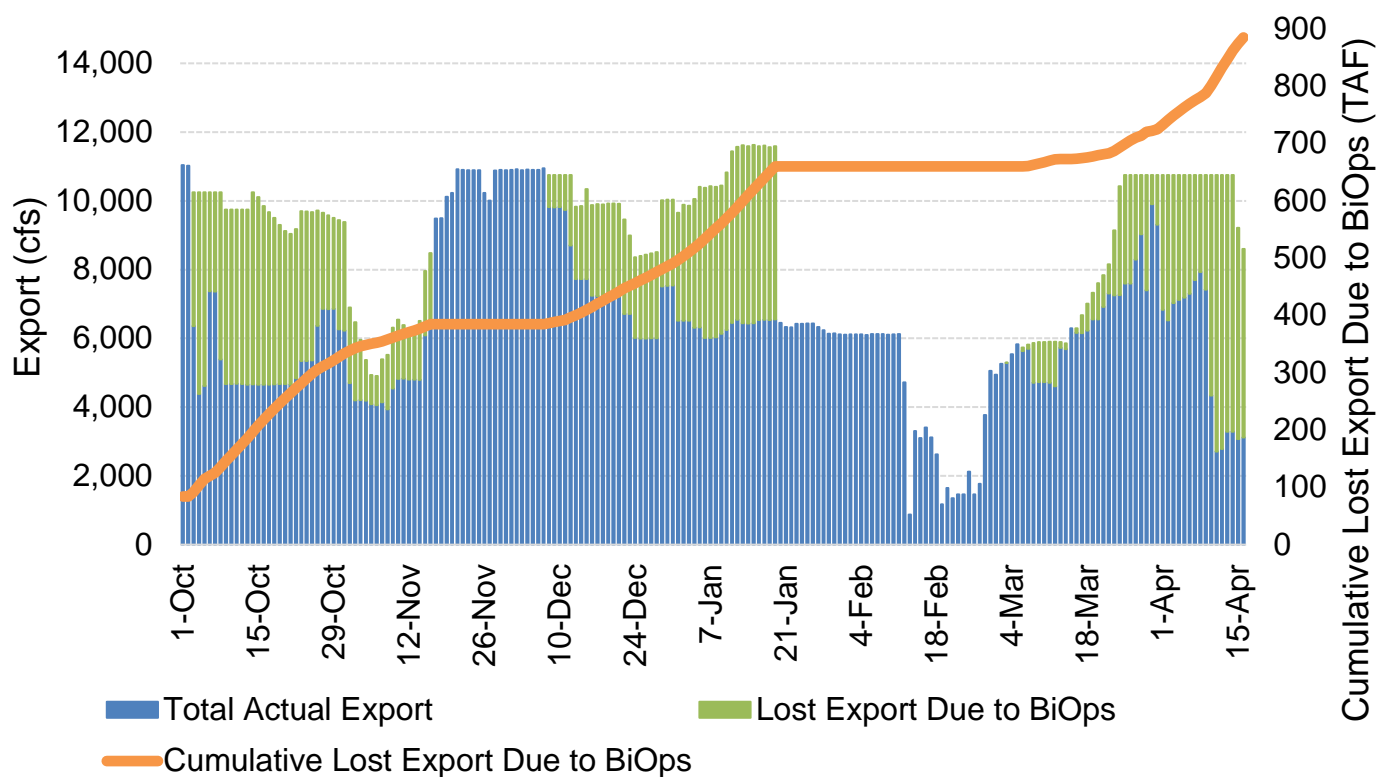
DWA is asking its customers to save 10-13% compared to 2013 to help achieve long-term sustainability.

The cumulative savings over the last twelve-month period is 13.8%. The cumulative savings beginning in June of 2016 when we put our 10-13% target in place is 17%.

On the following page is additional information for this month.

April 2018 water production	2,063.17 AF
April 2013 water production	2,590.61 AF
Percent changed in this month per drought surcharge baseline (April 2015)	15.20% (less use)
Quantity of potable water delivered for all commercial, industrial, and institutional users for the reporting month	716.86 AF
The percentage of the Total Monthly Potable Water Production going to residential use only for the reporting month	65.25%
Population (inclusive of seasonal residents)	106,824
Estimated R-GPCD	136.89
How many public complaints of water waste or violation of conservation rules were received during the reporting month?	31
How many contacts (written/ verbal) were made with customers for actual/ alleged water waste or for a violation of conservation rules?	9
How many formal warning actions (e.g.: written notifications, warning letters, door hangers) were issued for water waste or for a violation of conservation rules?	0
How many penalties were issued for water waste or for a violation of conservation rules?	0
<p>Comments: The Agency's service area is highly seasonal making population analysis a complex task. The State Water Resources Control Board (State Board) analyzes data on a per capita basis.</p> <p>Historically, DWA has submitted data based on the permanent population of the service area; however that data does not accurately reflect water use in DWA's service area which has a highly seasonal population. Based on local data, the correct population is higher than previously reported. The Residential Gallons Per Capita Per Day (R-GPCD) is being submitted using the corrected population.</p> <p>Since Desert Water Agency began recycling water, the agency has reclaimed 95,491 acre feet. If our recycled water production for this month was taken into consideration against our potable production, the conservation achieved would have been several percentage points higher.</p> <p>In the 2018 water year to date, we have lost about 885 thousand acre feet due to biological opinions (regulatory restrictions). Please see the graph on the following page.</p>	

Lost Export Due to BiOps: 2018



2018 Lost Export to Date Due to BiOps = ~885 TAF

Fall X2 = ~490 TAF (including Sep)

OMR/SJR IE to date = ~ 395 TAF

**STAFF REPORT
TO
DESERT WATER AGENCY
BOARD OF DIRECTORS**

MAY 15, 2018

**RE: PLANNING FOR THE FUTURE – EVALUATING DEMAND AND
SUPPLY THROUGH 2045**

Planning for the future requires the Agency to determine its current and forecasted water supply and demand. This evaluation looks out to the year 2045.

Stantec's analysis was originally commissioned by CVWD. The consultant prepared a Technical Memorandum for the entire Coachella Valley with some individual detail for the East and West Whitewater River and Mission Creek planning areas. DWA requested a tailored analysis to determine the future water demand supply needs specifically within the Agency's area of benefit. Staff also requested refined conservation projections to better address conservation factors.

DWA tasked Stantec with evaluating whether the Agency's current water supply planning is adequate to meet future water supply needs. Staff made determinations on many of the factors effecting supply and demand and projections, which will be discussed in the presentation. In general, the analysis shows that we can meet future water demands with the supply projects currently in development. However, all of the projects must be 100% completed and deliver all of the projected water supply to meet these needs.