

**MEETING OF THE
BOARD OF DIRECTORS OF THE
MUNICIPAL WATER DISTRICT OF ORANGE COUNTY**
Jointly with the
ADMINISTRATION & FINANCE COMMITTEE
October 10, 2018, 8:30 a.m.
MWDOC Conference Room 101

Committee

Director Thomas, Chair
Director Dick
Director Finnegan

Staff: R. Hunter, K. Seckel, C. Harris,
K. Davanaugh, H. Chumpitazi

Ex Officio Member: Director Barbre

MWDOC Committee meetings are noticed and held as joint meetings of the Committee and the entire Board of Directors and all members of the Board of Directors may attend and participate in the discussion. Each Committee has designated Committee members, and other members of the Board are designated alternate committee members. If less than a quorum of the full Board is in attendance, the Board meeting will be adjourned for lack of a quorum and the meeting will proceed as a meeting of the Committee with those Committee members and alternate members in attendance acting as the Committee.

PUBLIC COMMENTS - Public comments on agenda items and items under the jurisdiction of the Committee should be made at this time.

ITEMS RECEIVED TOO LATE TO BE AGENDIZED - Determine there is a need to take immediate action on item(s) and that the need for action came to the attention of the District subsequent to the posting of the Agenda. (Requires a unanimous vote of the Committee)

ITEMS DISTRIBUTED TO THE BOARD LESS THAN 72 HOURS PRIOR TO MEETING --

Pursuant to Government Code section 54957.5, non-exempt public records that relate to open session agenda items and are distributed to a majority of the Board less than seventy-two (72) hours prior to the meeting will be available for public inspection in the lobby of the District's business office located at 18700 Ward Street, Fountain Valley, California 92708, during regular business hours. When practical, these public records will also be made available on the District's Internet Web site, accessible at <http://www.mwdoc.com>.

PROPOSED BOARD CONSENT CALENDAR ITEMS

1. TREASURER'S REPORT
 - a. Revenue/Cash Receipt Report – September 2018
 - b. Disbursement Approval Report for the month of October 2018
 - c. Disbursement Ratification Report for the month of September 2018
 - d. GM Approved Disbursement Report for the month of September 2018
 - e. Water Use Efficiency Projects Cash Flow – September 30, 2018
 - f. Consolidated Summary of Cash and Investment – August 2018
 - g. OPEB Trust Fund monthly statement
2. FINANCIAL REPORT
 - a. Combined Financial Statements and Budget Comparative for the Period ending August 31, 2018

ACTION ITEMS

3. HEALTH SAVINGS ACCOUNT ELECTIONS FOR 2019

INFORMATION ITEMS – (THE FOLLOWING ITEMS ARE FOR INFORMATIONAL PURPOSES ONLY – BACKGROUND INFORMATION IS INCLUDED IN THE PACKET. DISCUSSION IS NOT NECESSARY UNLESS REQUESTED BY A DIRECTOR.)

4. HEALTH BENEFIT RATES FOR 2019

5. DISPOSAL OF FIXED ASSETS

6. CALPERS ANNUAL VALUATION REPORT AS OF JUNE 30, 2017

7. DEPARTMENT ACTIVITIES REPORTS

- a. Administration
- b. Finance and Information Technology

8. MONTHLY WATER USAGE DATA, TIER 2 PROJECTION, AND WATER SUPPLY INFORMATION

OTHER ITEMS

9. REVIEW ISSUES REGARDING DISTRICT ORGANIZATION, PERSONNEL MATTERS, EMPLOYEE BENEFITS FINANCE AND INSURANCE

ADJOURNMENT

NOTE: At the discretion of the Committee, all items appearing on this agenda, whether or not expressly listed for action, may be deliberated, and may be subject to action by the Committee. On those items designated for Board action, the Committee reviews the items and makes a recommendation for final action to the full Board of Directors; final action will be taken by the Board of Directors. Agendas for Committee and Board meetings may be obtained from the District Secretary. Members of the public are advised that the Board consideration process includes consideration of each agenda item by one or more Committees indicated on the Board Action Sheet. Attendance at Committee meetings and the Board meeting considering an item consequently is advised.

Accommodations for the Disabled. Any person may make a request for a disability-related modification or accommodation needed for that person to be able to participate in the public meeting by telephoning Maribeth Goldsby, District Secretary, at (714) 963-3058, or writing to Municipal Water District of Orange County at P.O. Box 20895, Fountain Valley, CA 92728. Requests must specify the nature of the disability and the type of accommodation requested. A telephone number or other contact information should be included so that District staff may discuss appropriate arrangements. Persons requesting a disability-related accommodation should make the request with adequate time before the meeting for the District to provide the requested accommodation.

Municipal Water District of Orange County
REVENUE / CASH RECEIPT REPORT
September 2018

WATER REVENUES

Date	From	Description	Amount
09/04/18	City of La Palma	July 2018 Water deliveries	4,280.03
09/04/18	City of Garden Grove	July 2018 Water deliveries	698,792.35
09/07/18	City of Buena Park	July 2018 Water deliveries	275,803.36
09/07/18	City of San Clemente	July 2018 Water deliveries	769,466.38
09/10/18	City of La Habra	July 2018 Water deliveries	11,607.90
09/10/18	El Toro Water District	July 2018 Water deliveries	709,635.84
09/10/18	Santa Margarita Water District	July 2018 Water deliveries	2,496,502.75
09/10/18	South Coast Water District	July 2018 Water deliveries	534,293.80
09/10/18	City of Seal Beach	July 2018 Water deliveries	206,279.43
09/11/18	Laguna Beach County Water District	July 2018 Water deliveries	233,208.20
09/13/18	City of San Juan Capistrano	July 2018 Water deliveries	658,353.08
09/13/18	City of Westminster	July 2018 Water deliveries	220,940.52
09/13/18	City of Orange	July 2018 Water deliveries	631,927.44
09/14/18	East Orange County Water District	July 2018 Water deliveries	508,926.45
09/14/18	Orange County Water District	July 2018 Water deliveries	5,476,291.22
09/14/18	Moulton Niguel Water District	July 2018 Water deliveries	2,605,431.44
09/14/18	Yorba Linda Water District	July 2018 Water deliveries	755,245.24
09/14/18	Irvine Ranch Water District	July 2018 Water deliveries	1,216,588.35
09/14/18	Golden State Water Company	July 2018 Water deliveries	603,396.86
09/21/18	City of La Habra	August 2018 Water deliveries	31,603.40
09/27/18	Trabuco Canyon Water District	August 2018 Water deliveries	246,100.06
09/27/18	City of Fountain Valley	August 2018 Water deliveries	12,392.14
TOTAL REVENUES			\$ 18,907,066.24

Municipal Water District of Orange County
REVENUE / CASH RECEIPT REPORT
September 2018

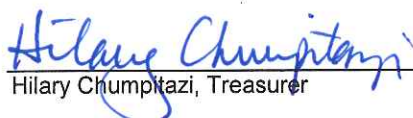
MISCELLANEOUS REVENUES

Date	From	Description	Amount
09/07/18	Orange County Water District	1/2 of 8/3/18 WACO meeting speaker's travel and expenses	417.85
09/04/18	Pat Meszsaros	April & October 2018 Retiree health insurance	81.00
09/21/18	Stan Sprague	October 2018 Retiree Health insurance	243.00
09/27/18	Judy Pfister	Oct-Dec 2018 Retiree Health insurance	121.50
09/14/18	US Bank	Reimbursement for implementation cost	620.10
09/18/18	US Bank	August 2018 Interest income	247.59
09/12/18	Laguna Beach County Water District	Project funds for Service Connection CM-12	52,000.00
09/27/18	Stewart Case	Water Professionals for future fund	35.00
09/17/18	Mesa Water	July 2018 Smartimer rebate program	170.00
09/20/18	City of Westminster	July 2018 Turf Removal rebate program	555.00
09/21/18	City of Orange	July 2018 Turf Removal rebate program	913.75
09/17/18	Moulton Niguel Water District	July 2018 Smartimer and Turf Removal rebate program	10,281.98
09/13/18	City of Fountain Valley	July 2018 Turf Removal and Spray to Drip rebate program	1,376.29
09/04/18	City of Newport Beach	FY 18-19 Choice Programs Billing Invoice	38,622.04
09/04/18	Golden State Water Company	FY 18-19 Choice Programs Billing Invoice	4,371.76
09/06/18	City of Westminster	FY 18-19 Choice Programs Billing Invoice	28,053.00
09/07/18	City of Brea	FY 18-19 Choice Programs Billing Invoice	30,173.37
09/07/18	City of Orange	FY 18-19 Choice Programs Billing Invoice	34,687.36
09/10/18	South Coast Water District	FY 18-19 Choice Programs Billing Invoice	32,553.76
09/12/18	Laguna Beach County Water District	FY 18-19 Choice Programs Billing Invoice	3,159.90
09/13/18	Moulton Niguel Water District	FY 18-19 Choice Programs Billing Invoice	92,141.98
09/13/18	Serrano Water District	FY 18-19 Choice Programs Billing Invoice	401.68
09/14/18	East Orange County Water District	FY 18-19 Choice Programs Billing Invoice	5,490.42
09/14/18	El Toro Water District	FY 18-19 Choice Programs Billing Invoice	17,748.85
09/17/18	City of San Juan Capistrano	FY 18-19 Choice Programs Billing Invoice	3,715.96
09/17/18	City of Seal Beach	FY 18-19 Choice Programs Billing Invoice	786.21
09/17/18	Santa Margarita Water District	FY 18-19 Choice Programs Billing Invoice	94,838.08
09/17/18	Trabuco Canyon Water District	FY 18-19 Choice Programs Billing Invoice	6,678.72
09/20/18	Mesa Water	FY 18-19 Choice Programs Billing Invoice	40,701.83
09/21/18	City of Fullerton	FY 18-19 Choice Programs Billing Invoice	1,111.89
09/21/18	City of Tustin	FY 18-19 Choice Programs Billing Invoice	31,127.81
09/24/18	City of La Habra	FY 18-19 Choice Programs Billing Invoice	8,104.50
09/27/18	Yorba Linda Water District	FY 18-19 Choice Programs Billing Invoice	28,072.14
09/28/18	City of San Clemente	FY 18-19 Choice Programs Billing Invoice	17,237.23
09/07/18	City of Buena Park	Water Loss Control technical assistance - WSO, Inc	11,932.00
09/17/18	City of Orange	Water Loss Control technical assistance - WSO, Inc	26,132.00
09/17/18	Mesa Water	Water Loss Control technical assistance - WSO, Inc	2,270.00

TOTAL MISCELLANEOUS REVENUES \$ **627,175.55**

TOTAL REVENUES \$ **19,534,241.79**


 Robert J. Hunter, General Manager


 Hilary Chumptonzi, Treasurer

**Municipal Water District of Orange County
Disbursement Approval Report
For the month of October 2018**

<i>Invoice#</i>	<i>Vendor / Description</i>	<i>Amount to Pay</i>
Core Expenditures:		
1199	Richard C. Ackerman September 2018 Consulting on legal and regulatory matters	1,350.00
	*** Total ***	1,350.00
M005-2018LIAB	ACWA Joint Powers 10/1/18-10/1/19 Auto and General Liability insurance	87,649.00
	*** Total ***	87,649.00
48155	Aleshire & Wynder LLP August 2018 Legal services	660.14
48332	September 2018 Legal services	749.14
	*** Total ***	1,409.28
51817884	Alta FoodCraft 9/6/18 Coffee & tea supplies	164.64
	*** Total ***	164.64
2320	Association of California Cities FY18-19 Annual membership dues	5,150.00
	*** Total ***	5,150.00
119717-01-1	Bergelectric September 2018 Services to map existing electrical system and determine current energy demand for MWDOC building	13,393.68
	*** Total ***	13,393.68
831033	Best Best and Krieger LLP August 2018 State legislative advocacy services	8,234.94
55401-AUG18	August 2018 Legal services	9,322.93
	*** Total ***	17,557.87
1277421	Black & Veatch Corporation July-August 2018 Local Water Supply workshop preparation, participation and follow-up	14,798.00
	*** Total ***	14,798.00
1452	Blue Watchdog Conservation, Inc. 8/22-9/26/18 Services to provide training and testing for Qualified Water Efficient Landscaper Training program	2,627.70
	*** Total ***	2,627.70
072518	Bolsa Chica Conservancy 7/14/18 & 7/20/18 Merit badge clinics for 80 scouts	640.00
	*** Total ***	640.00

**Municipal Water District of Orange County
Disbursement Approval Report
For the month of October 2018**

<i>Invoice#</i>	<i>Vendor / Description</i>	<i>Amount to Pay</i>
	Costco Wholesale	
407283343	2018 Membership renewal	120.00
	*** Total ***	120.00
	Dudek	
20185633	7/28/18-8/31/18 Planning level reliability for South County Interconnection	25,902.03
	*** Total ***	25,902.03
	Fry's Electronics	
22564649	9/17/18 Computer components	277.07
22567635	9/20/18 Computer components and supplies	266.29
	*** Total ***	543.36
	Girl Scouts of Orange County	
161128	Sponsorship for Water Patch program	5,000.00
	*** Total ***	5,000.00
	GovConnection, Inc.	
56118522	40 Licenses for Exchange 2016 Server Enterprise software	4,690.54
56135352	8/15/18-11/27/19 Annual Cisco firewall support	1,395.52
56140014	Microsoft Server 2016 license for new virtual server	5,213.90
56148278	New in-house server to host virtual servers	13,514.43
	*** Total ***	24,814.39
	Hashtag Pinpoint Corporation	
1166	September 2018 Social Media consultation and services	7,917.00
	*** Total ***	7,917.00
	James C. Barker, P.C.	
105-0918	September 2018 Federal legislative advocacy services	8,000.00
	*** Total ***	8,000.00
	Jill Promotions	
10346	MWDOC Name tag for R. Davis	20.59
	*** Total ***	20.59
	Lawnscape Systems, Inc.	
397207	8/31/18 Landscape maintenance for atrium	295.00
397299	9/14/18 Landscape maintenance for atrium	295.00
397300	9/28/18 Landscape maintenance for atrium	295.00
	*** Total ***	885.00
	Lewis Consulting Group, LLC	
2018-168	September 2018 Consulting services	2,937.50
	*** Total ***	2,937.50

**Municipal Water District of Orange County
Disbursement Approval Report
For the month of October 2018**

<i>Invoice#</i>	<i>Vendor / Description</i>	<i>Amount to Pay</i>
	Keith Lyon	
JUL-SEP2018	July-September 2018 Retiree medical premium	402.00
	*** Total ***	402.00
	Edward G. Means III	
MWDOC-1063	September 2018 Consulting on MET issues and guidance to engineering staff	2,381.00
	*** Total ***	2,381.00
	NDS	
715714	9/14/18 Delivery charges for Board packets	169.36
	*** Total ***	169.36
	Orange County Business Council	
0009158-IN	2018 Annual membership renewal	5,000.00
	*** Total ***	5,000.00
	Orange County Fast Print, Inc.	
56846	Business cards for R. Davis	58.88
	*** Total ***	58.88
	Orange County Water District	
2018-01	2018 Health & Wellness Expo sponsorship	200.00
19437	August 2018 50% share of WACO expense	247.50
19449	August 2018 Postage, shared office & maintenance expense	8,383.89
	*** Total ***	8,831.39
	Office Solutions	
I-01440313	9 Traffic cones for Director parking	185.86
I-01440405	Sit/stand monitor & keyboard set-up for T. Dubuque	593.66
I-01445211	9/20/18 Office supplies	299.32
I-01449648	Credenza for J. Berg	1,397.45
	*** Total ***	2,476.29
	Patricia Kennedy Inc.	
10536	October 2018 Plant maintenance	214.00
	*** Total ***	214.00
	Petty Cash	
SEP2018	Petty Cash reimbursement	185.18
	*** Total ***	185.18
	Joey C. Soto	
MWDOC#004	August 2018 Grant Research and Acquisition assistance	2,999.30
	*** Total ***	2,999.30
	Staples Advantage	
8051417786	9/15/18 Office supplies	79.30
	*** Total ***	79.30

**Municipal Water District of Orange County
Disbursement Approval Report
For the month of October 2018**

<i>Invoice#</i>	<i>Vendor / Description</i>	<i>Amount to Pay</i>
	Top Hat Productions	
94432	9/20/18 Breakfast for OC Reliability Study meeting	445.01
	*** Total ***	445.01
	U. S. HealthWorks Medical Group	
3386811-CA	8/21/18 & 8/27/18 Pre-employment exams	416.00
3390192-CA	8/29/18 Pre-employment exams	374.00
	*** Total ***	790.00
	USAFact Inc.	
8090833	8/27/18 Pre-employment background check	47.53
	*** Total ***	47.53
	WageWorks, Inc.	
INV950403	August 2018 Cafeteria plan administration	185.25
	*** Total ***	185.25
	Water Systems Optimization, Inc.	
1437	September 2018 Water Loss Audit Validation research	18,000.00
1438	September 2018 Services to develop a Water Loss Control Business Plan	10,740.00
1439	September 2018 Water Loss Control program	9,320.07
	*** Total ***	38,060.07
	Pauline D. Wennerstrom	
OCT-DEC2018	October-December 2018 Retiree medical premium	339.00
	*** Total ***	339.00
	Total Core Expenditures	<hr/> 283,543.60

Choice Expenditures:

	Mission RCD	
2546A	August 2018 Field verifications for Water Use Efficiency rebate programs	4,089.48
	*** Total ***	4,089.48
	Office Solutions	
I-01448094	15 Binders for Qualified Water Efficient Landscaper Training classes	212.06
I-01448501	10 Calculators for Qualified Water Efficient Landscaper Training classes	53.83
I-01452089	6 Binders for Qualified Water Efficient Landscaper Training classes	84.83
	*** Total ***	350.72
	Orange County Water District	
19449	August 2018 Postage for Water Use Efficiency rebate programs	33.97
	*** Total ***	33.97

**Municipal Water District of Orange County
Disbursement Approval Report
For the month of October 2018**

<i>Invoice#</i>	<i>Vendor / Description</i>	<i>Amount to Pay</i>
	Top Hat Productions	
94384	9/6/18 Lunch for Water Use Efficiency Workgroup meeting	528.30
94393	9/13/18 Lunch for Water Loss Control Workgroup meeting	365.00
94458	9/26/18 Lunch for Qualified Water Efficient Landscaper Training class	324.76
	*** Total ***	689.76
	Total Choice Expenditures	<u>5,428.08</u>
Other Funds Expenditures:		
	McCall's Meter Sales & Service	
30917	August 2018 Meter Accuracy Testing program for South Coast Water District	1,645.00
	*** Total ***	1,645.00
	Mega Maids Cleaning Service	
9850	9/7/18 WEROC S. EOC cleaning services	85.00
9860	9/13/18 WEROC N. EOC cleaning services	85.00
	*** Total ***	170.00
	Michael Baker International	
1025520	7/30/18-9/2/18 OC Regional Water/Wastewater Multijurisdictional Hazard Mitigation Plan update	3,820.61
	*** Total ***	3,820.61
	Mission RCD	
2546	August 2018 Field verifications for Water Use Efficiency rebate programs	8,206.70
2567	September 2018 Field verifications for Water Use Efficiency rebate programs	7,984.21
	*** Total ***	16,190.91
	Office Solutions	
I-01439061	9/11/18 Office supplies for WEROC	31.46
	*** Total ***	31.46
	Raftelis Financial Consultants, Inc.	
10762	August 2018 Five year monitoring for Budget Based Tiered Rate grant	11,960.00
	*** Total ***	11,960.00
	Water Systems Optimization, Inc.	
1439	September 2018 Water Loss Control program	13,600.00
	*** Total ***	13,600.00
	Total Other Funds Expenditures	<u>47,417.98</u>
	Total Expenditures	<u><u>336,389.66</u></u>

**Municipal Water District of Orange County
Disbursement Ratification Report
For the month of September 2018**

Check #	Date	Vendor # Invoice/CM #	Name / Description	Net Amount
ACH003502	9/14/18	FAHLBE 083118	Beth Fahl August 2018 Business expense ***Total ***	 39.24 39.24
ACH003506	9/14/18	FINNEG 083118	Joan Finnegan August 2018 Business expense ***Total ***	 100.33 100.33
ACH003507	9/14/18	HUBBAR 073118	Kelly Hubbard July 2018 Business expense ***Total ***	 18.50 18.50
ACH003509	9/14/18	RICOHMA 5054366391	Ricoh USA, Inc. June-August 2018 Reproduction costs ***Total ***	 1,069.79 1,069.79
ACH003528	9/14/18	ROBERT 083118	Bryce Roberto August 2018 Business expense ***Total ***	 42.29 42.29
ACH003529	9/14/18	TAMARI 083118	Satoru Tamaribuchi August 2018 Business expense ***Total ***	 180.94 180.94
ACH003530	9/14/18	THOMAS 083118	Jeffery Thomas August 2018 Business expense ***Total ***	 227.81 227.81
ACH003532	9/14/18	WAGEWO INV892217	WageWorks, Inc. August 2018 Cafeteria plan administration ***Total ***	 185.25 185.25
ACH003535	9/28/18	CHUMPI 083118	Hilary Chumpitazi August 2018 Business expense ***Total ***	 16.95 16.95
ACH003537	9/28/18	HOSTER 091518	Kevin Hostert August 2018 Business expense ***Total ***	 122.95 122.95
ACH003543	9/28/18	SCHNEI 083118	Megan Yoo Schneider August 2018 Business expense ***Total ***	 406.55 406.55

**Municipal Water District of Orange County
Disbursement Ratification Report
For the month of September 2018**

Check #	Date	Vendor # Invoice/CM #	Name / Description	Net Amount
Core Disbursements:				
138273	9/6/18	SPECTB	Spectrum Business	
		0375210082018	September 2018 Telephone and internet expense	1,100.28
			***Total ***	1,100.28
138274	9/6/18	VERIZO	Verizon Wireless	
		9813377585	August 2018 4G Mobile broadband unlimited service	114.03
			***Total ***	114.03
EFT180912GASB	9/12/18	CALPER	CALPERS	
		1-15403367	Fees for FY 17-18 GASB-68 Reports and schedules	700.00
			***Total ***	700.00
138284	9/14/18	IRONMO	Iron Mountain	
		AFCW760	September 2018 Archived document storage fees	209.70
			***Total ***	209.70
138295	9/14/18	SPECTB	Spectrum Business	
		0343564090118	September 2018 Telephone expense for 3 analog fax lines	107.99
			***Total ***	107.99
138297	9/14/18	USBANK	U.S. Bank	
		0403/4140/5443-AUG18	7/23/18-8/22/18 Cal Card charges	14,119.37
			***Total ***	14,119.37
			(See attached sheet for details)	
ACH003488	9/14/18	ACKEEX	Linda Ackerman	
		083118	August 2018 Business expense	30.52
			***Total ***	30.52
		BAEZHE	Heather Baez	
ACH003494	9/14/18	073118	July 2018 Business expense	46.74
ACH003495	9/14/18	083118	August 2018 Business expense	203.92
			***Total ***	250.66
ACH003496	9/14/18	BARBRE	Brett Barbre	
		083118	August 2018 Business expense	204.92
			***Total ***	204.92
ACH003497	9/14/18	BAUMHA	Melissa Baum-Haley	
		083118	August 2018 Business expense	280.88
			***Total ***	280.88
ACH003500	9/14/18	DICKEX	Larry Dick	
		083118	August 2018 Business expense	101.39
			***Total ***	101.39

**Municipal Water District of Orange County
Disbursement Ratification Report
For the month of September 2018**

Check #	Date	Vendor # Invoice/CM #	Name / Description	Net Amount
ACH003547	9/28/18	WAITER 091918	Rachel Waite August-September 2018 Business expense ***Total ***	 57.12 57.12
Total Core Disbursements				19,687.46
Choice Disbursements:				
138297	9/14/18	USBANK 4140-AUG18	U.S. Bank 7/23/18-8/22/18 Cal Card charges ***Total *** (See attached sheet for details)	 9.95 9.95
ACH003502	9/14/18	FAHLBE 083118	Beth Fahl August 2018 Business expense ***Total ***	 146.28 146.28
Total Choice Disbursements				156.23
Other Funds Disbursements:				
138274	9/6/18	VERIZO 9813377585	Verizon Wireless August 2018 4G Mobile broadband unlimited service ***Total ***	 76.02 76.02
138276	9/14/18	ATTUVEOC 8599-SEP18	AT&T September 2018 U-verse internet service for WERO N.EOC ***Total ***	 60.00 60.00
138277	9/14/18	ATTCALN 000011824290 000011824291	AT&T August 2018 WERO N. & S. EOC telephone expense August 2018 WERO N. EOC telephone expense ***Total ***	 210.38 110.06 320.44
138287	9/14/18	MFHETD 083018TAT	Multi Family HET Direct PUR Tustin LLC - Terra at Tustin Apartments ***Total ***	 4,800.00 4,800.00
138297	9/14/18	USBANK 4140-AUG18	U.S. Bank 7/23/18-8/22/18 Cal Card charges ***Total *** (See attached sheet for details)	 124.69 124.69
ACH003507	9/14/18	HUBBAR 073118	Kelly Hubbard July 2018 Business expense ***Total ***	 19.89 19.89

**Municipal Water District of Orange County
Disbursement Ratification Report
For the month of September 2018**

Check #	Date	Vendor # Invoice/CM #	Name / Description	Net Amount
ACH003512	9/14/18	MESAWA	Mesa Water District	
		9602A	July 2018 Credit for Local Resources program	35,436.44
			***Total ***	35,436.44
138303	9/28/18	SANTI1	Santiago Aqueduct Commission	
		JUL2018	July 2018 SAC Pipeline operation surcharge	3,192.12
			***Total ***	3,192.12
138304	9/28/18	SCHUNK	Janine Schunk	
		092118	August-September 2018 Business expense	50.69
			***Total ***	50.69
		DRIPPR	Spray to Drip Program	
138305	9/28/18	S2D1-R-O-20981-13060	N. Jordan	350.00
138306	9/28/18	S2D1-C-ETWD-4935-13174	M. Mark	1,221.60
138307	9/28/18	S2D1-R-TUST-26750-13193	J. Gabelsberg	525.00
138308	9/28/18	S2D1-C-IRWD-26739-13207	Irvine Unified School District	1,354.84
138309	9/28/18	S2D1-C-IRWD-26739-13209	Irvine Unified School District	912.32
138310	9/28/18	S2D1-R-IRWD-26856-13216	L. Jazi Burke	350.00
138311	9/28/18	S2D1-R-TUST-26778-13218	K. Fisher	525.00
138312	9/28/18	S2D1-R-MESA-26872-13219	B. Tangeland	70.00
			***Total ***	5,308.76
		TURFRP	Turf Removal Program	
138313	9/28/18	TR11-C-FV-4928-4851	City of Fountain Valley	23,285.20
138314	9/28/18	TR10-R-TC-17711-17661	J. Salverson	191.00
138315	9/28/18	TR11-R-O-18903-18819	N. Jordan	342.00
138316	9/28/18	TR11-R-MNT-22213-22129	D. Hayden	1,272.00
138317	9/28/18	TR11-C-FV-23302-23212	Donahue Schriber Realty Group (Fountain Valley)	29,545.80
138318	9/28/18	TR11-C-FV-23302-23217	Donahue Schriber Realty Group (Fountain Valley)	5,547.60
138319	9/28/18	TR11-R-ETWD-13322-23223	B. Yessayan	2,496.00
138320	9/28/18	TR11-R-SM-23322-23233	S. Anand	1,971.00
138321	9/28/18	TR11-R-SM-23330-23239	R. Lytal	647.00
138322	9/28/18	TR11-R-MNT-23371-23274	T. Reilly	2,166.00
138323	9/28/18	TR11-R-HB-23379-23282	D. Rusu	566.15
138324	9/28/18	TR11-R-MNT-23390-23295	B. Bull	290.63
138325	9/28/18	TR11-R-MNT-5040-24312	J. Mellotti	1,956.00
138326	9/28/18	TR11-R-SC-24431-24333	L. Lewis	888.00
138327	9/28/18	TR11-R-MNT-25471-25390	A. Fiore	722.00
138328	9/28/18	TR11-R-MNT-25476-25395	J. Carozza	2,738.00
138329	9/28/18	TR11-R-HB-26495-26413	S. Prasad	775.00
138330	9/28/18	TR11-R-TC-26532-26449	M. Bryant	839.00
138331	9/28/18	TR11-R-O-26564-26477	C. Daitch	487.00
138332	9/28/18	TR11-R-MNT-26574-26486	H. Smith	1,350.00
138333	9/28/18	TR11-R-IRWD-26575-26487	J. Lam	1,154.00
138334	9/28/18	TR11-R-MNT-26583-26496	J. Eckhardt	306.00
138335	9/28/18	TR11-R-MNT-26589-26501	S. Crivelli	550.00
138336	9/28/18	TR11-R-O-26601-26513	A. Duong	2,000.00
138337	9/28/18	TR11-R-IRWD-26610-26522	K. Bui Wang	1,666.00

**Municipal Water District of Orange County
Disbursement Ratification Report
For the month of September 2018**

<i>Check #</i>	<i>Date</i>	<i>Vendor # Invoice/CM #</i>	<i>Name / Description</i>	<i>Net Amount</i>
138338	9/28/18	TR11-R-WEST-26618-26530	T. Do	1,202.00
138339	9/28/18	TR11-R-MNT-26622-26534	C. Perret	993.20
138340	9/28/18	TR11-R-MNT-26630-26542	C. Fortmann	1,642.00
138341	9/28/18	TR11-R-TC-26634-26546	J. Broomfield	506.00
138342	9/28/18	TR11-R-MNT-26640-26552	J. North	513.00
138343	9/28/18	TR11-R-SWD-26660-26572	D. Wood	2,000.00
138344	9/28/18	TR11-R-MNT-26661-26573	M. Thelin-Ponti	1,608.00
138345	9/28/18	TR11-R-O-26665-26578	K. Mendoza	706.00
138346	9/28/18	TR11-R-MNT-26694-26608	L. Werner	2,246.00
138347	9/28/18	TR11-C-NWPT-26697-26611	Big Canyon Country Club (Newport Beach)	25,000.00
138348	9/28/18	TR11-R-TUST-26704-26617	D. Spinoglio	918.03
138349	9/28/18	TR11-R-SM-26716-26630	S. Lutch	476.00
138350	9/28/18	TR11-R-MNT-26746-26661	J. Cuffaro	1,152.72
138351	9/28/18	TR11-R-TUST-26750-26665	J. Gabelsberg	2,000.00
138352	9/28/18	TR11-R-O-26753-26668	J. Diaz	2,000.00
138353	9/28/18	TR11-R-SOCO-26763-26683	M. Dickson	2,000.00
138354	9/28/18	TR11-R-TUST-26778-26698	K. Fisher	2,000.00
138355	9/28/18	TR11-R-IRWD-20966-26717	S. Patsenhann	1,014.00
138356	9/28/18	TR11-R-MNT-26795-26718	J. Huang	544.55
138357	9/28/18	TR11-R-MNT-26797-26719	T. Storino	340.00
138358	9/28/18	TR11-R-SM-26800-26721	N. Gerges	835.00
138359	9/28/18	TR11-R-HB-26805-26725	V. Rufener	1,378.00
138360	9/28/18	TR11-R-MNT-26809-26729	P. Bergman	2,158.00
138361	9/28/18	TR11-R-HB-26813-26731	L. Reynolds	12.93
138362	9/28/18	TR11-R-MNT-26818-26735	S. Chan	1,248.00
138363	9/28/18	TR11-R-IRWD-26823-26739	J. Ebert	756.00
138364	9/28/18	TR11-R-SM-26825-26741	M. Zapotny	1,029.00
138365	9/28/18	TR11-R-MNT-26831-26747	S. Shah	372.00
138366	9/28/18	TR11-R-IRWD-26837-26753	M. Kleis	948.00
138367	9/28/18	TR11-R-WEST-26857-26775	R. Mezher	355.00
138368	9/28/18	TR11-R-MNT-26858-26776	C. Goodwin	1,142.00
138369	9/28/18	TR11-R-YLWD-26859-26777	B. Huh	1,445.00
138370	9/28/18	TR11-R-MNT-26860-26778	N. Hsu	684.00
138371	9/28/18	TR11-R-MNT-26861-26779	V. Garcia	878.00
138372	9/28/18	TR11-R-SM-26862-26780	M. Te	499.00
138373	9/28/18	TR11-R-MNT-26863-26781	A. Briones	1,238.00
138374	9/28/18	TR11-R-MNT-26864-26783	J. Cairo	599.00
138375	9/28/18	TR11-R-FV-26868-26787	C. Nguyen	850.00
138376	9/28/18	TR11-R-MNT-26874-26792	J. Butlett	1,080.00
138377	9/28/18	TR11-R-IRWD-26876-26794	J. Reynolds	1,560.00
138378	9/28/18	TR11-R-MNT-26887-26811	R. Garcia	1,404.00
138379	9/28/18	TR11-R-MNT-26893-26818	M. Elson	1,040.00
138380	9/28/18	TR11-R-WEST-26898-26825	R. Casey	1,181.00
138381	9/28/18	TR11-R-MNT-26899-26826	S. Lee	599.00
138382	9/28/18	TR11-R-SM-26900-26827	D. Hsiao	395.00
138383	9/28/18	TR11-R-SOCO-26902-26829	S. Pourbabak	294.00
138384	9/28/18	TR11-R-MNT-26907-26834	J. Girard	1,484.00
138385	9/28/18	TR11-R-IRWD-26910-26836	T. Liu	550.00

**Municipal Water District of Orange County
Disbursement Ratification Report
For the month of September 2018**

Check #	Date	Vendor # Invoice/CM #	Name / Description	Net Amount
138386	9/28/18	TR11-R-MNT-26917-26842	J. Ventimiglia	374.00
138387	9/28/18	TR11-R-IRWD-26921-26847	M. Cornelius	2,534.00
138388	9/28/18	TR11-R-SC-26922-26848	B. Irvin	1,500.00
138389	9/28/18	TR11-R-MNT-26924-26849	J. Blumberg	574.00
138390	9/28/18	TR11-R-HB-26928-26854	P. Rizzo	274.00
138391	9/28/18	TR11-R-MNT-26929-26855	M. Brown	648.00
138392	9/28/18	TR11-R-ETWD-26935-26861	J. Folkers	1,162.00
138393	9/28/18	TR11-R-BREA-26939-26865	M. Corral	346.00
138394	9/28/18	TR11-R-IRWD-26940-26866	Q. Tran	652.00
138395	9/28/18	TR12-R-MNT-26952-26877	A. Blenkle	1,350.00
138396	9/28/18	TR12-R-IRWD-26960-26887	A. Miller	649.00
138397	9/28/18	TR12-R-HB-26968-26894	J. Kasparek	1,936.30
138398	9/28/18	TR12-R-MNT-26976-26902	C. Wallace	2,010.00
138399	9/28/18	TR12-R-MNT-26980-26905	S. Cochran	1,532.00
138400	9/28/18	TR12-R-IRWD-26992-26916	E. Luwiharto	587.00
138401	9/28/18	TR12-R-IRWD-27000-26922	E. Wong	468.00
138402	9/28/18	TR12-R-IRWD-27006-26928	J. Indelicato	267.00
138403	9/28/18	TR12-R-MNT-27018-26940	G. Horvath	550.00
138404	9/28/18	TR12-R-IRWD-27031-26955	K. Nguyen	624.00
138405	9/28/18	TR12-R-IRWD-27034-26959	S. Liggins	735.00
			***Total ***	177,399.11
		RWOSRP	Recycled Water Program	
138407	9/28/18	RTF4093	City of San Juan Capistrano	6,639.75
138408	9/28/18	RTF4095	City of San Juan Capistrano	2,819.58
138409	9/28/18	RTF4103	Evergreen Ridge HOA (Mission Viejo)	1,640.17
			***Total ***	11,099.50
ACH003544	9/28/18	SANTAM JUL2018	Santa Margarita Water District	
			July 2018 SCP Pipeline operation surcharge	31,814.37
			***Total ***	31,814.37
WIRE-180928	9/28/18	METWAT 9446	Metropolitan Water District	
			July 2018 Water deliveries	21,021,605.47
			***Total ***	21,021,605.47
Total Other Funds Disbursements				21,291,307.50
Total Disbursements				21,311,151.19


Robert J. Hunter, General Manager


Hilary Chumpitazi, Treasurer

Statement Date: August 22, 2018
Payment Date: September 14, 2018

Date	Description	Amount
<u>Public Affairs</u>		
07/27/18	Lunch for Public Affairs department meeting	\$ 42.53
07/27/18	Orange County Public Relations Society of America 2018 PROTOS awards entry fee	200.65
07/31/18	California Association of Public Information Officials, Branding webinar on Aug. 1, 2018 - Registration for T. Baca	20.00
07/31/18	California Association of Public Information Officials, Branding webinar on Aug. 1, 2018 - Registration for S. Wilson	20.00
08/01/18	4 BeltBlaster waistband amplifiers with microphones	588.81
08/02/18	Lunch for Public Affairs department meeting	61.02
08/10/18	20 Download credits for images from 123RF	21.00
08/16/18	Orange County Business Council 2018 Turning Red Tape Into Red Carpet Awards submission fee	125.00
08/16/18	California Association of Public Information Officials, Crisis Communications webinar on Sep. 18, 2018 - Registration for T. Baca	20.00
08/16/18	California Association of Public Information Officials, Crisis Communications webinar on Sep. 18, 2018 - Registration for S. Wilson	20.00
Total		<u>\$ 1,119.01</u>

K. Seckel Card

07/23/18	Urban Water Institute conference in San Diego, CA from Aug. 22-24, 2018 - Registration for D. Micalizzi	\$ 525.00
07/24/18	Lunch for MET Directors' meeting	196.73
07/24/18	6/24/18-7/23/18 Web hosting service for MWDOC website	15.65
07/24/18	Lunch for Orange County MET Managers' meeting	141.44
07/28/18	2 Lenovo ThinkPad laptops	2,978.75
07/30/18	Color and black drum unit sets for Ricoh color copier	650.55
07/30/18	UPS delivery charges for Board packets on Jul. 27, 2018	11.98
07/30/18	ACWA State Legislative Committee meeting in Sacramento, CA on Aug. 10, 2018 - Airfare for H. Baez	415.96
07/30/18	AB401 Workgroup meeting in Sacramento, CA on Aug. 6, 2018 - Airfare for H. Baez	440.96
07/31/18	Lunch for first aid training	390.45
07/31/18	4 Toner cartridges	75.03
08/02/18	8/1/18-8/31/18 E-mail service for California Sprinkler Adjustment Notification System	9.95
08/03/18	Dinner for WACO Speaker P. Parriera	282.11
08/06/18	UPS delivery charges for Board packets on Jul. 27, 2018 and MET on Jul. 30, 2018	74.49
08/07/18	3 Keys for WEROC EOC cabinet	20.85
08/07/18	Supplies for desk emergency kits	407.41
08/09/18	Office supplies from Costco	353.71
08/10/18	California Special District Association Annual conference in Indian Wells, CA from Sep. 24-27, 2018 - Registration for H. Baez	600.00

Statement Date: August 22, 2018
Payment Date: September 14, 2018

Date	Description	Amount
08/10/18	Food for staff development meeting	32.50
08/10/18	California Society of Municipal Finance Officers Orange County Chapter meeting in Orange, CA on Aug. 16, 2018 - Registration for H. Chumpitazi and L. Gunawan	60.00
08/10/18	Conservation Legislative Implementation Workgroup meeting in Sacramento, CA on Aug. 15, 2018 - Airfare for H. Baez	503.20
08/15/18	2 Cases for laptops	49.88
08/16/18	Lunch for Manager's meeting	514.51
08/20/18	Monthly fee for Hulu television streaming service for WEROC	54.98
08/20/18	13 Hard Hats for desk emergency kits	83.80
08/20/18	2 Toner cartridges	153.55
08/21/18	Government Finance Officers Association Annual Governmental GAAP Update webinar on Nov. 1, 2018 - Registration for H. Chumpitazi	135.00
08/21/18	2 ShakeOut logo T-shirts for WEROC staff	44.61
Total		\$ 9,223.05

1 OCWD reimbursed MWDOC for \$141.05

R. Hunter Card

7/24/18-8/22/18	Meals for R. Hunter's meetings	\$ 96.83	
08/03/18	Legislative Activities in Washington, DC from Nov. 14-16, 2018 - Airfare for Director Barbre	950.41	2
08/07/18	Association of Metropolitan Water Agencies 2018 Executive Management conference in San Francisco, CA from Oct. 14-17, 2018 - Registration for R. Hunter	895.00	
08/09/18	Urban Water Institute conference in San Diego, CA from Aug. 22-24, 2018 - Registration for Director Tamaribuchi	525.00	
08/13/18	Urban Water Institute conference in San Diego, CA from Aug. 22-24, 2018 - Registration for Director Yoo Schneider	525.00	
08/14/18	Orange County Water Association meeting in Irvine, CA on Aug. 15, 2018 - Membership and registration for Director Barbre	100.00	
08/17/18	Urban Water Institute conference in San Diego, CA from Aug. 22-24, 2018 - Registration for R. Hunter	525.00	
08/20/18	Urban Water Institute conference in San Diego, CA from Aug. 23-24, 2018 - Accommodations deposit for M. Yoo Schneider	294.71	
Total		\$ 3,911.95	

2 Director Barbre to reimburse MWDOC \$607.01

**Municipal Water District of Orange County
GM Approved Disbursement Report ⁽¹⁾
For the month of September 2018**

<i>Check #</i>	<i>Date</i>	<i>Vendor # Invoice/CM #</i>	<i>Name / Description</i>	<i>Net Amount</i>
Core Disbursements:				
138272	9/6/18	ACWAJP M005-PROP2018A	ACWA Joint Powers 7/1/18-4/1/19 Property insurance amendment to cover building ***Total ***	1,516.00 1,516.00
138299	9/24/18	CRYSTAL CAL T-191250	Crystal Coast Moving Company, Inc. 9/21/18 & 9/24/18 Services to move furniture to expose electrical outlets ***Total ***	1,199.75 1,199.75
138406	9/28/18	MISCEL WACO080318	Paul Parreira Reimburse 8/3/18 WACO Speaker for hotel room charged to his personal credit card ***Total ***	192.63 192.63
138410	9/28/18	WESTIN QUOTES00-BL7078I	Westin South Coast Plaza Banquet facility deposit for 10/11/18 Water Policy Dinner ***Total ***	5,000.00 5,000.00
ACH003545	9/28/18	SPECIAL 65002	Special Dist. Risk Mgmt. Auth. FY 17-18 Year end audit balance for Workers' Comp insurance ***Total ***	168.07 168.07
Total Core Disbursements				8,076.45
Choice Disbursements:				
Total Choice Disbursements				-

Municipal Water District of Orange County
GM Approved Disbursement Report ⁽¹⁾
For the month of September 2018

<i>Check #</i>	<i>Date</i>	<i>Vendor # Invoice/CM #</i>	<i>Name / Description</i>	<i>Net Amount</i>
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Other Funds Disbursements:

Total Other Funds Disbursements

-

Total Disbursements

8,076.45



Robert J. Hunter, General Manager



Hilary Chumpitazi, Treasurer

- (1) For disbursements that did not make the cut-off of previous month's Disbursement Approval report.
 Disbursements are approved by GM for payment and need A & F Committee ratification.

Municipal Water District of Orange County
WATER USE EFFICIENCY PROJECTS
Cash Flow as of 9/30/18

Cash - Beginning Balance	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	Jun 2019	TOTALS
REVENUES:	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	
BUREC													\$ 4,716.00
City of Brea	4,605.00	111.00											-
City of Buena Park		222.00											222.00
City of Fountain Valley	222.00		1,376.29										1,598.29
City of Fullerton													-
City of Garden Grove													-
City of Huntington Beach	598.99												598.99
City of La Habra	222.00												222.00
City of San Clemente	3,244.99	9,442.99											12,687.98
City of San Juan Capistrano													-
City of Santa Ana													-
City of Tustin													-
City of Newport Beach		3,343.80											3,343.80
City of Orange	444.00		913.75										1,357.75
City of Westminster	333.00	539.00	555.00										1,427.00
County of Orange													-
Department of Water Resources	32,990.80												32,990.80
East Orange County Water District													-
El Toro Water District		774.00											774.00
Irvine Ranch Water District	8,271.11	47,878.73											56,149.84
Laguna Beach County Water District	15.00												15.00
Mesa Water District	66.82	197.98	170.00										434.80
Metropolitan Water District		191,093.43											191,093.43
Moulton Niguel Water District	38,341.68	7,726.23	10,281.98										56,349.89
Orange County Water District													-
Santa Margarita Water District													-
Trabuco Canyon Water District	605.76												605.76
Yorba Linda Water District	284.07												284.07
Miscellaneous Revenues													-
Miscellaneous													-
Interest Revenue	2,228.14												2,228.14
Total Revenues	91,568.53	262,233.99	13,297.02	-	-	-	-	-	-	-	-	-	\$ 367,099.54
EXPENDITURES:													
Budget Based Tiered Rates, Rattells			1,800.00										5,070.00
Droplet	2,220.00	1,050.00											-
IRWD													-
Golden State Water Company													-
City of Huntington Beach													-
Laguna Beach CWD													-
Metropolitan Water District	28,091.13		25,193.39										53,284.52
Mission RCD		20,060.11	18,627.78										38,687.89
Multi Family HET Direct			4,800.00										4,800.00
Pollard Water		44,516.38											44,516.38
Recycled Water On Site Retrofit program			11,099.50										11,099.50
Spray to Drip program	690.45	4,310.08	5,308.76										10,309.29
SMWD	34,905.00												34,905.00
Turf Removal	32,139.00	58,464.60	177,399.11										268,002.71
Water Savings Incentive Program													-
Miscellaneous Expenses													-
Interest Expense													-
Salary & Benefit													-
Total Expenditures	98,045.58	128,401.17	244,228.54	-	-	-	-	-	-	-	-	-	\$ 470,675.29
Cash - Ending Balance	\$ 273,554.92	\$ 407,387.74	\$ 176,456.22	\$ 176,456.22	\$ 176,456.22	\$ 176,456.22	\$ 176,456.22	\$ 176,456.22	\$ 176,456.22	\$ 176,456.22	\$ 176,456.22	\$ 176,456.22	



Item 1f

Municipal Water District of Orange County Consolidated Summary of Cash and Investment

August 31, 2018

Street Address:
18700 Ward Street
Fountain Valley, California 92708

Mailing Address:
P.O. Box 20895
Fountain Valley, CA 92728-0895

(714) 963-3058
Fax: (714) 964-9389
www.mwdoc.com

Brett R. Barbre
President

Joan C. Finnegan
Vice President

Larry D. Dick
Director

Wayne S. Osborne
Director

Megan Yoo Schneider
Director

Sat Tamaribuchi
Director

Jeffery M. Thomas
Director

Robert J. Hunter
General Manager

MEMBER AGENCIES

City of Brea
City of Buena Park
East Orange County Water District
El Toro Water District
Emerald Bay Service District
City of Fountain Valley
City of Garden Grove
Golden State Water Co.
City of Huntington Beach
Irvine Ranch Water District
Laguna Beach County Water District
City of La Habra
City of La Palma
Mesa Water District
Moulton Niguel Water District
City of Newport Beach
City of Orange
Orange County Water District
City of San Clemente
City of San Juan Capistrano
Santa Margarita Water District
City of Seal Beach
Serrano Water District
South Coast Water District
Trabuco Canyon Water District
City of Tustin
City of Westminster
Yorba Linda Water District

District investments and cash balances are held in various funds designated for certain purposes as follows:

Fund	Book Value	% of Portfolio
Designated Reserves		
General Operations	\$3,156,569	15.50%
Grant & Project Cash Flow	1,500,000	7.37%
Election Expense	304,000	1.49%
Building Repair	350,407	1.72%
OPEB	209,006	1.03%
Total Designated Reserves	5,519,982	27.11%
General Fund	10,511,609	51.63%
Water Fund	3,433,787	16.87%
Conservation Fund	407,388	2.00%
Desalination Feasibility Study Fund	(145,267)	(0.71%)
WEROC Fund	603,515	2.96%
Trustee Activities	28,775	0.14%
Total	\$20,359,789	100.00%

The funds are invested as follows:

Term of Investment	% of Portfolio	Book Value	Market Value
Cash	0.53%	\$107,720	\$107,720
Short-term investment			
• LAIF	64.85%	\$13,202,677	\$13,202,677
• OCIP	19.38%	3,946,396	3,946,396
Long-term investment			
• Corporate Bond	5.66%	1,152,996	1,127,435
• Certificates of Deposit	9.58%	1,950,000	1,933,167
Total	100.00%	\$20,359,789	\$20,317,395

The average number of days to maturity/call as of August 31, 2018 equaled 145 and the average yield to maturity is 1.984%. During the month, the District's average daily balance was \$26,846,076.95. Funds were invested in Federal Agency Issues, Certificates of Deposit, Negotiable CD's, Miscellaneous Securities, the Local Agency Investment Funds (LAIF) and the Orange County Investment Pool (OCIP) during the month of August 2018.

The (\$42,394) difference between the book value and the market value on August 31, 2018 represents the exchange difference if all investments had been liquidated on that date. Since it is the District's practice to "buy and hold" investments until maturity, the market values are a point of reference, not an indication of actual loss or gain. There are no current plans or cash flow requirements identified in the near future that would require the sale of these securities prior to maturity.

Robert J. Hunter
General Manager

Hilary Chumpitazi
Treasurer



MUNICIPAL WATER DISTRICT OF ORANGE COUNTY

Portfolio Management - Portfolio Summary

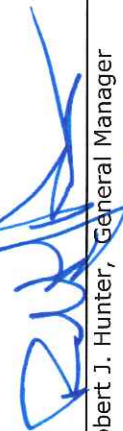
August 31, 2018

8/31/2018	Par Value	Market Value	Book Value	% of Portfolio	Days to Mat/Call	YTM @ Cost
Negotiable Certificate Of Deposit	1,950,000.00	1,933,167.00	1,950,000.00	9.63	981	2.504
Corporate Bond	1,150,000.00	1,127,435.50	1,152,995.95	5.68	877	2.290
Local Agency Investment Funds	13,202,677.40	13,202,677.40	13,202,677.40	65.20	1	1.989
Orange County Investment Pool	3,946,395.87	3,946,395.87	3,946,395.87	19.49	1	1.620
Total Investments	20,249,073.27	20,209,675.77	20,252,069.22	100.00	145	1.984

Cash						
Cash	107,719.60	107,719.60	107,719.60		1	0.00
Total Cash and Investments	20,356,792.87	20,317,395.37	20,359,788.82		145	1.984

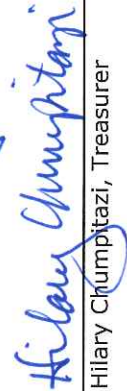
Total Earnings	Month Ending August	Fiscal Year to Date
Current Year	49,929.63	87,698.16
Average Daily Balance	26,846,076.95	
Effective Rate of Return	1.984%	

We certify that this report reflects the cash and investments of the Municipal Water District of Orange County and is in conformity with the Government Code requirements and the District Investment Policy and Guidelines in effect at the time of investment. The Investment Program herein shown provides sufficient cash flow liquidity to meet the next six month's estimated expenditure. The source for the market values are from Union Bank. Per Resolution 2059 there are no compliance exceptions to report.


Robert J. Hunter, General Manager

Date

10-4-18


Hilary Chumtazi, Treasurer

Date

10/4/2018

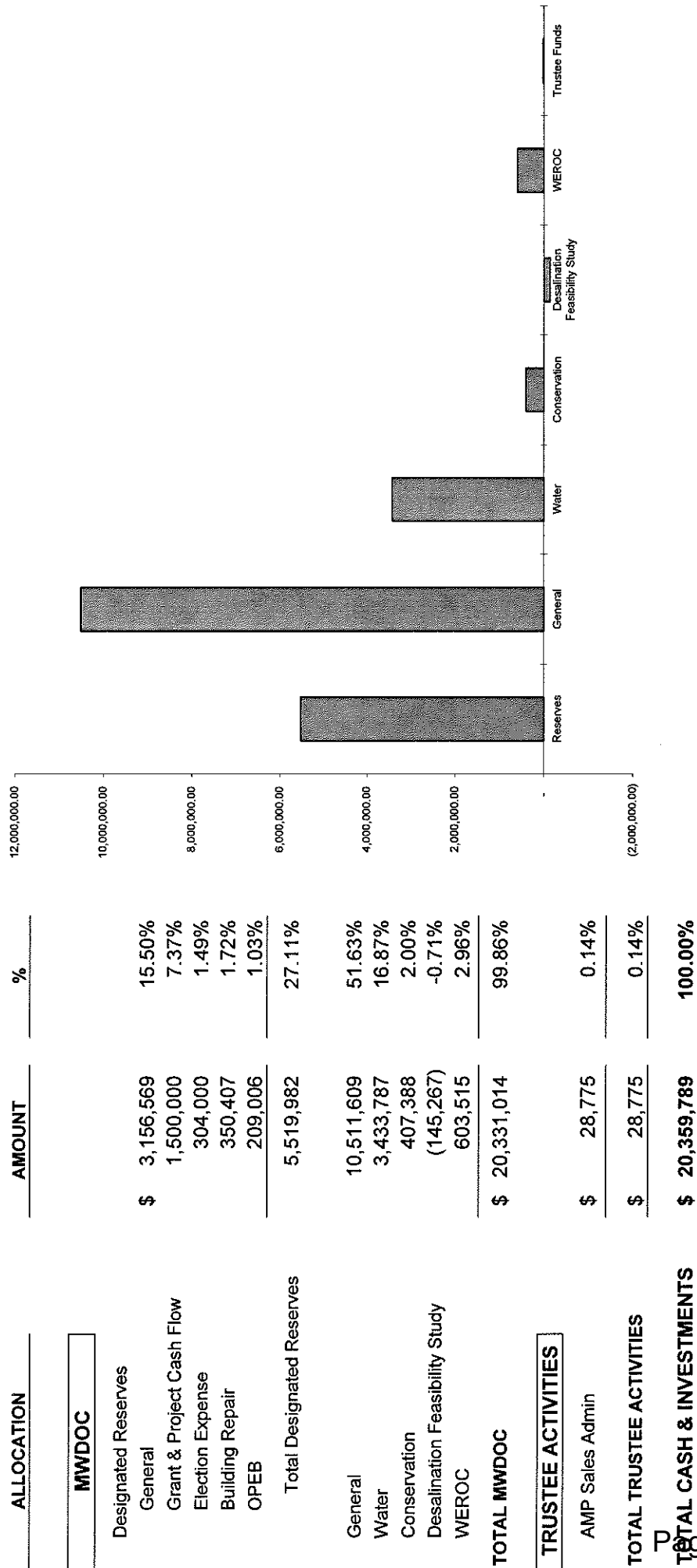
MUNICIPAL WATER DISTRICT OF ORANGE COUNTY
Portfolio Management
Long-Term Portfolio Details - Investments
August 31, 2018

Issuer	CUSIP/Ticker	Settlement Date	Par Value	Market Value	Book Value	Coupon Rate	YTM @ Cost	Days To Call/Maturity	Maturity Date
Negotiable Certificate Of Deposit									
Barclays Bank	06740KKY2	9/27/2017	250,000.00	241,512.50	250,000.00	2.250	2.250	1,488	9/27/2022
Capital One Bank	14042E6C9	9/2/2015	250,000.00	249,150.00	250,000.00	1.950	1.950	368	9/3/2019
Comenity Capital	20033AUX2	7/25/2017	200,000.00	194,602.00	200,000.00	2.000	2.000	1,050	7/16/2021
Discover Bank	254673RV0	7/25/2018	250,000.00	249,995.00	250,000.00	3.300	3.300	1,789	7/25/2023
Goldman Sachs Bank	38148PT98	8/8/2018	250,000.00	250,482.50	250,000.00	3.350	3.350	1,803	8/8/2023
HSBC Bank	40434AK65	1/21/2016	250,000.00	250,307.50	250,000.00	2.250	2.534	143	1/21/2021
Morgan Stanley Bank	61747MJ36	2/1/2018	250,000.00	247,727.50	250,000.00	2.500	2.500	885	2/1/2021
Synchrony Bank	87164XBY1	7/25/2014	250,000.00	249,390.00	250,000.00	2.050	2.050	333	7/30/2019
Sub Total			1,950,000.00	1,933,167.00	1,950,000.00	2.468	2.504	981	
Corporate Bond									
JP Morgan Chase	46625HKA7	11/2/2015	500,000.00	494,975.00	500,649.48	2.250	2.152	479	1/23/2020
National Rural Utili Coop	63743FE51	7/27/2017	200,000.00	192,380.00	200,000.00	2.500	2.500	1,414	7/15/2022
Wells Fargo	94974BGR5	1/13/2016	250,000.00	246,932.50	250,746.79	2.550	2.409	829	12/7/2020
Westpac Banking Corp	961214DQ3	7/25/2017	200,000.00	193,148.00	201,599.68	2.500	2.278	1,397	6/28/2022
Sub Total			1,150,000.00	1,127,435.50	1,152,995.95	2.402	2.290	877	
Total Investments			3,100,000.00	3,060,602.50	3,102,995.95	2.444	2.425	942	
Total Earnings									
Current Year		Month Ending August	6,172.81	Fiscal Year To Date	11,872.70				

MUNICIPAL WATER DISTRICT OF ORANGE COUNTY
Portfolio Management
Short-Term Portfolio Details - Cash and Investments
August 31, 2018

Investments	CUSIP/Ticker	Settlement Date	Par Value	Market Value	Book Value	Coupon Rate	YTM @ Cost	Days To Call/Maturity	Maturity Date
Local Agency Investment Funds									
LAIF LGIP	LAIF	6/30/2010	13,202,677.40	13,202,677.40	13,202,677.40	1.989	1.989	1	N/A
Sub Total			13,202,677.40	13,202,677.40	13,202,677.40	1.989	1.989	1	
Orange County Investment Pool									
County of Orange LGIP	OCIP	6/29/2005	3,946,395.87	3,946,395.87	3,946,395.87	1.620	1.620	1	N/A
Sub Total			3,946,395.87	3,946,395.87	3,946,395.87	1.620	1.620	1	
Total Investments			17,149,073.27	17,149,073.27	17,149,073.27	1.904	1.904		
Cash									
Petty Cash	CASH	7/1/2010	500.00	500.00	500.00	0.000	0.000	1	N/A
US Bank Cash	CASHUSBANK	7/25/2018	107,219.60	107,219.60	107,219.60	0.000	0.000	1	N/A
Total Cash			107,719.60	107,719.60	107,719.60	0.000	0.000	1	
Total Cash and Investments			17,256,792.87	17,256,792.87	17,256,792.87	1.904	1.904	1	
Total Earnings									
Current Year			43,756.82		Fiscal Year To Date				
									75,825.46

**Municipal Water District of Orange County
Cash and Investments at August 31, 2018**



MUNICIPAL WATER DIST OF ORANGE COUNTY
PARS Post-Employment Benefits Trust**Account Report for the Period**
8/1/2018 to 8/31/2018Rob Hunter
General Manager
Municipal Water Dist of Orange County
18700 Ward Street
Fountain Valley, CA 92708**Account Summary**

Source	Beginning Balance as of 8/1/2018	Contributions	Earnings	Expenses	Distributions	Transfers	Ending Balance as of 8/31/2018
OPEB	\$2,106,822.83	\$0.00	\$27,774.12	\$395.03	\$0.00	-\$560.71	\$2,133,641.21
PENSION	\$207,000.00	\$0.00	\$2,728.94	\$38.81	\$0.00	\$0.00	\$209,690.13
Totals	\$2,313,822.83	\$0.00	\$30,503.06	\$433.84	\$0.00	-\$560.71	\$2,343,331.34

Investment Selection**Source**OPEB **Moderate HighMark PLUS**
PENSION **Moderate HighMark PLUS****Investment Objective****Source**

OPEB The dual goals of the Moderate Strategy are growth of principal and income. It is expected that dividend and interest income will comprise a significant portion of total return, although growth through capital appreciation is equally important. The portfolio will be allocated between equity and fixed income investments.

PENSION The dual goals of the Moderate Strategy are growth of principal and income. It is expected that dividend and interest income will comprise a significant portion of total return, although growth through capital appreciation is equally important. The portfolio will be allocated between equity and fixed income investments.

Investment Return

Source	1-Month	3-Months	1-Year	Annualized Return			Plan's Inception Date
				3-Years	5-Years	10-Years	
OPEB	1.32%	2.93%	7.27%	7.63%	7.01%	-	10/26/2011
PENSION	1.32%	-	-	-	-	-	7/31/2018

Information as provided by US Bank, Trustee for PARS; Not FDIC Insured; No Bank Guarantee; May Lose Value

Past performance does not guarantee future results. Performance returns may not reflect the deduction of applicable fees, which could reduce returns. Information is deemed reliable but may be subject to change.

Investment Return: Annualized rate of return is the return on an investment over a period other than one year multiplied or divided to give a comparable one-year return.

Account balances are inclusive of Trust Administration, Trustee and Investment Management fees

Item 2

MUNICIPAL WATER DISTRICT OF ORANGE COUNTY
COMBINED FINANCIAL STATEMENTS
AND
BUDGET COMPARATIVE
JULY 1, 2018 THRU AUGUST 31, 2018

**Municipal Water District of Orange County
Combined Balance Sheet
As of August 31, 2018**

<u>ASSETS</u>	Amount
Cash in Bank	107,719.60
Investments	20,252,069.22
Accounts Receivable	41,654,285.52
Accounts Receivable - Other	194,056.77
Accrued Interest Receivable	93,148.52
Prepays/Deposits	328,959.56
Leasehold Improvements	3,735,829.68
Furniture, Fixtures & Equipment	563,307.34
Less: Accum Depreciation	(2,952,928.22)
TOTAL ASSETS	<u>\$63,976,447.99</u>
<u>LIABILITIES AND FUND BALANCES</u>	
Liabilities	
Accounts Payable	43,629,588.50
Accounts Payable - Other	326.23
Accrued Salaries and Benefits Payable	348,676.55
Other Liabilities	179,267.95
Unearned Revenue	954,311.68
Total Liabilities	<u>45,112,170.91</u>
Fund Balances	
Restricted Fund Balances	
Water Fund - T2C	986,714.65
Total Restricted Fund Balances	<u>986,714.65</u>
Unrestricted Fund Balances	
Designated Reserves	
General Operations	3,156,569.42
Grant & Project Cash Flow	1,500,000.00
Election Expense	304,000.00
Building Repair	350,407.45
OPEB	209,006.00
Total Designated Reserves	<u>5,519,982.87</u>
GENERAL FUND	4,209,440.74
WEROC Capital	25,338.00
WEROC	273,656.70
Total Unrestricted Fund Balances	<u>10,028,418.31</u>
Excess Revenue over Expenditures	
Operating Fund	7,884,885.55
Other Funds	(35,741.43)
Total Fund Balance	<u>18,864,277.08</u>
TOTAL LIABILITIES AND FUND BALANCES	<u>\$63,976,447.99</u>

Municipal Water District of Orange County
Revenues and Expenditures Budget Comparative Report
General Fund
From July thru August 2018

	Month to Date	Year to Date	Annual Budget	% Used	Encumbrance	Budget Remaining
<u>REVENUES</u>						
Retail Connection Charge	0.00	7,697,005.75	7,697,006.00	100.00%	0.00	0.25
Ground Water Customer Charge	<u>0.00</u>	<u>499,012.00</u>	<u>499,012.00</u>	<u>100.00%</u>	<u>0.00</u>	<u>0.00</u>
Water rate revenues	0.00	8,196,017.75	8,196,018.00	100.00%	0.00	0.25
Interest Revenue	<u>47,870.26</u>	<u>83,918.77</u>	<u>390,000.00</u>	<u>21.52%</u>	<u>0.00</u>	<u>306,081.23</u>
Subtotal	<u>47,870.26</u>	<u>8,279,936.52</u>	<u>8,586,018.00</u>	<u>96.44%</u>	<u>0.00</u>	<u>306,081.48</u>
Choice Programs	1,083,819.46	1,083,819.46	1,174,750.00	92.26%	0.00	90,930.54
Miscellaneous Income	590.87	667.83	3,000.00	22.26%	0.00	2,332.17
School Contracts	0.00	0.00	102,031.00	0.00%	0.00	102,031.00
Transfer-In From Reserve	<u>0.00</u>	<u>0.00</u>	<u>5,276.00</u>	<u>0.00%</u>	<u>0.00</u>	<u>5,276.00</u>
Subtotal	<u>1,084,410.33</u>	<u>1,084,487.29</u>	<u>1,285,057.00</u>	<u>84.39%</u>	<u>0.00</u>	<u>200,569.71</u>
TOTAL REVENUES	<u>1,132,280.59</u>	<u>9,364,423.81</u>	<u>9,871,075.00</u>	<u>94.87%</u>	<u>0.00</u>	<u>506,651.19</u>

Municipal Water District of Orange County
Revenues and Expenditures Budget Comparative Report
General Fund
From July thru August 2018

	Month to Date	Year to Date	Annual Budget	% Used	Encumbrance	Budget Remaining
<u>EXPENSES</u>						
Salaries & Wages	297,130.42	587,382.89	3,522,982.00	16.67%	0.00	2,935,599.12
Salaries & Wages - Grant Recovery	0.00	0.00	(6,300.00)	0.00%	0.00	(6,300.00)
Director's Compensation	15,443.48	29,995.99	255,360.00	11.75%	0.00	225,364.01
MWD Representation	10,394.65	20,195.32	145,920.00	13.84%	0.00	125,724.68
Employee Benefits	94,662.54	177,792.67	1,108,564.00	16.04%	0.00	930,771.33
OPEB Annual Contribution	0.00	207,000.00	207,000.00	100.00%	0.00	0.00
Director's Benefits	7,297.88	14,713.36	94,767.00	15.53%	0.00	80,053.64
Health Insurance for Retirees	4,036.70	9,947.84	70,519.00	14.11%	0.00	60,571.16
Training Expense	80.00	459.14	25,000.00	1.84%	0.00	24,540.86
Tuition Reimbursement	0.00	0.00	5,000.00	0.00%	0.00	5,000.00
Temporary Help Expense	0.00	0.00	5,000.00	0.00%	0.00	5,000.00
Personnel Expenses	429,045.67	1,047,487.21	5,433,812.00	19.28%	0.00	4,386,324.80
Engineering Expense	44,573.51	69,443.92	330,000.00	21.04%	254,984.48	5,571.60
Legal Expense	9,983.07	27,097.51	255,000.00	10.63%	227,902.49	0.00
Audit Expense	0.00	7,000.00	29,000.00	24.14%	12,380.00	9,620.00
Professional Services	70,619.02	111,941.32	1,430,758.00	7.82%	791,239.83	527,576.85
Professional Fees	125,175.60	215,482.75	2,044,758.00	10.54%	1,286,506.80	542,768.45
Conference-Staff	2,740.00	7,704.00	42,880.00	17.97%	0.00	35,176.00
Conference-Directors	1,080.00	3,872.00	24,930.00	15.53%	0.00	21,058.00
Travel & Accom.-Staff	1,523.96	2,782.01	99,600.00	2.79%	0.00	96,817.99
Travel & Accom.-Directors	699.73	1,826.77	51,750.00	3.53%	0.00	49,923.23
Travel & Conference	6,043.69	16,184.78	219,160.00	7.38%	0.00	202,975.22
Membership/Sponsorship	70.00	56,926.36	141,662.00	40.18%	0.00	84,735.64
CDR Support	0.00	11,761.07	47,044.00	25.00%	35,283.19	(0.26)
Dues & Memberships	70.00	68,687.43	188,706.00	36.40%	35,283.19	84,735.38
Business Expense	334.73	566.21	5,600.00	10.11%	0.00	5,033.79
Maintenance Office	8,007.49	14,361.64	132,796.00	10.81%	113,834.36	4,600.00
Building Repair & Maintenance	694.76	1,712.39	20,000.00	8.56%	18,287.61	0.00
Storage Rental & Equipment Lease	209.70	417.30	3,460.00	12.06%	2,042.70	1,000.00
Office Supplies	2,895.94	4,557.35	36,000.00	12.66%	3,352.41	28,090.24
Postage/Mail Delivery	819.16	1,243.36	9,000.00	13.82%	3,353.37	4,403.27
Subscriptions & Books	0.00	155.66	1,500.00	10.38%	0.00	1,344.34
Reproduction Expense	3,108.95	3,108.95	33,073.00	9.40%	3,403.21	26,560.84
Maintenance-Computers	173.76	766.86	8,000.00	9.59%	1,876.12	5,357.02
Software Purchase	9,507.36	9,507.36	45,861.00	20.73%	4,536.28	31,817.36
Software Support	11,941.40	16,229.01	51,934.00	31.25%	2,400.00	33,304.99
Computers and Equipment	2,978.75	2,978.75	11,850.00	25.14%	0.00	8,871.25
Automotive Expense	1,636.22	3,293.07	17,262.00	19.08%	0.00	13,968.93
Toll Road Charges	77.43	134.89	1,000.00	13.49%	0.00	865.11
Insurance Expense	9,087.38	19,522.66	138,500.00	14.10%	0.00	118,977.34
Utilities - Telephone	1,902.34	3,279.58	20,178.00	16.25%	1,260.97	15,637.45
Bank Fees	1,861.99	3,606.39	21,225.00	16.99%	0.00	17,618.61
Miscellaneous Expense	5,554.92	8,713.29	119,205.00	7.31%	(470.31)	110,962.02
MWDOC's Contrb. to WEROC	15,948.33	31,896.70	216,868.00	14.71%	0.00	184,971.30
Depreciation Expense	2,822.33	5,644.67	0.00	0.00%	0.00	(5,644.67)
Other Expenses	79,562.94	131,696.09	893,312.00	14.74%	153,876.72	607,739.19
Election Expense	0.00	0.00	304,000.00	0.00%	0.00	304,000.00
Building Expense	0.00	0.00	531,827.00	0.00%	37,622.00	494,205.00
Capital Acquisition	0.00	0.00	255,500.00	0.00%	13,514.43	241,985.57
TOTAL EXPENSES	639,897.90	1,479,538.26	9,871,075.00	14.99%	1,526,803.14	6,864,733.61
NET INCOME (LOSS)	492,382.70	7,884,885.55	0.00			

Municipal Water District of Orange County
Revenues and Expenditures Budget Comparative Report
Water Fund
From July thru August 2018

	Month to Date	Year to Date	Annual Budget	% Used	Budget Remaining
<u>WATER REVENUES</u>					
Water Sales	20,402,829.20	40,174,733.30	188,976,940.00	21.26%	148,802,206.70
Readiness to Serve Charge	903,260.48	1,806,520.96	10,902,178.00	16.57%	9,095,657.04
Capacity Charge CCF	321,247.50	642,495.00	3,854,976.00	16.67%	3,212,481.00
SCP/SAC Pipeline Surcharge	34,743.44	69,749.93	365,000.00	19.11%	295,250.07
Interest	<u>1,540.33</u>	<u>2,812.12</u>	<u>13,000.00</u>	<u>21.63%</u>	<u>10,187.88</u>
TOTAL WATER REVENUES	<u>21,663,620.95</u>	<u>42,696,311.31</u>	<u>204,112,094.00</u>	<u>20.92%</u>	<u>161,415,782.69</u>
<u>WATER PURCHASES</u>					
Water Sales	20,402,829.20	40,174,733.30	188,976,940.00	21.26%	148,802,206.70
Readiness to Serve Charge	903,260.48	1,806,520.96	10,902,178.00	16.57%	9,095,657.04
Capacity Charge CCF	321,247.50	642,495.00	3,854,976.00	16.67%	3,212,481.00
SCP/SAC Pipeline Surcharge	<u>34,743.44</u>	<u>69,749.93</u>	<u>365,000.00</u>	<u>19.11%</u>	<u>295,250.07</u>
TOTAL WATER PURCHASES	<u>21,662,080.62</u>	<u>42,693,499.19</u>	<u>204,099,094.00</u>	<u>20.92%</u>	<u>161,405,594.81</u>
EXCESS OF REVENUE OVER EXPENDITURES	<u>1,540.33</u>	<u>2,812.12</u>	<u>13,000.00</u>		

Municipal Water District of Orange County
WUE Revenues and Expenditures (Actuals vs Budget)
From July thru August 2018

	Year to Date Actual	Annual Budget	% Used
Spray To Drip Conversion			
Revenues	838.54	128,540.00	0.65%
Expenses	6,059.05	128,540.00	4.71%
Excess of Revenues over Expenditures	(5,220.51)	0.00	
Member Agency Administered Passthru			
Revenues	4,800.00	100,000.00	4.80%
Expenses	4,800.00	100,000.00	4.80%
Excess of Revenues over Expenditures	0.00	0.00	
ULFT Rebate Program			
Revenues	0.00	43,500.00	0.00%
Expenses	2,738.50	43,500.00	6.30%
Excess of Revenues over Expenditures	(2,738.50)	0.00	
HECW Rebate Program			
Revenues	2.54	425,000.00	0.00%
Expenses	34,906.43	425,000.00	8.21%
Excess of Revenues over Expenditures	(34,903.89)	0.00	
CII Rebate Program			
Revenues	0.00	462,500.00	0.00%
Expenses	45,430.00	462,500.00	9.82%
Excess of Revenues over Expenditures	(45,430.00)	0.00	
Turf Removal Program			
Revenues	48,522.48	1,345,000.00	3.61%
Expenses	97,433.34	1,345,000.00	7.24%
Excess of Revenues over Expenditures	(48,910.86)	0.00	
Comprehensive Landscape (CLWUE)			
Revenues	11,588.43	366,840.00	3.16%
Expenses	47,397.10	366,840.00	12.92%
Excess of Revenues over Expenditures	(35,808.67)	0.00	
Large Landscape Survey Program			
Revenues	342.84	64,000.00	0.54%
Expenses	8,824.69	64,000.00	13.79%
Excess of Revenues over Expenditures	(8,481.85)	0.00	
WSIP - Industrial Program			
Revenues	0.00	36,755.00	0.00%
Expenses	0.00	36,755.00	0.00%
Excess of Revenues over Expenditures	0.00	0.00	
WUE Projects			
Revenues	66,094.83	2,972,135.00	2.22%
Expenses	247,589.11	2,972,135.00	8.33%
Excess of Revenues over Expenditures	(181,494.28)	0.00	
WEROC			
Revenues	223,276.70	489,160.00	45.64%
Expenses	66,078.64	489,160.00	13.51%
Excess of Revenues over Expenditures	157,198.06	0.00	



ACTION ITEM
October 17, 2018

TO: Board of Directors

FROM: Administration & Finance Committee

Robert Hunter, General Manager

Staff Contacts: Cathy Harris, Administrative Services Manager
Katie Davanaugh, Sr. Executive Assistant

SUBJECT: HEALTH SAVINGS ACCOUNT ELECTIONS FOR 2019

STAFF RECOMMENDATION

It is recommended that the Board of Directors approve an increase to the District's annual Health Savings Account (HSA) contribution amounts to the Kaiser Consumer Driven Health Plan (CDHP). The Anthem PPO CDHP contribution amounts remain unchanged for 2019.

COMMITTEE RECOMMENDATION

Committee recommends (to be determined at Committee meeting)

DETAILED REPORT

Background:

2019 will be the 4th year that the District has offered and participated in the PPO and Kaiser Consumer Driven Health Plans (CDHP).

To continue to encourage participation in these plans, JPIA has analyzed and formulated suggested contribution amounts to participant's Health Savings Account (HSA) to incentivize participation and increase cost savings to the District. The recommended contribution amounts for calendar year 2019 are listed in Table A.

During 2018, two employees participated in the PPO Consumer Driven Health Plan. The maximum number of employee participating in the plan since inception has been four. Enrollment in the CDHP is anticipated to remain unchanged in 2019. Savings to the District in 2018 will be approximately \$1,040.

The Board requested that this item be returned for review of annual contribution amounts and frequency of the distribution. JPIA recommends the District make the contribution

Budgeted (Y/N): Y	Budgeted amount: \$	Core <u>X</u>	Choice
Action item amount: 0	Line item:		
Fiscal Impact (explain if unbudgeted):			

amounts at the beginning of the plan year to encourage participation and to minimize exposure to the participant.

Table A			
Plan	2019 Recommended Annual HSA Contributions by District		
	Employee only	Employee +1	Family
Kaiser CDHP	\$1,500 (2018 = \$1,150)	\$3,000 (\$2018 = \$2,050)	\$3,000 (2018 = \$2,400)
Anthem PPO CDHP	\$1,300	\$2,600	\$2,400

Staff is recommending an increase to the District's annual Health Savings Contribution amounts to the Kaiser CDHP and that the Anthem PPO CDHP contribution amounts remain unchanged.



INFORMATION ITEM
October 10, 2018

Item No. 4

TO: Administration & Finance Committee

FROM: Robert Hunter, General Manager

Staff Contacts: Cathy Harris, Administrative Services Manager &
Katie Davanaugh, Sr. Executive Assistant

SUBJECT: Health Insurance Rates for 2019

STAFF RECOMMENDATION

Staff recommends the Administration & Finance Committee receive and file information.

COMMITTEE RECOMMENDATION

Committee recommends (to be determined at Committee meeting)

DETAILED REPORT

Open enrollment for 2019 health benefits runs from October 22, 2018 through November 9, 2018. The health plan information will be provided to all eligible participants by October 19th.

Rate changes by benefit plan are listed below:

Benefit Plan	Administrator	Carrier	% Rate Change
Health Insurance	JPIA	Anthem Blue Cross - Classic PPO and Consumer Driven Health Plan	.89% increase
"	"	Anthem Blue Cross - HMO	0%
"	"	Kaiser and Kaiser Consumer Driven Health Plan	2.64%
Vision	"	VSP	0
Dental	SDRMA	Delta Dental	-1.17%

Budgeted (Y/N): Y	Budgeted amount: \$636,213	Core <u>X</u>	Choice
Action item amount: 0	Line item:		
Fiscal Impact (explain if unbudgeted):			

Plan rates for the 2019 are shown below:

Plan	Total Monthly \$			Employee Monthly \$			District Monthly \$		
Active Employees	Single	2-Party	Family	Single	2-Party	Family	Single	2-Party	Family
Kaiser CDHP	444.83	879.78	1,240.79	0.00	175.96	248.16	444.83	703.82	992.63
Kaiser with chiro	623.16	1,236.43	1,745.45	17.83	247.29	349.09	605.33	989.14	1,396.36
Anthem PPO (CDHP)	689.92	1,403.96	1,811.99	24.51	280.79	362.40	665.41	1,123.17	1,449.59
HMO (CalCare)	758.68	1,507.46	2,021.80	31.39	301.49	404.36	727.30	1,205.97	1,617.44
PPO (Classic)	859.93	1,752.48	2,262.51	41.51	350.50	452.50	818.42	1,401.98	1,810.01
Dental	51.61	86.90	132.09	5.16	8.69	13.21	46.45	78.21	118.88
Vision (composite)	23.66	23.66	23.66	0.00	0.00	0.00	23.66	23.66	23.66
Retiree with Medicare	Total Monthly \$		n/a	Retiree Monthly \$		n/a	District Monthly \$		n/a
	Single	2-Party		Single	2-Party		Single	2-Party	
PPO	548.24	1,113.51	n/a	35.32	222.70	n/a	512.92	890.81	n/a
HMO	532.79	1,055.75		33.77	211.15		499.02	844.60	
Kaiser Sr. Advantage	195.05	380.21		0.00	76.04		195.05	304.17	
Mixed Medicare, HMO		1,456.14			291.23		n/a	1,164.91	
Mixed Medicare, PPO		1,334.58			266.92		n/a	1,067.66	
Dental	51.61	86.90	n/a	5.16	17.38	n/a	46.45	69.52	n/a
Vision (tiered)	14.76	23.46		0.00	4.69		14.76	18.77	

- The amount budgeted for FY 2018-19 for medical, dental and vision benefits is \$636,213. Based on the plan premium increases for 2019, the projected totals for 2018-19 will be \$621,025.

Municipal Water District of Orange County
Obsolete, Nonfunctional Fixed Asset to be Written-off
Date 6/30/18

Asset Nbr	Group Nbr	Acquisition Date	Vendor	Asset Description	Cost	Life	Accumulated Depreciation	Book Value
<u>Furniture & Fixtures</u>								
1038	200	10/31/1983	CENTRAL OFFICE SUPPLY	HON 4 DRW LEGAL FIREPROOF CAB	✓ 842.70	5.00	842.70	0.00
1073	200	4/25/1988	EOF STORES	4 DRW FIREPROOF FILE CAB, BLACK	✓ 607.68	5.00	607.68	0.00
				Total Furniture & Fixtures	1,450.38		1,450.38	0.00
<u>Equipment</u>								
				Total Equipment	0.00		0.00	0.00
<u>Computer Equipment</u>								
				Total Computer Equipment	0.00		0.00	0.00
<u>WEROC Equipment</u>								
6017	600	6/30/1992	POWER SYSTEMS	PORTABLE GENERATOR	✓ 5,622.24	5.00	5,622.24	0.00
				Total WEROC Equipment	5,622.24		5,622.24	0.00
				Total Write-offs	7,072.62		7,072.62	0.00

Approval to write-off

Hilary Chumppatzi
Hilary Chumppatzi, Accounting Manager

9/7/2018
Date

Robert J. Hunter
Robert J. Hunter, General Manager

9-7-18
Date



INFORMATION ITEM

October 10, 2018

TO: Administration & Finance Committee
(Directors Thomas, Dick, Finnegan)

FROM: Robert Hunter, General Manager

Staff Contact: Hilary Chumpitazi and Cathy Harris

SUBJECT: CalPERS Annual Valuation Report as of June 30, 2017 and unfunded liability options

STAFF RECOMMENDATION

Staff recommends the Administration & Finance Committee: receive and file the CalPERS Annual Valuation Report

COMMITTEE RECOMMENDATION

Committee recommends (To be determined at Committee Meeting)

DETAILED REPORT

Attached for your information is the CalPERS Annual Valuation Report as of June 30, 2017. The report includes the following information:

- MWDOC's total PERS obligation for Classic Members effective July 1, 2019 will be 17.221% compared to July 1, 2018 was 16.409%
- The District's Classic Members contribution amount will be 10.221% for fiscal year 2019-20 with the employee contribution being 7%
- The District's contribution amount for PEPRA Members effective July 1, 2019, will be 6.985% compared to last year's rate of 6.842%
- MWDOC's current plan obligation as of June 30, 2017 for Classic is \$10,883,341, 80.1% funded and for PEPRA is \$345,872, 94.6% funded

Budgeted (Y/N):	Budgeted amount:	Core ____	Choice ____
Action item amount:		Line item:	
Fiscal Impact (explain if unbudgeted):			

Section 2 of the valuation is available online and can be emailed upon request.

MWDOC's unfunded liability for Classic Members (2%@55) as of June 30, 2017 is \$2,163,009. PEPRA Members (2%@62) unfunded liability is \$18,630.

In December 2017 the Board approved joining the Pension Rate Stabilization Program (PRSP) with PARS to prefund pension liability. It was also approved to contribute \$207,000 each year for ten years to fully fund MWDOC's pension liability. Staff made our first contribution in July 2018.

August 2018

**Miscellaneous Plan of the Municipal Water District of Orange County
(CalPERS ID: 6497938438)
Annual Valuation Report as of June 30, 2017**

Dear Employer,

As an attachment to this letter, you will find a copy of the June 30, 2017 actuarial valuation report of the pension plan.

Because this plan is in a risk pool, the following valuation report has been separated into two sections:

- Section 1 contains specific information for the plan including the development of the current and projected employer contributions, and
- Section 2 contains the Risk Pool Actuarial Valuation appropriate to the plan as of June 30, 2017.

Section 2 can be found on the CalPERS website at (www.calpers.ca.gov). From the home page, go to "Forms & Publications" and select "View All". In the search box, enter "Risk Pool" and from the results list download the Miscellaneous or Safety Risk Pool Actuarial Valuation Report as appropriate.

Your June 30, 2017 actuarial valuation report contains important actuarial information about your pension plan at CalPERS. Your assigned CalPERS staff actuary, whose signature appears in the Actuarial Certification section on page 1, is available to discuss the report with you after August 1, 2018.

The exhibit below displays the minimum employer contributions, before any cost sharing, for Fiscal Year 2019-20 along with estimates of the required contributions for Fiscal Year 2020-21. Member contributions other than cost sharing (whether paid by the employer or the employee) are in addition to the results shown below. **The employer contributions in this report do not reflect any cost sharing arrangements you may have with your employees.**

Required Contribution

Fiscal Year	Employer Normal Cost Rate	Employer Payment of Unfunded Liability
2019-20	10.221%	\$144,402
<i>Projected Results</i>		
2020-21	10.9%	\$169,000

The actual investment return for Fiscal Year 2017-18 was not known at the time this report was prepared. The projections above assume the investment return for that year would be 7.25 percent. ***If the actual investment return for Fiscal Year 2017-18 differs from 7.25 percent, the actual contribution requirements for the projected years will differ from those shown above.***

Moreover, the projected results for Fiscal Year 2020-21 assume that there are no future plan changes, no further changes in assumptions other than those recently approved, and no liability gains or losses. Such changes can have a significant impact on required contributions. Since they cannot be predicted in advance, the projected employer results shown above are estimates. The actual required employer contributions for Fiscal Year 2020-21 will be provided in next year's report.

For additional details regarding the assumptions and methods used for these projections please refer to the "Projected Employer Contributions" in the "Highlights and Executive Summary" section.

The "Risk Analysis" section of the valuation report also contains estimated employer contributions in future years under a variety of investment return scenarios.

Changes since the Prior Year's Valuation

At its December 2016 meeting, the CalPERS Board of Administration lowered the discount rate from 7.50 percent to 7.00 percent using a three-year phase-in beginning with the June 30, 2016 actuarial valuations. The minimum employer contributions for Fiscal Year 2019-20 determined in this valuation were calculated using a discount rate of 7.25 percent. The projected employer contributions on Page 5 are calculated under the assumption that the discount rate will be lowered to 7.00 percent next year as adopted by the Board.

On December 19, 2017, the CalPERS Board of Administration adopted new actuarial assumptions based on the recommendations in the December 2017 CalPERS Experience Study and Review of Actuarial Assumptions. This study reviewed the retirement rates, termination rates, mortality rates, rates of salary increases and inflation assumption for Public Agencies. These new assumptions are incorporated in your actuarial valuations and will impact the required contribution for FY 2019-20. In addition, the Board adopted a new asset portfolio as part of its Asset Liability Management. The new asset mix supports a 7.00 percent discount rate. The reduction of the inflation assumption will be implemented in two steps in conjunction with the decreases in the discount rate. For the June 30, 2017 valuation an inflation rate of 2.625 percent was used and a rate of 2.50 percent will be used in the following valuation.

The CalPERS Board of Administration has adopted a new amortization policy effective with the June 30, 2019 actuarial valuation. The new policy shortens the period over which actuarial gains and losses are amortized from 30 years to 20 years with the payments computed using a level dollar amount. In addition, the new policy removes the 5-year ramp-up and ramp-down on UAL bases attributable to assumption changes and non-investment gains/losses. The new policy removes the 5-year ramp-down on investment gains/losses. These changes will apply only to new UAL bases established on or after June 30, 2019.

For inactive employers the new amortization policy imposes a maximum amortization period of 15 years for all unfunded accrued liabilities effective June 30, 2017. Furthermore, the plan actuary has the ability to shorten the amortization period on any valuation date based on the life expectancy of plan members and projected cash flow needs to the plan. The impact of this has been reflected in the current valuation results.

The CalPERS Board of Administration adopted a Risk Mitigation Policy which is designed to reduce funding risk over time. This Policy has been temporarily suspended during the period over which the discount rate is being lowered. More details on the Risk Mitigation Policy can be found on our website.

Besides the above noted changes, there may also be changes specific to the plan such as contract amendments and funding changes.

Further descriptions of general changes are included in the "Highlights and Executive Summary" section and in Appendix A, "Statement of Actuarial Data, Methods and Assumptions" of the Section 2 report.

We understand that you might have a number of questions about these results. While we are very interested in discussing these results with your agency, in the interest of allowing us to give every public agency their results, we ask that you wait until after August 1 to contact us with actuarial related questions.

If you have other questions, please call our customer contact center at (888) CalPERS or **(888-225-7377)**.

Sincerely,



SCOTT TERANDO
Chief Actuary



**Actuarial Valuation
as of June 30, 2017**

**for the
Miscellaneous Plan
of the
Municipal Water District of Orange County
(CalPERS ID: 6497938438)**

**Required Contributions
for Fiscal Year
July 1, 2019 - June 30, 2020**

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Section 2 – Risk Pool Actuarial Valuation Information

Section 1

CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM

Plan Specific Information for the Miscellaneous Plan of the Municipal Water District of Orange County

**(CalPERS ID: 6497938438)
(Rate Plan: 4054)**

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Actuarial Certification

Section 1 of this report is based on the member and financial data contained in our records as of June 30, 2017 which was provided by your agency and the benefit provisions under your contract with CalPERS. Section 2 of this report is based on the member and financial data as of June 30, 2017 provided by employers participating in the Miscellaneous Risk Pool to which the plan belongs and benefit provisions under the CalPERS contracts for those agencies.

As set forth in Section 2 of this report, the pool actuaries have certified that, in their opinion, the valuation of the risk pool containing your Miscellaneous Plan has been performed in accordance with generally accepted actuarial principles consistent with standards of practice prescribed by the Actuarial Standards Board, and that the assumptions and methods are internally consistent and reasonable for the risk pool as of the date of this valuation and as prescribed by the CalPERS Board of Administration according to provisions set forth in the California Public Employees' Retirement Law.

Having relied upon the information set forth in Section 2 of this report and based on the census and benefit provision information for the plan, it is my opinion as the plan actuary that Unfunded Accrued Liability amortization bases as of June 30, 2017 and employer contribution as of July 1, 2019, have been properly and accurately determined in accordance with the principles and standards stated above.

The undersigned is an actuary for CalPERS, a member of both the American Academy of Actuaries and Society of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

A handwritten signature in black ink, appearing to read "Kerry J. Worgan", with a stylized flourish extending from the end.

KERRY J. WORGAN, MAAA, FSA, FCIA
Supervising Pension Actuary, CalPERS
Plan Actuary

Highlights and Executive Summary

- **Introduction**
- **Purpose of Section 1**
- **Required Employer Contributions**
- **Plan's Funded Status**
- **Projected Employer Contributions**
- **Changes Since the Prior Year's Valuation**
- **Subsequent Events**

Introduction

This report presents the results of the June 30, 2017 actuarial valuation of the Miscellaneous Plan of the Municipal Water District of Orange County of the California Public Employees' Retirement System (CalPERS). This actuarial valuation sets the required employer contributions for Fiscal Year 2019-20.

Purpose of Section 1

This Section 1 report for the Miscellaneous Plan of the Municipal Water District of Orange County of the California Public Employees' Retirement System (CalPERS) was prepared by the plan actuary in order to:

- Set forth the assets and accrued liabilities of this plan as of June 30, 2017;
- Determine the minimum required employer contribution for this plan for the fiscal year July 1, 2019 through June 30, 2020; and
- Provide actuarial information as of June 30, 2017 to the CalPERS Board of Administration and other interested parties.

The pension funding information presented in this report should not be used in financial reports subject to GASB Statement No. 68 for a Cost Sharing Employer Defined Benefit Pension Plan. A separate accounting valuation report for such purposes is available from CalPERS and details for ordering are available on our website.

The measurements shown in this actuarial valuation may not be applicable for other purposes. The employer should contact their actuary before disseminating any portion of this report for any reason that is not explicitly described above.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; changes in actuarial policies; and changes in plan provisions or applicable law.

California Actuarial Advisory Panel Recommendations

This report includes all the basic disclosure elements as described in the *Model Disclosure Elements for Actuarial Valuation Reports* recommended in 2011 by the California Actuarial Advisory Panel (CAAP), with the exception of including the original base amounts of the various components of the unfunded liability in the Schedule of Amortization Bases shown on page 9.

Additionally, this report includes the following "Enhanced Risk Disclosures" also recommended by the CAAP in the Model Disclosure Elements document:

- A "Deterministic Stress Test," projecting future results under different investment income scenarios
- A "Sensitivity Analysis," showing the impact on current valuation results using alternative discount rates of 6.0 percent, 7.0 percent and 8.0 percent.

Required Employer Contributions

		Fiscal Year
Required Employer Contributions		2019-20
Employer Normal Cost Rate		10.221%
<i>Plus, Either</i>		
1) Monthly Employer Dollar UAL Payment	\$	12,033.48
<i>Or</i>		
2) Annual Lump Sum Prepayment Option	\$	139,436
<p><i>The total minimum required employer contribution is the sum of the Plan's Employer Normal Cost Rate (expressed as a percentage of payroll) plus the Employer Unfunded Accrued Liability (UAL) Contribution Amount (billed monthly in dollars).</i></p> <p><i>Only the UAL portion of the employer contribution can be prepaid (which must be received in full no later than July 31). Plan Normal Cost contributions will be made as part of the payroll reporting process. If there is contractual cost sharing or other change, this amount will change.</i></p> <p><i>In accordance with Sections 20537 and 20572 of the Public Employees' Retirement Law, if a contracting agency fails to remit the required contributions when due, interest and penalties may apply.</i></p>		

	Fiscal Year	Fiscal Year
	2018-19	2019-20
Development of Normal Cost as a Percentage of Payroll¹		
Base Total Normal Cost for Formula	15.794%	16.586%
Surcharge for Class 1 Benefits ²		
a) FAC 1	0.517%	0.541%
Phase out of Normal Cost Difference ³	0.000%	0.000%
Plan's Total Normal Cost	16.311%	17.127%
Formula's Expected Employee Contribution Rate	6.902%	6.906%
Employer Normal Cost Rate	9.409%	10.221%
Projected Payroll for the Contribution Fiscal Year	\$ 2,371,765	\$ 2,555,087
Estimated Employer Contributions Based on Projected Payroll		
Plan's Estimated Employer Normal Cost	\$ 223,159	\$ 261,155
Plan's Payment on Amortization Bases ⁴	112,790	144,402
% of Projected Payroll (illustrative only)	4.756%	5.652%
Estimated Total Employer Contribution	\$ 335,949	\$ 405,557
% of Projected Payroll (illustrative only)	14.165%	15.873%

¹ The results shown for Fiscal Year 2018-19 reflect the prior year valuation and may not take into account any lump sum payment, side fund payoff, or rate adjustment made after June 30, 2017.

² Section 2 of this report contains a list of Class 1 benefits and corresponding surcharges for each benefit.

³ The normal cost difference is phased out over a five-year period. The phase out of normal cost difference is 100 percent for the first year of pooling, and is incrementally reduced by 20 percent of the original normal cost difference for each subsequent year. This is non-zero only for plans that joined a pool within the past 5 years. Most plans joined a pool June 30, 2003, when risk pooling was implemented.

⁴ See page 9 for a breakdown of the Amortization Bases.

Plan's Funded Status

		June 30, 2016		June 30, 2017
1. Present Value of Projected Benefits (PVB)	\$	12,428,801	\$	14,184,993
2. Entry Age Normal Accrued Liability (AL)		9,638,398		10,883,341
3. Plan's Market Value of Assets (MVA)		7,445,211		8,720,332
4. Unfunded Accrued Liability (UAL) [(2) - (3)]		2,193,187		2,163,009
5. Funded Ratio [(3) / (2)]		77.2%		80.1%

This measure of funded status is an assessment of the need for future employer contributions based on the selected actuarial cost method used to fund the plan. The UAL is the present value of future employer contributions for service that has already been earned and is in addition to future normal cost contributions for active members. For a measure of funded status that is appropriate for assessing the sufficiency of plan assets to cover estimated termination liabilities, please see "Hypothetical Termination Liability" in the "Risk Analysis" section.

Projected Employer Contributions

The table below shows projected employer contributions (before cost sharing) for the next six fiscal years. Projected results reflect the adopted changes to the discount rate described in Appendix A, "Statement of Actuarial Data, Methods and Assumptions" of the Section 2 report. The projections also assume that all actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur during the projection period.

	Required Contribution	Projected Future Employer Contributions (Assumes 7.25% Return for Fiscal Year 2017-18)				
Fiscal Year	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Normal Cost %	10.221%	10.9%	10.9%	10.9%	10.9%	10.9%
UAL Payment	\$144,402	\$169,000	\$199,000	\$223,000	\$236,000	\$251,000

Changes in the UAL due to actuarial gains or losses as well as changes in actuarial assumptions or methods are amortized using a 5-year ramp up. For more information, please see "Amortization of the Unfunded Actuarial Accrued Liability" under "Actuarial Methods" in Appendix A of Section 2. This method phases in the impact of unanticipated changes in UAL over a 5-year period and attempts to minimize employer cost volatility from year to year. As a result of this methodology, dramatic changes in the required employer contributions in any one year are less likely. However, required contributions can change gradually and significantly over the next five years. In years where there is a large increase in UAL the relatively small amortization payments during the ramp up period could result in a funded ratio that is projected to decrease initially while the contribution impact of the increase in the UAL is phased in.

Due to the adopted changes in the discount rate for next year's valuation in combination with the 5-year phase-in ramp, the increases in the required contributions are expected to continue for six years from Fiscal Year 2019-20 through Fiscal Year 2024-25.

For projected contributions under alternate investment return scenarios, please see the "Analysis of Future Investment Return Scenarios" in the "Risk Analysis" section.

Changes since the Prior Year's Valuation

Benefits

None. This valuation generally reflects plan changes by amendments effective before the date of the report. Please refer to the "Plan's Major Benefit Options" and Appendix B of Section 2 for a summary of the plan provisions used in this valuation.

Actuarial Methods and Assumptions

At its December 2016 meeting, the CalPERS Board of Administration lowered the discount rate from 7.50 percent to 7.00 percent using a three-year phase-in beginning with the June 30, 2016 actuarial valuations. The minimum employer contributions for Fiscal Year 2019-20 determined in this valuation were calculated using a discount rate of 7.25 percent. The projected employer contributions on page 5 are calculated assuming that the discount rate will be lowered to 7.00 percent next year as adopted by the Board. The decision to reduce the discount rate was primarily based on reduced capital market assumptions provided by external investment consultants and CalPERS investment staff. The specific decision adopted by the Board reflected recommendations from CalPERS staff and additional input from employer and employee stakeholder groups. Based on the investment allocation adopted by the Board and capital market assumptions, the reduced discount rate assumption provides a more realistic assumption for the long-term investment return of the fund.

On December 19, 2017, the CalPERS Board of Administration adopted new actuarial assumptions based on the recommendations in the December 2017 CalPERS Experience Study and Review of Actuarial Assumptions. This study reviewed the retirement rates, termination rates, mortality rates, rates of salary increases and inflation assumption for Public Agencies. These new assumptions are incorporated in this actuarial valuation and will impact the required contribution for FY 2019-20. In addition, the Board adopted a new asset portfolio as part of its Asset Liability Management. The new asset mix supports a 7.00 percent discount rate. The reduction of the inflation assumption will be implemented in two steps in conjunction with the decreases in the discount rate. For the June 30, 2017 valuation an inflation rate of 2.625 percent will be used and a rate of 2.50 percent in the following valuation.

Notwithstanding the Board's decision to phase into a 7.0 percent discount rate, subsequent analysis of the expected investment return of CalPERS assets or changes to the investment allocation may result in a change to this three-year discount rate schedule.

Subsequent Events

The CalPERS Board of Administration has adopted a new amortization policy effective with the June 30, 2019 actuarial valuation. The new policy shortens the period over which actuarial gains and losses are amortized from 30 years to 20 years with the payments computed using a level dollar amount. In addition, the new policy removes the 5-year ramp-up and ramp-down on UAL bases attributable to assumption changes and non-investment gains/losses. The new policy removes the 5-year ramp-down on investment gains/losses. These changes will apply only to new UAL bases established on or after June 30, 2019.

For inactive employers the new amortization policy imposes a maximum amortization period of 15 years for all unfunded accrued liabilities effective June 30, 2017. Furthermore, the plan actuary has the ability to shorten the amortization period on any valuation date based on the life expectancy of plan members and projected cash flow needs to the plan. The impact of this has been reflected in the current valuation results.

The contribution requirements determined in this actuarial valuation report are based on demographic and financial information as of June 30, 2017. Changes in the value of assets subsequent to that date are not reflected. Investment returns below the assumed rate of return will increase the retired contribution, while investment returns above the assumed rate of return will decrease the retired contribution.

This actuarial valuation report reflects statutory changes, regulatory changes and CalPERS Board actions through January 2018. Any subsequent changes or actions are not reflected.

Assets and Liabilities

- **Breakdown of Entry Age Normal Accrued Liability**
- **Allocation of Plan's Share of Pool's Experience/Assumption Change**
- **Development of Plan's Share of Pool's MVA**
- **Schedule of Plan's Amortization Bases**
- **Amortization Schedule and Alternatives**
- **Employer Contribution History**
- **Funding History**

Breakdown of Entry Age Normal Accrued Liability

Active Members	\$	5,571,891
Transferred Members		1,074,939
Terminated Members		962,062
Members and Beneficiaries Receiving Payments		<u>3,274,449</u>
Total	\$	10,883,341

Allocation of Plan's Share of Pool's Experience/Assumption Change

It is the policy of CalPERS to ensure equity within the risk pools by allocating the pool's experience gains/losses and assumption changes in a manner that treats each employer equitably and maintains benefit security for the members of the System while minimizing substantial variations in employer contributions. The Pool's experience gains/losses and impact of assumption/method changes is allocated to the plan as follows:

1. Plan's Accrued Liability	\$	10,883,341
2. Projected UAL balance at 6/30/17		2,298,268
3. Pool's Accrued Liability ¹	\$	15,780,998,593
4. Sum of Pool's Individual Plan UAL Balances at 6/30/17 ¹		3,912,002,885
5. Pool's 2016/17 Investment & Asset (Gain)/Loss		(413,206,167)
6. Pool's 2016/17 Other (Gain)/Loss		(21,126,605)
7. Plan's Share of Pool's Asset (Gain)/Loss $[(1) - (2)] / [(3) - (4)] * (5)$		(298,880)
8. Plan's Share of Pool's Other (Gain)/Loss $[(1)] / [(3)] * (6)$		(14,570)
9. Plan's New (Gain)/Loss as of 6/30/2017 $[(7) + (8)]$	\$	(313,450)
10. Increase in Pool's Accrued Liability due to Change in Assumptions ¹		258,379,047
11. Plan's Share of Pool's Change in Assumptions $[(1)] / [(3)] * (10)$	\$	178,191

¹ Does not include plans that transferred to Pool on the valuation date.

Development of the Plan's Share of Pool's Market Value of Assets

12. Plan's UAL $[(2) + (9) + (11)]$	\$	2,163,009
13. Plan's Share of Pool's MVA $[(1) - (12)]$	\$	8,720,332

Schedule of Plan's Amortization Bases

There is a two-year lag between the valuation date and the start of the contribution fiscal year.

- The assets, liabilities, and funded status of the plan are measured as of the valuation date: June 30, 2017.
- The employer contribution determined by the valuation is for the fiscal year beginning two years after the valuation date: Fiscal Year 2019-20.

This two-year lag is necessary due to the amount of time needed to extract and test the membership and financial data, and the need to provide public agencies with their employer contribution well in advance of the start of the fiscal year.

The Unfunded Accrued Liability (UAL) is used to determine the employer contribution and therefore must be rolled forward two years from the valuation date to the first day of the fiscal year for which the contribution is being determined. The UAL is rolled forward each year by subtracting the payment on the UAL for the fiscal year and adjusting for interest. Additional discretionary payments are reflected in the Expected Payments column in the fiscal year they were made by the agency.

Reason for Base	Date Established	Ramp Up/Down 2019-20	Amortization Period	Amounts for Fiscal 2019-20			
				Balance 6/30/17	Payment 2017-18	Balance 6/30/18	Payment 2018-19
						Balance 6/30/19	Scheduled Payment for 2019-20
SHARE OF PRE-2013 POOL UAL	06/30/13	No Ramp	18	\$563,960	\$42,634	\$560,695	\$43,384
ASSET (GAIN)/LOSS	06/30/13	100% →	26	\$942,859	\$38,072	\$971,788	\$51,528
NON-ASSET (GAIN)/LOSS	06/30/13	100% →	26	\$(9,064)	\$(366)	\$(9,342)	\$(495)
ASSET (GAIN)/LOSS	06/30/14	80% ↗	27	\$(747,966)	\$(20,461)	\$(781,004)	\$(31,134)
NON-ASSET (GAIN)/LOSS	06/30/14	80% ↗	27	\$792	\$22	\$827	\$33
ASSUMPTION CHANGE	06/30/14	80% ↗	17	\$469,748	\$17,488	\$485,694	\$26,720
ASSET (GAIN)/LOSS	06/30/15	60% ↗	28	\$446,274	\$6,284	\$472,121	\$12,740
NON-ASSET (GAIN)/LOSS	06/30/15	60% ↗	28	\$(34,991)	\$(493)	\$(37,017)	\$(999)
ASSET (GAIN)/LOSS	06/30/16	40% ↗	29	\$565,879	\$0	\$606,905	\$8,422
NON-ASSET (GAIN)/LOSS	06/30/16	40% ↗	29	\$(66,750)	\$0	\$(71,589)	\$(993)
ASSUMPTION CHANGE	06/30/16	40% ↗	19	\$167,527	\$(9,970)	\$189,998	\$3,585
ASSET (GAIN)/LOSS	06/30/17	20% ↗	30	\$(298,880)	\$0	\$(320,549)	\$0
NON-ASSET (GAIN)/LOSS	06/30/17	20% ↗	30	\$(14,570)	\$0	\$(15,626)	\$0
ASSUMPTION CHANGE	06/30/17	20% ↗	20	\$178,191	\$(17,491)	\$209,224	\$(17,994)
TOTAL				\$2,163,009	\$55,719	\$2,262,125	\$94,797
						\$2,327,954	\$144,402

The (gain)/loss bases are the plan's allocated share of the risk pool's (gain)/loss for the fiscal year as disclosed on the previous page. These (gain)/loss bases will be amortized according to Board policy over 30 years with a 5-year ramp-up.

If the total Unfunded Liability is negative (i.e., plan has a surplus), the scheduled payment is \$0, because the minimum required contribution under PEPPRA must be at least equal to the normal cost.

Amortization Schedule and Alternatives

The amortization schedule on the previous page shows the minimum contributions required according to CalPERS amortization policy. There has been considerable interest from many agencies in paying off these unfunded accrued liabilities sooner and the possible savings in doing so. As a result, we have provided alternate amortization schedules to help analyze the current amortization schedule and illustrate the advantages of accelerating unfunded liability payments.

Shown on the following page are future year amortization payments based on: 1) the current amortization schedule reflecting the individual bases and remaining periods shown on the previous page, and 2) alternate "fresh start" amortization schedules using two sample periods that would both result in interest savings relative to the current amortization schedule. Note that the payments under each alternate scenario increase by 2.875 percent for each year into the future. **The schedules do not attempt to reflect any experience after June 30, 2017 that may deviate from the actuarial assumptions. Therefore, future amortization payments displayed in the Current Amortization Schedule may not match projected amortization payments shown in connection with Projected Employer Contributions provided elsewhere in this report.**

The Current Amortization Schedule typically contains individual bases that are both positive and negative. Positive bases result from plan changes, assumption changes or plan experience that result in increases to unfunded liability. Negative bases result from plan changes, assumption changes or plan experience that result in decreases to unfunded liability. The combination of positive and negative bases within an amortization schedule can result in unusual or problematic circumstances in future years such as:

- A positive total unfunded liability with a negative total payment,
- A negative total unfunded liability with a positive total payment, or
- Total payments that completely amortize the unfunded liability over a very short period of time

In any year where one of the above scenarios occurs, the actuary will consider corrective action such as replacing the existing unfunded liability bases with a single "fresh start" base and amortizing it over a reasonable period.

The Current Amortization Schedule on the following page may appear to show that, based on the current amortization bases, one of the above scenarios will occur at some point in the future. It is impossible to know today whether such a scenario will in fact arise since there will be additional bases added to the amortization schedule in each future year. Should such a scenario arise in any future year, the actuary will take appropriate action based on guidelines in the CalPERS amortization policy.

Amortization Schedule and Alternatives

Date	<u>Current Amortization Schedule</u>		<u>Alternate Schedules</u>			
	Balance	Payment	20 Year Amortization		15 Year Amortization	
			Balance	Payment	Balance	Payment
6/30/2019	2,327,956	144,402	2,327,956	173,989	2,327,956	211,683
6/30/2020	2,347,188	164,426	2,316,547	178,991	2,277,510	217,769
6/30/2021	2,347,077	187,071	2,299,130	184,137	2,217,105	224,030
6/30/2022	2,323,506	204,316	2,275,121	189,431	2,145,836	230,471
6/30/2023	2,280,368	209,723	2,243,889	194,878	2,062,730	237,097
6/30/2024	2,228,503	215,752	2,204,753	200,480	1,966,737	243,913
6/30/2025	2,166,633	221,955	2,156,977	206,244	1,856,724	250,926
6/30/2026	2,093,854	228,336	2,099,769	212,174	1,731,474	258,140
6/30/2027	2,009,190	234,901	2,032,272	218,274	1,589,672	265,561
6/30/2028	1,911,589	241,654	1,953,564	224,549	1,429,904	273,196
6/30/2029	1,799,918	248,602	1,862,651	231,005	1,250,646	281,051
6/30/2030	1,672,956	255,749	1,758,461	237,646	1,050,257	289,131
6/30/2031	1,529,388	263,102	1,639,839	244,478	826,972	297,443
6/30/2032	1,367,796	257,441	1,505,542	251,507	578,890	305,995
6/30/2033	1,200,352	251,237	1,354,229	258,738	303,966	314,792
6/30/2034	1,027,193	238,828	1,184,458	266,177		
6/30/2035	854,330	218,290	994,674	273,829		
6/30/2036	690,204	196,374	783,206	281,702		
6/30/2037	536,877	114,029	548,253	289,801		
6/30/2038	457,710	103,148	287,880	298,133		
6/30/2039	384,072	98,040				
6/30/2040	310,385	100,859				
6/30/2041	228,437	79,306				
6/30/2042	162,869	76,872				
6/30/2043	95,067	62,324				
6/30/2044	37,416	31,371				
6/30/2045	7,640	7,912				
6/30/2046						
6/30/2047						
6/30/2048						
Totals		4,656,017		4,616,163		3,901,199
Interest Paid		2,328,062		2,288,206		1,573,243
Estimated Savings				39,855		754,818

* This schedule does not reflect the impact of adopted discount rate changes that will become effective beyond June 30, 2017. For Projected Employer Contributions, please see page 5.

Employer Contribution History

The table below provides a recent history of the required employer contributions for the plan, as determined by the annual actuarial valuation. It does not account for prepayments or benefit changes made during a fiscal year.

Fiscal Year	Employer Normal Cost	Unfunded Liability Payment (\$)
2016 - 17	8.880%	\$64,364
2017 - 18	8.921%	\$83,180
2018 - 19	9.409%	\$112,790
2019 - 20	10.221%	\$144,402

Funding History

The funding history below shows the plan's actuarial accrued liability, share of the pool's market value of assets, share of the pool's unfunded liability, funded ratio, and annual covered payroll.

Valuation Date		Accrued Liability (AL)		Share of Pool's Market Value of Assets (MVA)		Plan's Share of Pool's Unfunded Liability	Funded Ratio		Annual Covered Payroll
06/30/2011	\$	5,636,322	\$	4,612,177	\$	1,024,145	81.8%	\$	2,665,451
06/30/2012		6,273,252		4,841,500		1,431,752	77.2%		2,664,777
06/30/2013		7,189,485		5,842,865		1,346,620	81.3%		2,378,088
06/30/2014		8,295,329		7,150,851		1,144,478	86.2%		2,274,325
06/30/2015		8,587,815		7,077,429		1,510,386	82.4%		2,090,151
06/30/2016		9,638,398		7,445,211		2,193,187	77.2%		2,170,501
06/30/2017		10,883,341		8,720,332		2,163,009	80.1%		2,346,800

Risk Analysis

- **Analysis of Future Investment Return Scenarios**
- **Analysis of Discount Rate Sensitivity**
- **Volatility Ratios**
- **Hypothetical Termination Liability**

Analysis of Future Investment Return Scenarios

Analysis was performed to determine the effects of various future investment returns on required employer contributions. The projections below provide a range of results based on five investment return scenarios assumed to occur during the next four fiscal years (2017-18, 2018-19, 2019-20 and 2020-21). The projections also assume that all other actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur.

Each of the five investment return scenarios assumes a return of 7.25 percent for fiscal year 2017-18. For fiscal years 2018-19, 2019-20, and 2020-21 each scenario assumes an alternate fixed annual return. The fixed return assumptions for the five scenarios are 1.0 percent, 4.0 percent, 7.0 percent, 9.0 percent and 12.0 percent.

The alternate investment returns were chosen based on stochastic analysis of possible future investment returns over the four-year period ending June 30, 2021. Using the expected returns and volatility of the asset classes in which the funds are invested, we produced five thousand stochastic outcomes for this period based on the recently completed Asset Liability Management process. We then selected annual returns that approximate the 5th, 25th, 50th, 75th, and 95th percentiles for these outcomes. For example, of all the 4-year outcomes generated in the stochastic analysis, approximately 25 percent of them had an average annual return of 4.0 percent or less.

Required contributions outside of this range are also possible. In particular, whereas it is unlikely that investment returns will average less than 1.0 percent or greater than 12.0 percent over this four-year period, the possibility of a single investment return less than 1.0 percent or greater than 12.0 percent in any given year is much greater.

Assumed Annual Return From 2018-19 through 2020-21	Projected Employer Contributions			
	2020-21	2021-22	2022-23	2023-24
1.0%				
Normal Cost	10.9%	10.9%	10.9%	10.9%
UAL Contribution	\$169,000	\$207,000	\$250,000	\$291,000
4.0%				
Normal Cost	10.9%	10.9%	10.9%	10.9%
UAL Contribution	\$169,000	\$203,000	\$237,000	\$264,000
7.0%				
Normal Cost	10.9%	10.9%	10.9%	10.9%
UAL Contribution	\$169,000	\$199,000	\$223,000	\$236,000
9.0%				
Normal Cost	10.9%	11.1%	11.3%	11.6%
UAL Contribution	\$169,000	\$196,000	\$216,000	\$222,000
12.0%				
Normal Cost	10.9%	11.1%	11.3%	11.6%
UAL Contribution	\$169,000	\$192,000	\$202,000	\$193,000

Given the temporary suspension of the Risk Mitigation Policy during the period over which the discount rate assumption is being phased down to 7.0 percent, the projections above were performed without reflection of any possible impact of this Policy for Fiscal Year 2020-21. In addition, the projections above do not reflect the recent changes to the new amortization policy effective with the June 30, 2019 valuation but the impact on the results above is expected to be minimal.

Analysis of Discount Rate Sensitivity

Shown below are various valuation results as of June 30, 2017 assuming alternate discount rates. Results are shown using the current discount rate of 7.25 percent as well as alternate discount rates of 6.0 percent, 7.0 percent, and 8.0 percent. The alternate rate of 7.0 percent was selected since the Board has adopted this rate as the final discount rate at the end of the three-year phase-in of the reduction in this assumption. The rates of 6.0 percent and 8.0 percent were selected since they illustrate the impact of a 1 percent increase or decrease to the 7.0 percent assumption. This analysis shows the potential plan impacts if the PERF were to realize investment returns of 6.0 percent, 7.0 percent, or 8.0 percent over the long-term.

This type of analysis gives the reader a sense of the long-term risk to required contributions. For a measure of funded status that is appropriate for assessing the sufficiency of plan assets to cover estimated termination liabilities, please see "Hypothetical Termination Liability" at the end of this section.

Sensitivity Analysis				
As of June 30, 2017	Plan's Total Normal Cost	Accrued Liability	Unfunded Accrued Liability	Funded Status
7.25% (current discount rate)	17.127%	\$10,883,341	\$2,163,009	80.1%
6.0%	22.183%	\$12,803,375	\$4,083,043	68.1%
7.0%	17.812%	\$11,187,770	\$2,467,438	77.9%
8.0%	14.463%	\$9,863,060	\$1,142,728	88.4%

Volatility Ratios

Actuarial calculations are based on a number of assumptions about long-term demographic and economic behavior. Unless these assumptions (terminations, deaths, disabilities, retirements, salary growth, and investment return) are exactly realized each year, there will be differences on a year-to-year basis. The year-to-year differences between actual experience and the assumptions are called actuarial gains and losses and serve to lower or raise required employer contributions from one year to the next. Therefore, employer contributions will inevitably fluctuate, especially due to the ups and downs of investment returns.

Asset Volatility Ratio (AVR)

Plans that have higher asset-to-payroll ratios experience more volatile employer contributions (as a percentage of payroll) due to investment return. For example, a plan with an asset-to-payroll ratio of 8 may experience twice the contribution volatility due to investment return volatility, than a plan with an asset-to-payroll ratio of 4. Shown below is the asset volatility ratio, a measure of the plan's current contribution volatility. It should be noted that this ratio is a measure of the current situation. It increases over time but generally tends to stabilize as the plan matures.

Liability Volatility Ratio (LVR)

Plans that have higher liability-to-payroll ratios experience more volatile employer contributions (as a percentage of payroll) due to investment return and changes in liability. For example, a plan with a liability-to-payroll ratio of 8 is expected to have twice the contribution volatility of a plan with a liability-to-payroll ratio of 4. The liability volatility ratio is also shown in the table below. It should be noted that this ratio indicates a longer-term potential for contribution volatility. The asset volatility ratio, described above, will tend to move closer to the liability volatility ratio as the plan matures. Since the liability volatility ratio is a long-term measure, it is shown below at the current discount rate (7.25 percent) as well as the discount rate the Board has adopted to determine the contribution requirement in the June 30, 2018 actuarial valuation (7.00 percent).

Rate Volatility	As of June 30, 2017	
1. Market Value of Assets	\$	8,720,332
2. Payroll		2,346,800
3. Asset Volatility Ratio (AVR) [(1) / (2)]		3.7
4. Accrued Liability	\$	10,883,341
5. Liability Volatility Ratio (LVR) [(4) / (2)]		4.6
6. Accrued Liability (7.00% discount rate)		11,187,770
7. Projected Liability Volatility Ratio [(6) / (2)]		4.8

Hypothetical Termination Liability

The hypothetical termination liability is an estimate of the financial position of the plan had the contract with CalPERS been terminated as of June 30, 2017. The plan liability on a termination basis is calculated differently compared to the plan's ongoing funding liability. For the hypothetical termination liability calculation, both compensation and service are frozen as of the valuation date and no future pay increases or service accruals are assumed. This measure of funded status is not appropriate for assessing the need for future employer contributions in the case of an ongoing plan, that is, for an employer that continues to provide CalPERS retirement benefits to active employees.

A more conservative investment policy and asset allocation strategy was adopted by the CalPERS Board for the Terminated Agency Pool. The Terminated Agency Pool has limited funding sources since no future employer contributions will be made. Therefore, expected benefit payments are secured by risk-free assets and benefit security for members is increased while funding risk is limited. However, this asset allocation has a lower expected rate of return than the PERF and consequently, a lower discount rate is assumed. The lower discount rate for the Terminated Agency Pool results in higher liabilities for terminated plans.

The effective termination discount rate will depend on actual market rates of return for risk-free securities on the date of termination. As market discount rates are variable, the table below shows a range for the hypothetical termination liability based on the lowest and highest interest rates observed during an approximate 2-year period centered around the valuation date.

Market Value of Assets (MVA)	Hypothetical Termination Liability^{1,2} @ 1.75%	Funded Status	Unfunded Termination Liability @ 1.75%	Hypothetical Termination Liability^{1,2} @ 3.00%	Funded Status	Unfunded Termination Liability @ 3.00%
\$8,720,332	\$22,645,249	38.5%	\$13,924,917	\$19,674,964	44.3%	\$10,954,632

¹ The hypothetical liabilities calculated above include a 5 percent mortality contingency load in accordance with Board policy. Other actuarial assumptions can be found in Appendix A.

² The current discount rate assumption used for termination valuations is a weighted average of the 10-year and 30-year U.S. Treasury yields where the weights are based on matching asset and liability durations as of the termination date. The discount rates used in the table are based on 20-year Treasury bonds, rounded to the nearest quarter percentage point, which is a good proxy for most plans. The 20-year Treasury yield was 2.61 percent on June 30, 2017, and was 2.83 percent on January 31, 2018.

In order to terminate the plan, you must first contact our Retirement Services Contract Unit to initiate a Resolution of Intent to terminate. The completed Resolution will allow the plan actuary to give you a preliminary termination valuation with a more up-to-date estimate of the plan liabilities. CalPERS advises you to consult with the plan actuary before beginning this process.

Participant Data

The table below shows a summary of your plan's member data upon which this valuation is based:

	June 30, 2016	June 30, 2017
Reported Payroll	\$ 2,170,501	\$ 2,346,800
Projected Payroll for Contribution Purposes	\$ 2,371,765	\$ 2,555,087
Number of Members		
Active	21	21
Transferred	13	12
Separated	14	17
Retired	8	9

List of Class 1 Benefit Provisions

This plan has the additional Class 1 Benefit Provisions:

- One Year Final Compensation (FAC 1)

Plan's Major Benefit Options

Plan's Major Benefit Options

Shown below is a summary of the major optional benefits for which your agency has contracted. A description of principal standard and optional plan provisions is in Appendix B within Section 2 of this report.

Benefit Provision	Contract package		
	Active Misc	Receiving Misc	
Benefit Formula	2.0% @ 55		
Social Security Coverage Full/Modified	No Full		
Employee Contribution Rate	7.00%		
Final Average Compensation Period	One Year		
Sick Leave Credit	Yes		
Non-Industrial Disability	Standard		
Industrial Disability	No		
Pre-Retirement Death Benefits Optional Settlement 2	Yes level 4		
1959 Survivor Benefit Level Special	No		
Alternate (firefighters)	No	No	
Post-Retirement Death Benefits Lump Sum	\$500 No	\$500 No	
Survivor Allowance (PRSA)			
COLA	2%	2%	

Section 2

CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM

**Section 2 may be found on the CalPERS website
(www.calpers.ca.gov) in the Forms and
Publications section**

August 2018

**PEPRA Miscellaneous Plan of the Municipal Water District of Orange County
(CalPERS ID: 6497938438)
Annual Valuation Report as of June 30, 2017**

Dear Employer,

As an attachment to this letter, you will find a copy of the June 30, 2017 actuarial valuation report of the pension plan.

Because this plan is in a risk pool, the following valuation report has been separated into two sections:

- Section 1 contains specific information for the plan including the development of the current and projected employer contributions, and
- Section 2 contains the Risk Pool Actuarial Valuation appropriate to the plan as of June 30, 2017.

Section 2 can be found on the CalPERS website at (www.calpers.ca.gov). From the home page, go to "Forms & Publications" and select "View All". In the search box, enter "Risk Pool" and from the results list download the Miscellaneous or Safety Risk Pool Actuarial Valuation Report as appropriate.

Your June 30, 2017 actuarial valuation report contains important actuarial information about your pension plan at CalPERS. Your assigned CalPERS staff actuary, whose signature appears in the Actuarial Certification section on page 1, is available to discuss the report with you after August 1, 2018.

The exhibit below displays the minimum employer contributions, before any cost sharing, for Fiscal Year 2019-20 along with estimates of the required contributions for Fiscal Year 2020-21. Member contributions other than cost sharing (whether paid by the employer or the employee) are in addition to the results shown below. **The employer contributions in this report do not reflect any cost sharing arrangements you may have with your employees.**

Required Contribution

Fiscal Year	Employer Normal Cost Rate	Employer Payment of Unfunded Liability
2019-20	6.985%	\$2,438
<i>Projected Results</i>		
2020-21	7.5%	\$3,100

The actual investment return for Fiscal Year 2017-18 was not known at the time this report was prepared. The projections above assume the investment return for that year would be 7.25 percent. ***If the actual investment return for Fiscal Year 2017-18 differs from 7.25 percent, the actual contribution requirements for the projected years will differ from those shown above.***

Moreover, the projected results for Fiscal Year 2020-21 assume that there are no future plan changes, no further changes in assumptions other than those recently approved, and no liability gains or losses. Such changes can have a significant impact on required contributions. Since they cannot be predicted in advance, the projected employer results shown above are estimates. The actual required employer contributions for Fiscal Year 2020-21 will be provided in next year's report.

For additional details regarding the assumptions and methods used for these projections please refer to the "Projected Employer Contributions" in the "Highlights and Executive Summary" section.

The "Risk Analysis" section of the valuation report also contains estimated employer contributions in future years under a variety of investment return scenarios.

Changes since the Prior Year's Valuation

At its December 2016 meeting, the CalPERS Board of Administration lowered the discount rate from 7.50 percent to 7.00 percent using a three-year phase-in beginning with the June 30, 2016 actuarial valuations. The minimum employer contributions for Fiscal Year 2019-20 determined in this valuation were calculated using a discount rate of 7.25 percent. The projected employer contributions on Page 5 are calculated under the assumption that the discount rate will be lowered to 7.00 percent next year as adopted by the Board.

On December 19, 2017, the CalPERS Board of Administration adopted new actuarial assumptions based on the recommendations in the December 2017 CalPERS Experience Study and Review of Actuarial Assumptions. This study reviewed the retirement rates, termination rates, mortality rates, rates of salary increases and inflation assumption for Public Agencies. These new assumptions are incorporated in your actuarial valuations and will impact the required contribution for FY 2019-20. In addition, the Board adopted a new asset portfolio as part of its Asset Liability Management. The new asset mix supports a 7.00 percent discount rate. The reduction of the inflation assumption will be implemented in two steps in conjunction with the decreases in the discount rate. For the June 30, 2017 valuation an inflation rate of 2.625 percent was used and a rate of 2.50 percent will be used in the following valuation.

The CalPERS Board of Administration has adopted a new amortization policy effective with the June 30, 2019 actuarial valuation. The new policy shortens the period over which actuarial gains and losses are amortized from 30 years to 20 years with the payments computed using a level dollar amount. In addition, the new policy removes the 5-year ramp-up and ramp-down on UAL bases attributable to assumption changes and non-investment gains/losses. The new policy removes the 5-year ramp-down on investment gains/losses. These changes will apply only to new UAL bases established on or after June 30, 2019.

For inactive employers the new amortization policy imposes a maximum amortization period of 15 years for all unfunded accrued liabilities effective June 30, 2017. Furthermore, the plan actuary has the ability to shorten the amortization period on any valuation date based on the life expectancy of plan members and projected cash flow needs to the plan. The impact of this has been reflected in the current valuation results.

The CalPERS Board of Administration adopted a Risk Mitigation Policy which is designed to reduce funding risk over time. This Policy has been temporarily suspended during the period over which the discount rate is being lowered. More details on the Risk Mitigation Policy can be found on our website.

Besides the above noted changes, there may also be changes specific to the plan such as contract amendments and funding changes.

Further descriptions of general changes are included in the "Highlights and Executive Summary" section and in Appendix A, "Statement of Actuarial Data, Methods and Assumptions" of the Section 2 report.

We understand that you might have a number of questions about these results. While we are very interested in discussing these results with your agency, in the interest of allowing us to give every public agency their results, we ask that you wait until after August 1 to contact us with actuarial related questions.

If you have other questions, please call our customer contact center at (888) CalPERS or **(888-225-7377)**.

Sincerely,

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

SCOTT TERANDO
Chief Actuary



**Actuarial Valuation
as of June 30, 2017**

**for the
PEPRA Miscellaneous Plan
of the
Municipal Water District of Orange County
(CalPERS ID: 6497938438)**

**Required Contributions
for Fiscal Year
July 1, 2019 - June 30, 2020**

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Section 1 – Plan Specific Information

Section 2 – Risk Pool Actuarial Valuation Information

Section 1

CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM

**Plan Specific Information
for the
PEPRA Miscellaneous Plan
of the
Municipal Water District of Orange
County**

**(CalPERS ID: 6497938438)
(Rate Plan: 26684)**

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Actuarial Certification

Section 1 of this report is based on the member and financial data contained in our records as of June 30, 2017 which was provided by your agency and the benefit provisions under your contract with CalPERS. Section 2 of this report is based on the member and financial data as of June 30, 2017 provided by employers participating in the Miscellaneous Risk Pool to which the plan belongs and benefit provisions under the CalPERS contracts for those agencies.

As set forth in Section 2 of this report, the pool actuaries have certified that, in their opinion, the valuation of the risk pool containing your PEPPRA Miscellaneous Plan has been performed in accordance with generally accepted actuarial principles consistent with standards of practice prescribed by the Actuarial Standards Board, and that the assumptions and methods are internally consistent and reasonable for the risk pool as of the date of this valuation and as prescribed by the CalPERS Board of Administration according to provisions set forth in the California Public Employees' Retirement Law.

Having relied upon the information set forth in Section 2 of this report and based on the census and benefit provision information for the plan, it is my opinion as the plan actuary that Unfunded Accrued Liability amortization bases as of June 30, 2017 and employer contribution as of July 1, 2019, have been properly and accurately determined in accordance with the principles and standards stated above.

The undersigned is an actuary for CalPERS, a member of both the American Academy of Actuaries and Society of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

A handwritten signature in black ink, appearing to read 'Kerry J. Worgan', with a stylized flourish at the end.

KERRY J. WORGAN, MAAA, FSA, FCIA
Supervising Pension Actuary, CalPERS
Plan Actuary

Highlights and Executive Summary

- **Introduction**
- **Purpose of Section 1**
- **Required Employer Contributions**
- **Plan's Funded Status**
- **Projected Employer Contributions**
- **Changes Since the Prior Year's Valuation**
- **Subsequent Events**

Introduction

This report presents the results of the June 30, 2017 actuarial valuation of the PEPRA Miscellaneous Plan of the Municipal Water District of Orange County of the California Public Employees' Retirement System (CalPERS). This actuarial valuation sets the required employer contributions for Fiscal Year 2019-20.

Purpose of Section 1

This Section 1 report for the PEPRA Miscellaneous Plan of the Municipal Water District of Orange County of the California Public Employees' Retirement System (CalPERS) was prepared by the plan actuary in order to:

- Set forth the assets and accrued liabilities of this plan as of June 30, 2017;
- Determine the minimum required employer contribution for this plan for the fiscal year July 1, 2019 through June 30, 2020; and
- Provide actuarial information as of June 30, 2017 to the CalPERS Board of Administration and other interested parties.

The pension funding information presented in this report should not be used in financial reports subject to GASB Statement No. 68 for a Cost Sharing Employer Defined Benefit Pension Plan. A separate accounting valuation report for such purposes is available from CalPERS and details for ordering are available on our website.

The measurements shown in this actuarial valuation may not be applicable for other purposes. The employer should contact their actuary before disseminating any portion of this report for any reason that is not explicitly described above.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; changes in actuarial policies; and changes in plan provisions or applicable law.

California Actuarial Advisory Panel Recommendations

This report includes all the basic disclosure elements as described in the *Model Disclosure Elements for Actuarial Valuation Reports* recommended in 2011 by the California Actuarial Advisory Panel (CAAP), with the exception of including the original base amounts of the various components of the unfunded liability in the Schedule of Amortization Bases shown on page 9.

Additionally, this report includes the following "Enhanced Risk Disclosures" also recommended by the CAAP in the Model Disclosure Elements document:

- A "Deterministic Stress Test," projecting future results under different investment income scenarios
- A "Sensitivity Analysis," showing the impact on current valuation results using alternative discount rates of 6.0 percent, 7.0 percent and 8.0 percent.

Required Employer Contributions

		Fiscal Year
Required Employer Contributions		2019-20
Employer Normal Cost Rate		6.985%
<i>Plus, Either</i>		
1) Monthly Employer Dollar UAL Payment	\$	203.21
<i>Or</i>		
2) Annual Lump Sum Prepayment Option	\$	2,355
<p><i>The total minimum required employer contribution is the sum of the Plan's Employer Normal Cost Rate (expressed as a percentage of payroll) plus the Employer Unfunded Accrued Liability (UAL) Contribution Amount (billed monthly in dollars).</i></p> <p><i>Only the UAL portion of the employer contribution can be prepaid (which must be received in full no later than July 31). Plan Normal Cost contributions will be made as part of the payroll reporting process. If there is contractual cost sharing or other change, this amount will change.</i></p> <p><i>In accordance with Sections 20537 and 20572 of the Public Employees' Retirement Law, if a contracting agency fails to remit the required contributions when due, interest and penalties may apply.</i></p>		

	Fiscal Year	Fiscal Year
	2018-19	2019-20
Development of Normal Cost as a Percentage of Payroll¹		
Base Total Normal Cost for Formula	13.092%	13.735%
Surcharge for Class 1 Benefits ²		
None	0.000%	0.000%
Phase out of Normal Cost Difference ³	0.000%	0.000%
Plan's Total Normal Cost	13.092%	13.735%
Plan's Employee Contribution Rate	6.250%	6.750%
Employer Normal Cost Rate	6.842%	6.985%
Projected Payroll for the Contribution Fiscal Year	\$ 657,463	\$ 962,275
Estimated Employer Contributions Based on Projected Payroll		
Plan's Estimated Employer Normal Cost	\$ 44,984	\$ 67,215
Plan's Payment on Amortization Bases ⁴	2,172	2,438
% of Projected Payroll (illustrative only)	0.330%	0.253%
Estimated Total Employer Contribution	\$ 47,156	\$ 69,653
% of Projected Payroll (illustrative only)	7.172%	7.238%

¹ The results shown for Fiscal Year 2018-19 reflect the prior year valuation and may not take into account any lump sum payment, side fund payoff, or rate adjustment made after June 30, 2017.

² Section 2 of this report contains a list of Class 1 benefits and corresponding surcharges for each benefit.

³ The normal cost difference is phased out over a five-year period. The phase out of normal cost difference is 100 percent for the first year of pooling, and is incrementally reduced by 20 percent of the original normal cost difference for each subsequent year. This is non-zero only for plans that joined a pool within the past 5 years. Most plans joined a pool June 30, 2003, when risk pooling was implemented.

⁴ See page 9 for a breakdown of the Amortization Bases.

Plan's Funded Status

	June 30, 2016		June 30, 2017	
1. Present Value of Projected Benefits (PVB)	\$	973,669	\$	1,523,715
2. Entry Age Normal Accrued Liability (AL)		204,458		345,872
3. Plan's Market Value of Assets (MVA)		183,981		327,242
4. Unfunded Accrued Liability (UAL) [(2) - (3)]		20,477		18,630
5. Funded Ratio [(3) / (2)]		90.0%		94.6%

This measure of funded status is an assessment of the need for future employer contributions based on the selected actuarial cost method used to fund the plan. The UAL is the present value of future employer contributions for service that has already been earned and is in addition to future normal cost contributions for active members. For a measure of funded status that is appropriate for assessing the sufficiency of plan assets to cover estimated termination liabilities, please see "Hypothetical Termination Liability" in the "Risk Analysis" section.

Projected Employer Contributions

The table below shows projected employer contributions (before cost sharing) for the next six fiscal years. Projected results reflect the adopted changes to the discount rate described in Appendix A, "Statement of Actuarial Data, Methods and Assumptions" of the Section 2 report. The projections also assume that all actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur during the projection period.

	Required Contribution	Projected Future Employer Contributions (Assumes 7.25% Return for Fiscal Year 2017-18)				
Fiscal Year	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Normal Cost %	6.985%	7.5%	7.5%	7.5%	7.5%	7.5%
UAL Payment	\$2,438	\$3,100	\$3,900	\$4,700	\$5,600	\$6,300

Changes in the UAL due to actuarial gains or losses as well as changes in actuarial assumptions or methods are amortized using a 5-year ramp up. For more information, please see "Amortization of the Unfunded Actuarial Accrued Liability" under "Actuarial Methods" in Appendix A of Section 2. This method phases in the impact of unanticipated changes in UAL over a 5-year period and attempts to minimize employer cost volatility from year to year. As a result of this methodology, dramatic changes in the required employer contributions in any one year are less likely. However, required contributions can change gradually and significantly over the next five years. In years where there is a large increase in UAL the relatively small amortization payments during the ramp up period could result in a funded ratio that is projected to decrease initially while the contribution impact of the increase in the UAL is phased in.

Due to the adopted changes in the discount rate for next year's valuation in combination with the 5-year phase-in ramp, the increases in the required contributions are expected to continue for six years from Fiscal Year 2019-20 through Fiscal Year 2024-25.

For projected contributions under alternate investment return scenarios, please see the "Analysis of Future Investment Return Scenarios" in the "Risk Analysis" section.

Changes since the Prior Year's Valuation

Benefits

None. This valuation generally reflects plan changes by amendments effective before the date of the report. Please refer to the "Plan's Major Benefit Options" and Appendix B of Section 2 for a summary of the plan provisions used in this valuation.

Actuarial Methods and Assumptions

At its December 2016 meeting, the CalPERS Board of Administration lowered the discount rate from 7.50 percent to 7.00 percent using a three-year phase-in beginning with the June 30, 2016 actuarial valuations. The minimum employer contributions for Fiscal Year 2019-20 determined in this valuation were calculated using a discount rate of 7.25 percent. The projected employer contributions on page 5 are calculated assuming that the discount rate will be lowered to 7.00 percent next year as adopted by the Board. The decision to reduce the discount rate was primarily based on reduced capital market assumptions provided by external investment consultants and CalPERS investment staff. The specific decision adopted by the Board reflected recommendations from CalPERS staff and additional input from employer and employee stakeholder groups. Based on the investment allocation adopted by the Board and capital market assumptions, the reduced discount rate assumption provides a more realistic assumption for the long-term investment return of the fund.

On December 19, 2017, the CalPERS Board of Administration adopted new actuarial assumptions based on the recommendations in the December 2017 CalPERS Experience Study and Review of Actuarial Assumptions. This study reviewed the retirement rates, termination rates, mortality rates, rates of salary increases and inflation assumption for Public Agencies. These new assumptions are incorporated in this actuarial valuation and will impact the required contribution for FY 2019-20. In addition, the Board adopted a new asset portfolio as part of its Asset Liability Management. The new asset mix supports a 7.00 percent discount rate. The reduction of the inflation assumption will be implemented in two steps in conjunction with the decreases in the discount rate. For the June 30, 2017 valuation an inflation rate of 2.625 percent will be used and a rate of 2.50 percent in the following valuation.

Notwithstanding the Board's decision to phase into a 7.0 percent discount rate, subsequent analysis of the expected investment return of CalPERS assets or changes to the investment allocation may result in a change to this three-year discount rate schedule.

Subsequent Events

The CalPERS Board of Administration has adopted a new amortization policy effective with the June 30, 2019 actuarial valuation. The new policy shortens the period over which actuarial gains and losses are amortized from 30 years to 20 years with the payments computed using a level dollar amount. In addition, the new policy removes the 5-year ramp-up and ramp-down on UAL bases attributable to assumption changes and non-investment gains/losses. The new policy removes the 5-year ramp-down on investment gains/losses. These changes will apply only to new UAL bases established on or after June 30, 2019.

For inactive employers the new amortization policy imposes a maximum amortization period of 15 years for all unfunded accrued liabilities effective June 30, 2017. Furthermore, the plan actuary has the ability to shorten the amortization period on any valuation date based on the life expectancy of plan members and projected cash flow needs to the plan. The impact of this has been reflected in the current valuation results.

The contribution requirements determined in this actuarial valuation report are based on demographic and financial information as of June 30, 2017. Changes in the value of assets subsequent to that date are not reflected. Investment returns below the assumed rate of return will increase the retired contribution, while investment returns above the assumed rate of return will decrease the retired contribution.

This actuarial valuation report reflects statutory changes, regulatory changes and CalPERS Board actions through January 2018. Any subsequent changes or actions are not reflected.

Assets and Liabilities

- **Breakdown of Entry Age Normal Accrued Liability**
- **Allocation of Plan's Share of Pool's Experience/Assumption Change**
- **Development of Plan's Share of Pool's MVA**
- **Schedule of Plan's Amortization Bases**
- **Amortization Schedule and Alternatives**
- **Employer Contribution History**
- **Funding History**

Breakdown of Entry Age Normal Accrued Liability

Active Members	\$	333,292
Transferred Members		11,778
Terminated Members		802
Members and Beneficiaries Receiving Payments		0
Total	\$	345,872

Allocation of Plan's Share of Pool's Experience/Assumption Change

It is the policy of CalPERS to ensure equity within the risk pools by allocating the pool's experience gains/losses and assumption changes in a manner that treats each employer equitably and maintains benefit security for the members of the System while minimizing substantial variations in employer contributions. The Pool's experience gains/losses and impact of assumption/method changes is allocated to the plan as follows:

1. Plan's Accrued Liability	\$	345,872
2. Projected UAL balance at 6/30/17		24,614
3. Pool's Accrued Liability ¹	\$	15,780,998,593
4. Sum of Pool's Individual Plan UAL Balances at 6/30/17 ¹		3,912,002,885
5. Pool's 2016/17 Investment & Asset (Gain)/Loss		(413,206,167)
6. Pool's 2016/17 Other (Gain)/Loss		(21,126,605)
7. Plan's Share of Pool's Asset (Gain)/Loss $[(1) - (2)] / [(3) - (4)] * (5)$		(11,184)
8. Plan's Share of Pool's Other (Gain)/Loss $[(1)] / [(3)] * (6)$		(463)
9. Plan's New (Gain)/Loss as of 6/30/2017 $[(7) + (8)]$	\$	(11,647)
10. Increase in Pool's Accrued Liability due to Change in Assumptions ¹		258,379,047
11. Plan's Share of Pool's Change in Assumptions $[(1)] / [(3)] * (10)$	\$	5,663

¹ Does not include plans that transferred to Pool on the valuation date.

Development of the Plan's Share of Pool's Market Value of Assets

12. Plan's UAL $[(2) + (9) + (11)]$	\$	18,630
13. Plan's Share of Pool's MVA $[(1) - (12)]$	\$	327,242

Schedule of Plan's Amortization Bases

There is a two-year lag between the valuation date and the start of the contribution fiscal year.

- The assets, liabilities, and funded status of the plan are measured as of the valuation date: June 30, 2017.
- The employer contribution determined by the valuation is for the fiscal year beginning two years after the valuation date: Fiscal Year 2019-20.

This two-year lag is necessary due to the amount of time needed to extract and test the membership and financial data, and the need to provide public agencies with their employer contribution well in advance of the start of the fiscal year.

The Unfunded Accrued Liability (UAL) is used to determine the employer contribution and therefore must be rolled forward two years from the valuation date to the first day of the fiscal year for which the contribution is being determined. The UAL is rolled forward each year by subtracting the payment on the UAL for the fiscal year and adjusting for interest. Additional discretionary payments are reflected in the Expected Payments column in the fiscal year they were made by the agency.

Reason for Base	Date Established	Ramp Up/Down 2019-20	Amortization Period	Amounts for Fiscal 2019-20				Scheduled Payment for 2019-20
				Balance 6/30/17	Payment 2017-18	Balance 6/30/18	Payment 2018-19	Balance 6/30/19
FRESH START	06/30/16	No Ramp	19	\$24,614	\$(2,534)	\$29,023	\$2,172	\$28,878
NON-ASSET (GAIN)/LOSS	06/30/17	20%	30	\$(463)	\$0	\$(497)	\$0	\$(533)
ASSUMPTION CHANGE	06/30/17	20%	20	\$5,663	\$(6,587)	\$12,895	\$(6,777)	\$20,848
ASSET (GAIN)/LOSS	06/30/17	20%	30	\$(11,184)	\$0	\$(11,995)	\$0	\$(12,865)
TOTAL				\$18,630	\$(9,121)	\$29,426	\$(4,605)	\$36,328
								\$2,439

The (gain)/loss bases are the plan's allocated share of the risk pool's (gain)/loss for the fiscal year as disclosed on the previous page. These (gain)/loss bases will be amortized according to Board policy over 30 years with a 5-year ramp-up.

If the total Unfunded Liability is negative (i.e., plan has a surplus), the scheduled payment is \$0, because the minimum required contribution under PEPRA must be at least equal to the normal cost.

Amortization Schedule and Alternatives

The amortization schedule on the previous page shows the minimum contributions required according to CalPERS amortization policy. There has been considerable interest from many agencies in paying off these unfunded accrued liabilities sooner and the possible savings in doing so. As a result, we have provided alternate amortization schedules to help analyze the current amortization schedule and illustrate the advantages of accelerating unfunded liability payments.

Shown on the following page are future year amortization payments based on: 1) the current amortization schedule reflecting the individual bases and remaining periods shown on the previous page, and 2) alternate "fresh start" amortization schedules using two sample periods that would both result in interest savings relative to the current amortization schedule. Note that the payments under each alternate scenario increase by 2.875 percent for each year into the future. **The schedules do not attempt to reflect any experience after June 30, 2017 that may deviate from the actuarial assumptions. Therefore, future amortization payments displayed in the Current Amortization Schedule may not match projected amortization payments shown in connection with Projected Employer Contributions provided elsewhere in this report.**

The Current Amortization Schedule typically contains individual bases that are both positive and negative. Positive bases result from plan changes, assumption changes or plan experience that result in increases to unfunded liability. Negative bases result from plan changes, assumption changes or plan experience that result in decreases to unfunded liability. The combination of positive and negative bases within an amortization schedule can result in unusual or problematic circumstances in future years such as:

- A positive total unfunded liability with a negative total payment,
- A negative total unfunded liability with a positive total payment, or
- Total payments that completely amortize the unfunded liability over a very short period of time

In any year where one of the above scenarios occurs, the actuary will consider corrective action such as replacing the existing unfunded liability bases with a single "fresh start" base and amortizing it over a reasonable period.

The Current Amortization Schedule on the following page may appear to show that, based on the current amortization bases, one of the above scenarios will occur at some point in the future. It is impossible to know today whether such a scenario will in fact arise since there will be additional bases added to the amortization schedule in each future year. Should such a scenario arise in any future year, the actuary will take appropriate action based on guidelines in the CalPERS amortization policy.

Amortization Schedule and Alternatives

Date	<u>Current Amortization Schedule</u>		<u>Alternate Schedules</u>			
	Balance	Payment	15 Year Amortization		10 Year Amortization	
			Balance	Payment	Balance	Payment
6/30/2019	36,328	2,438	36,328	3,303	36,328	4,505
6/30/2020	36,437	2,722	35,541	3,398	34,296	4,635
6/30/2021	36,260	3,019	34,599	3,496	31,983	4,768
6/30/2022	35,762	3,332	33,486	3,597	29,363	4,905
6/30/2023	34,904	3,660	32,189	3,700	26,412	5,046
6/30/2024	33,645	3,765	30,691	3,806	23,101	5,191
6/30/2025	32,185	3,873	28,975	3,916	19,400	5,341
6/30/2026	30,508	3,984	27,020	4,028	15,275	5,494
6/30/2027	28,594	4,099	24,807	4,144	10,693	5,652
6/30/2028	26,422	4,217	22,314	4,263	5,615	5,815
6/30/2029	23,970	4,338	19,517	4,386		
6/30/2030	21,216	4,463	16,390	4,512		
6/30/2031	18,132	4,591	12,905	4,642		
6/30/2032	14,692	4,723	9,034	4,775		
6/30/2033	10,867	4,859	4,743	4,912		
6/30/2034	6,623	4,998				
6/30/2035	1,926	1,995				
6/30/2036						
6/30/2037						
6/30/2038						
6/30/2039						
6/30/2040						
6/30/2041						
6/30/2042						
6/30/2043						
6/30/2044						
6/30/2045						
6/30/2046						
6/30/2047						
6/30/2048						
Totals		65,075		60,879		51,353
Interest Paid		28,746		24,551		15,025
Estimated Savings				4,196		13,722

* This schedule does not reflect the impact of adopted discount rate changes that will become effective beyond June 30, 2017. For Projected Employer Contributions, please see page 5.

Employer Contribution History

The table below provides a recent history of the required employer contributions for the plan, as determined by the annual actuarial valuation. It does not account for prepayments or benefit changes made during a fiscal year.

Fiscal Year	Employer Normal Cost	Unfunded Liability Payment (\$)
2016 - 17	6.555%	\$149
2017 - 18	6.533%	\$230
2018 - 19	6.842%	\$2,172
2019 - 20	6.985%	\$2,438

Funding History

The funding history below shows the plan's actuarial accrued liability, share of the pool's market value of assets, share of the pool's unfunded liability, funded ratio, and annual covered payroll.

Valuation Date		Accrued Liability (AL)		Share of Pool's Market Value of Assets (MVA)		Plan's Share of Pool's Unfunded Liability	Funded Ratio		Annual Covered Payroll
06/30/2014	\$	32,950	\$	34,415	\$	(1,465)	104.5%	\$	219,432
06/30/2015		95,833		91,620		4,213	95.6%		447,122
06/30/2016		204,458		183,981		20,477	90.0%		601,671
06/30/2017		345,872		327,242		18,630	94.6%		883,832

Risk Analysis

- **Analysis of Future Investment Return Scenarios**
- **Analysis of Discount Rate Sensitivity**
- **Volatility Ratios**
- **Hypothetical Termination Liability**

Analysis of Future Investment Return Scenarios

Analysis was performed to determine the effects of various future investment returns on required employer contributions. The projections below provide a range of results based on five investment return scenarios assumed to occur during the next four fiscal years (2017-18, 2018-19, 2019-20 and 2020-21). The projections also assume that all other actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur.

Each of the five investment return scenarios assumes a return of 7.25 percent for fiscal year 2017-18. For fiscal years 2018-19, 2019-20, and 2020-21 each scenario assumes an alternate fixed annual return. The fixed return assumptions for the five scenarios are 1.0 percent, 4.0 percent, 7.0 percent, 9.0 percent and 12.0 percent.

The alternate investment returns were chosen based on stochastic analysis of possible future investment returns over the four-year period ending June 30, 2021. Using the expected returns and volatility of the asset classes in which the funds are invested, we produced five thousand stochastic outcomes for this period based on the recently completed Asset Liability Management process. We then selected annual returns that approximate the 5th, 25th, 50th, 75th, and 95th percentiles for these outcomes. For example, of all the 4-year outcomes generated in the stochastic analysis, approximately 25 percent of them had an average annual return of 4.0 percent or less.

Required contributions outside of this range are also possible. In particular, whereas it is unlikely that investment returns will average less than 1.0 percent or greater than 12.0 percent over this four-year period, the possibility of a single investment return less than 1.0 percent or greater than 12.0 percent in any given year is much greater.

Assumed Annual Return From 2018-19 through 2020-21	Projected Employer Contributions			
	2020-21	2021-22	2022-23	2023-24
1.0%				
Normal Cost	7.5%	7.5%	7.5%	7.5%
UAL Contribution	\$3,100	\$4,300	\$5,700	\$7,600
4.0%				
Normal Cost	7.5%	7.5%	7.5%	7.5%
UAL Contribution	\$3,100	\$4,100	\$5,200	\$6,600
7.0%				
Normal Cost	7.5%	7.5%	7.5%	7.5%
UAL Contribution	\$3,100	\$3,900	\$4,700	\$5,600
9.0%				
Normal Cost	7.5%	7.7%	7.9%	7.3%
UAL Contribution	\$3,100	\$3,800	\$4,500	\$5,100
12.0%				
Normal Cost	7.5%	7.7%	7.9%	7.3%
UAL Contribution	\$3,100	\$3,700	\$4,000	\$430

Given the temporary suspension of the Risk Mitigation Policy during the period over which the discount rate assumption is being phased down to 7.0 percent, the projections above were performed without reflection of any possible impact of this Policy for Fiscal Year 2020-21. In addition, the projections above do not reflect the recent changes to the new amortization policy effective with the June 30, 2019 valuation but the impact on the results above is expected to be minimal.

Analysis of Discount Rate Sensitivity

Shown below are various valuation results as of June 30, 2017 assuming alternate discount rates. Results are shown using the current discount rate of 7.25 percent as well as alternate discount rates of 6.0 percent, 7.0 percent, and 8.0 percent. The alternate rate of 7.0 percent was selected since the Board has adopted this rate as the final discount rate at the end of the three-year phase-in of the reduction in this assumption. The rates of 6.0 percent and 8.0 percent were selected since they illustrate the impact of a 1 percent increase or decrease to the 7.0 percent assumption. This analysis shows the potential plan impacts if the PERF were to realize investment returns of 6.0 percent, 7.0 percent, or 8.0 percent over the long-term.

This type of analysis gives the reader a sense of the long-term risk to required contributions. For a measure of funded status that is appropriate for assessing the sufficiency of plan assets to cover estimated termination liabilities, please see "Hypothetical Termination Liability" at the end of this section.

Sensitivity Analysis				
As of June 30, 2017	Plan's Total Normal Cost	Accrued Liability	Unfunded Accrued Liability	Funded Status
7.25% (current discount rate)	13.735%	\$345,872	\$18,630	94.6%
6.0%	17.669%	\$425,516	\$98,274	76.9%
7.0%	14.273%	\$357,556	\$30,314	91.5%
8.0%	11.666%	\$302,891	\$(24,351)	108.0%

Volatility Ratios

Actuarial calculations are based on a number of assumptions about long-term demographic and economic behavior. Unless these assumptions (terminations, deaths, disabilities, retirements, salary growth, and investment return) are exactly realized each year, there will be differences on a year-to-year basis. The year-to-year differences between actual experience and the assumptions are called actuarial gains and losses and serve to lower or raise required employer contributions from one year to the next. Therefore, employer contributions will inevitably fluctuate, especially due to the ups and downs of investment returns.

Asset Volatility Ratio (AVR)

Plans that have higher asset-to-payroll ratios experience more volatile employer contributions (as a percentage of payroll) due to investment return. For example, a plan with an asset-to-payroll ratio of 8 may experience twice the contribution volatility due to investment return volatility, than a plan with an asset-to-payroll ratio of 4. Shown below is the asset volatility ratio, a measure of the plan's current contribution volatility. It should be noted that this ratio is a measure of the current situation. It increases over time but generally tends to stabilize as the plan matures.

Liability Volatility Ratio (LVR)

Plans that have higher liability-to-payroll ratios experience more volatile employer contributions (as a percentage of payroll) due to investment return and changes in liability. For example, a plan with a liability-to-payroll ratio of 8 is expected to have twice the contribution volatility of a plan with a liability-to-payroll ratio of 4. The liability volatility ratio is also shown in the table below. It should be noted that this ratio indicates a longer-term potential for contribution volatility. The asset volatility ratio, described above, will tend to move closer to the liability volatility ratio as the plan matures. Since the liability volatility ratio is a long-term measure, it is shown below at the current discount rate (7.25 percent) as well as the discount rate the Board has adopted to determine the contribution requirement in the June 30, 2018 actuarial valuation (7.00 percent).

Rate Volatility	As of June 30, 2017	
1. Market Value of Assets	\$	327,242
2. Payroll		883,832
3. Asset Volatility Ratio (AVR) [(1) / (2)]		0.4
4. Accrued Liability	\$	345,872
5. Liability Volatility Ratio (LVR) [(4) / (2)]		0.4
6. Accrued Liability (7.00% discount rate)		357,556
7. Projected Liability Volatility Ratio [(6) / (2)]		0.4

Hypothetical Termination Liability

The hypothetical termination liability is an estimate of the financial position of the plan had the contract with CalPERS been terminated as of June 30, 2017. The plan liability on a termination basis is calculated differently compared to the plan's ongoing funding liability. For the hypothetical termination liability calculation, both compensation and service are frozen as of the valuation date and no future pay increases or service accruals are assumed. This measure of funded status is not appropriate for assessing the need for future employer contributions in the case of an ongoing plan, that is, for an employer that continues to provide CalPERS retirement benefits to active employees.

A more conservative investment policy and asset allocation strategy was adopted by the CalPERS Board for the Terminated Agency Pool. The Terminated Agency Pool has limited funding sources since no future employer contributions will be made. Therefore, expected benefit payments are secured by risk-free assets and benefit security for members is increased while funding risk is limited. However, this asset allocation has a lower expected rate of return than the PERF and consequently, a lower discount rate is assumed. The lower discount rate for the Terminated Agency Pool results in higher liabilities for terminated plans.

The effective termination discount rate will depend on actual market rates of return for risk-free securities on the date of termination. As market discount rates are variable, the table below shows a range for the hypothetical termination liability based on the lowest and highest interest rates observed during an approximate 2-year period centered around the valuation date.

Market Value of Assets (MVA)	Hypothetical Termination Liability^{1,2} @ 1.75%	Funded Status	Unfunded Termination Liability @ 1.75%	Hypothetical Termination Liability^{1,2} @ 3.00%	Funded Status	Unfunded Termination Liability @ 3.00%
\$327,242	\$756,691	43.3%	\$429,449	\$629,655	52.0%	\$302,412

¹ The hypothetical liabilities calculated above include a 5 percent mortality contingency load in accordance with Board policy. Other actuarial assumptions can be found in Appendix A.

² The current discount rate assumption used for termination valuations is a weighted average of the 10-year and 30-year U.S. Treasury yields where the weights are based on matching asset and liability durations as of the termination date. The discount rates used in the table are based on 20-year Treasury bonds, rounded to the nearest quarter percentage point, which is a good proxy for most plans. The 20-year Treasury yield was 2.61 percent on June 30, 2017, and was 2.83 percent on January 31, 2018.

In order to terminate the plan, you must first contact our Retirement Services Contract Unit to initiate a Resolution of Intent to terminate. The completed Resolution will allow the plan actuary to give you a preliminary termination valuation with a more up-to-date estimate of the plan liabilities. CalPERS advises you to consult with the plan actuary before beginning this process.

Participant Data

The table below shows a summary of your plan's member data upon which this valuation is based:

	June 30, 2016	June 30, 2017
Reported Payroll	\$ 601,671	\$ 883,832
Projected Payroll for Contribution Purposes	\$ 657,463	\$ 962,275
Number of Members		
Active	8	12
Transferred	2	2
Separated	1	1
Retired	0	0

List of Class 1 Benefit Provisions

This plan has the additional Class 1 Benefit Provisions:

- None

Plan's Major Benefit Options

Plan's Major Benefit Options

Shown below is a summary of the major optional benefits for which your agency has contracted. A description of principal standard and optional plan provisions is in Appendix B within Section 2 of this report.

Contract package	
Benefit Provision	Active Misc
Benefit Formula	2.0% @ 62
Social Security Coverage Full/Modified	No Full
Employee Contribution Rate	6.25%
Final Average Compensation Period	Three Year
Sick Leave Credit	Yes
Non-Industrial Disability	Standard
Industrial Disability	No
Pre-Retirement Death Benefits Optional Settlement 2	Yes level 4
1959 Survivor Benefit Level Special	No
Alternate (firefighters)	No
Post-Retirement Death Benefits Lump Sum	\$500
Survivor Allowance (PRSA)	No
COLA	2%

Section 2

CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM

**Section 2 may be found on the CalPERS website
(www.calpers.ca.gov) in the Forms and
Publications section**

**Administration Activities Report
September 7, 2018 to October 4, 2018**

Activity	Summary
Administration/Board	<p>Staff worked on the following:</p> <ul style="list-style-type: none"> • Scheduled meetings for Rob Hunter and other various meetings of the Board members. • Assisted Rob/Karl with various write ups and follow-up for the Committees and Board. • Continue to send the Water Supply Reports to the member agencies. • Continued training of new administrative staff. • Submitted the Biennial Conflict of Interest Code changes to the County. • Conducted research regarding various Ethics and Harassment Prevention Training options. • Responded to a Public Records Act request. • Processed and reviewed agreements for appropriate board approval and insurance requirements. • Attended Notary training class. • Worked with Admin Staff on correct filing procedures for records retention. • Registration for the CRWUA. • Set appointments both phone & in person meetings for Rob and Karl. • Assisted Government Affairs Manager with preparation of correspondence and travel. • Drafted the General Manager's Report. • Prepared PAL Packet and Meeting Minutes. • Processed several Agreements. • Assisted in setting up the Water Quality Meeting. • Assisted in setting up meetings for Melissa Haley. • Completed • Completed WEROC NIMS/SEMS/ICS (100 & 700) training. • Acquired an extension for SEOC Building permit on behalf of Charles Busslinger. • Worked on gathering information to prepare an office maintenance schedule.
MWDOC/OCWD Joint Administration	No new information to report.
Health Benefits	<ul style="list-style-type: none"> • A review of all health insurance plans is underway and information will be provided to participants on October 9 in preparation of Open Enrollment which will be held October 22 – November 9. • JPIA mailed information on the 2019 prescription plan changes to impacted participants.

Health Benefits (cont'd)	<ul style="list-style-type: none"> • The District's vision plan number change will be implemented January 1, 2019 from plan number 3001 to plan number 3009. • The annual joint MWDOC/OCWD Health fair and flu shots will be held on October 11. • Flexible Benefits information for 2019 has not been published yet but is anticipated in mid-November.
Records Management	<ul style="list-style-type: none"> • Staff attended the annual ECS conference (our Laserfiche reseller) in Riverside. • New employees have been trained on Records Management policies and procedures. • Staff has been cross-trained on the basics of Laserfiche usage. • Review and reorganization of electronic documents in Laserfiche system continues.
Recruitment /Departures	<ul style="list-style-type: none"> • All positions are currently filled and there are no vacant positions.
Other	
Projects and Activities	<ul style="list-style-type: none"> • Staff continues review of the Personnel Manual. • Staff is meeting with consultants to seek input on evaluating options for improvements to the District's Performance Evaluation process. • Staff has a meeting scheduled with IDS Group on October 5, to ensure that the office schematics, design and details for various phases of the office remodel project are clearly identified. • All MWDOC staff meeting was held on September 27th. • Staff met with auditors to discuss HR procedures, review Classic and PERPA Employee tracking and retiree health benefits. • Staff completed General Manager's Compensation Survey. • HR staff coordinated and participated in the Member Agencies HR Meeting held on October 4 at Santa Margarita Water District. • HR staff is researching job descriptions, salary benchmarks and benefits for two Water Leak Detection Program positions for the Water Use Efficiency Department. • Staff assisted with the preparation and securing of a moving company to move furniture for the electrical monitoring project.



INFORMATION ITEM
October 10, 2018

TO: **Administration & Finance Committee**
(Directors Thomas, Dick, Finnegan)

FROM: Robert J. Hunter, General Manager

Staff Contact: Jeff Stalvey

SUBJECT: **Finance and IT Pending Items Report**

SUMMARY

The following list details the status of special projects that are in-progress or to be completed during FY 2018-19.

Description	% of Completion	Estimated Completion date	Status
<u>Finance</u>			
Further Implementation of WUE Landscape Programs Databases and Web Site.	On-going	On-going	In Progress
2018 W-9 collection for water rebates. Currently holding 8 rebate checks awaiting W-9 forms.	On-going	On-going	In Progress
Annual audit with Vazquez & Co. Interim audit week of July 9 th ; final audit week of September 17 th .	90%	11-14-18	In Progress
Prepare for year end, post closing entries and prepare annual financials. Awaiting audit review	90%	10-24-18	In Progress
Pulled 83 W-9's to respond to an IRS penalty notice for 2016 1099 filings. Legal counsel responded. Awaiting IRS reply.	90%	10-31-18	In Progress
Government Compensation in California Report 2018	0%	03-30-19	Not Started
State Controller Report preparation FY17-18	0%	11-30-18	Not Started
Preparation of documents for FY19-20 budget process.	0%	05-31-19	Not Started

Description	% of Completion	Estimated Completion date	Status
<u>Information Technology</u>			
Network security issues (hackers, viruses and spam emails)	On-going	On-going	Continuous system monitoring
Purchase and upgrade Virtual Hyper-V Host Server (Hardware and Software)	50%	12-31-18	In Progress
Purchase and upgrade Conference room 101 with Interactive board	0%	06-30-19	Not Started
Upgrade VOIP telephone phone system (Hardware and software)	0%	3-31-19	Not Started
Upgrade Exchange Server to Enterprise Version	100%	9-30-18	Completed
Purchase and upgrade 5 desktop computers, 3 laptops and an iPad for Staff	100%	09-30-18	Completed

Description	% of Completion	Estimated Completion date	Status
<u>FY 2018-19 Completed Special Tasks</u>			
<u>Finance</u>			
Transition to new banking institution, U.S. Bank. Closed Bank of America account on 08/30/18	100%	08-20-18	Completed
New custodial services with U.S. Bank. New account opened August 3rd and transitioned by August 20th.	100%	08-22-18	Completed
State Tax filing for Water Facilities FY17-18	100%	09-30-18	Completed
<u>Information Technology</u>			



INFORMATION ITEM

October 10, 2018

TO: Administration & Finance Committee
(Directors Thomas, Dick, Finnegan)

FROM: Robert Hunter, General Manager

Staff Contact: Kevin Hostert

SUBJECT: Monthly Water Usage Data, Imported Water Projections, and Water Supply Info.

STAFF RECOMMENDATION

Staff recommends the Administration & Finance Committee receive and file this information.

COMMITTEE RECOMMENDATION

Committee recommends (To be determined at Committee Meeting)

REPORT

The attached figures show the recent trend of water consumption in Orange County (OC), an estimate of Imported Water Sales for MWD OC, and selected water supply information.

- OC Water Usage, Monthly by Supply OCWD Groundwater was the main supply in August.
- OC Water Usage, Monthly, Comparison to Previous Years Water usage in August 2018 was above average compared to the last 5 years. We are continuing to see slight increases in overall water usage compared to the previous three Fiscal Years. In June 2016, all water conservation became voluntary for MWD OC agencies and the Great California Drought was declared over by the Governor in April 2017.
- Historical OC Water Consumption Orange County M & I water consumption is estimated to be 554,000 AF in FY 2018-19 (*this includes ~15 TAF of agricultural usage and non-retail water agency usage*). This is about 14,000 AF more than FY 2017-18 and is about 35,000 AF more than FY 2016-17. Water usage per person is projected to be slightly higher in FY 2018-19 for Orange County at 154 gallons per day (This includes recycled water). Although OC population has increased 20% over the past two decades, water usage has not increased, on average. A long-

Budgeted (Y/N): N	Budgeted amount: N/A	Core <u>X</u>	Choice <u> </u>
Action item amount: N/A		Line item:	
Fiscal Impact (explain if unbudgeted):			

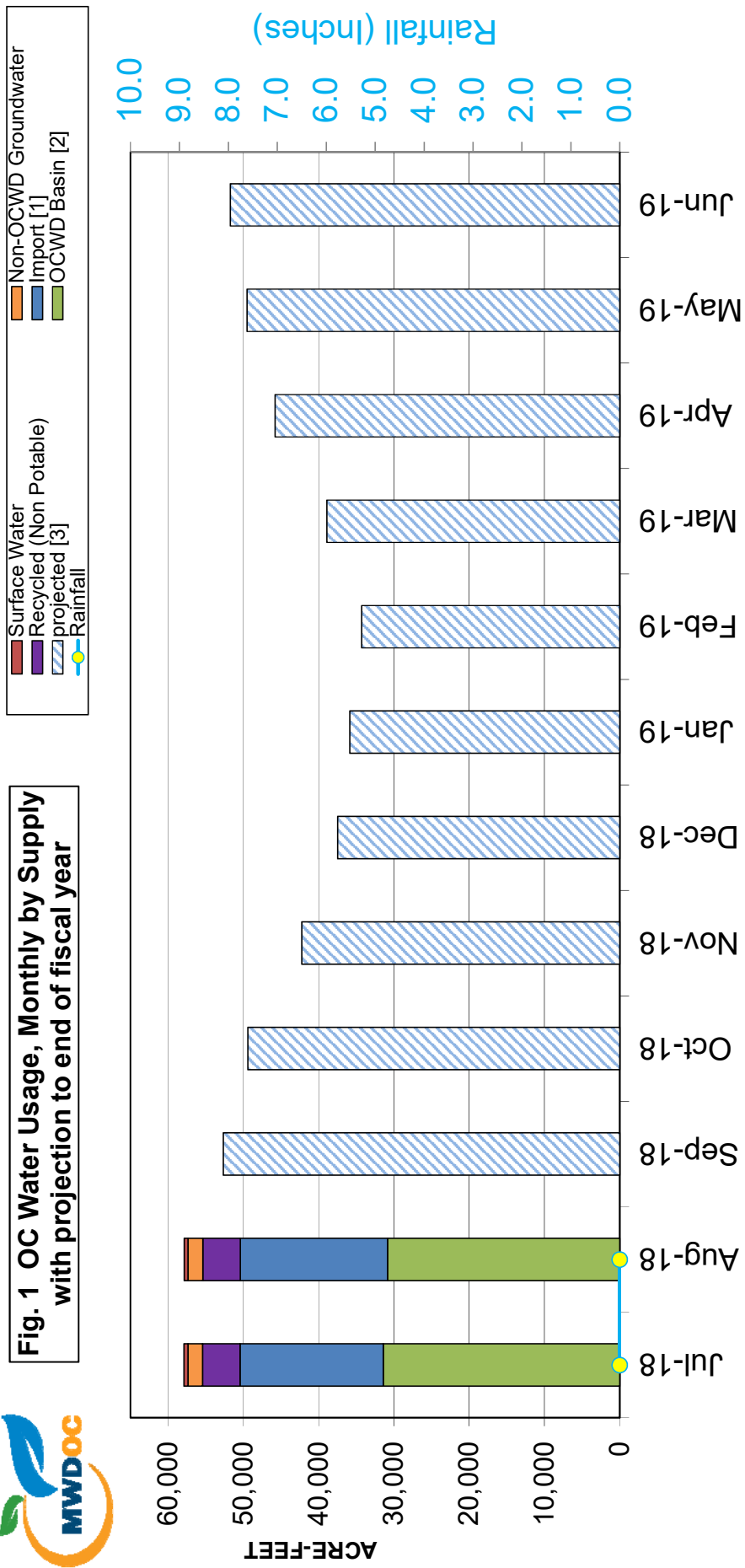
term decrease in per-capita water usage is attributed mostly to Water Use Efficiency (water conservation) efforts. O.C. Water Usage for the last three Fiscal Years is the lowest since the 1982-83 Fiscal Year (FY1982-83 was the third wettest year on record).

Water Supply Information Includes data on Rainfall in OC; the OCWD Basin overdraft; Northern California and Colorado River Basin hydrologic data; the State Water Project (SWP) Allocation, and regional storage volumes. The data have implications for the magnitude of supplies from the three watersheds that are the principal sources of water for OC. Note that a hydrologic year is Oct. 1st through Sept. 30th.

- Orange County's accumulated rainfall through September was well below average for this period. Water year to date rainfall in Orange County is 3.66 inches which is 28% of normal.
- Northern California accumulated precipitation through September was around 82% of normal for this period. Water Year 2017 was the wettest water year on record. The Northern California snowpack was 43% of normal as of April 1st. The State of California was in a declared Drought Emergency that started January 2014 and ended in April of 2017. As of late September, 47.97% of California is experiencing moderate to extreme drought conditions while 87.82% of the state is experiencing abnormally dry conditions. The State Water Project Contractors Table A Allocation has increased to 35% as of late May.
- Colorado River Basin accumulated precipitation through late September was 66% average for this period. The Upper Colorado Basin snowpack was 71% of normal as of April 3. Lake Mead and Lake Powell combined have about 57% of their average storage volume for this time of year and are at 41.6% of their total capacity. If Lake Mead's level falls below a "trigger" limit 1,075 ft. at the end of a calendar year, then a shortage will be declared by the US Bureau of Reclamation (USBR), impacting Colorado River water deliveries to the Lower Basin states. As of late September, Lake Mead levels were 3.29' above the "trigger" limit. The USBR predicts that the start of 2019 will not hit the "trigger" level but there is a 57% chance that the trigger level will be hit in 2020 and a 68% chance in 2021.



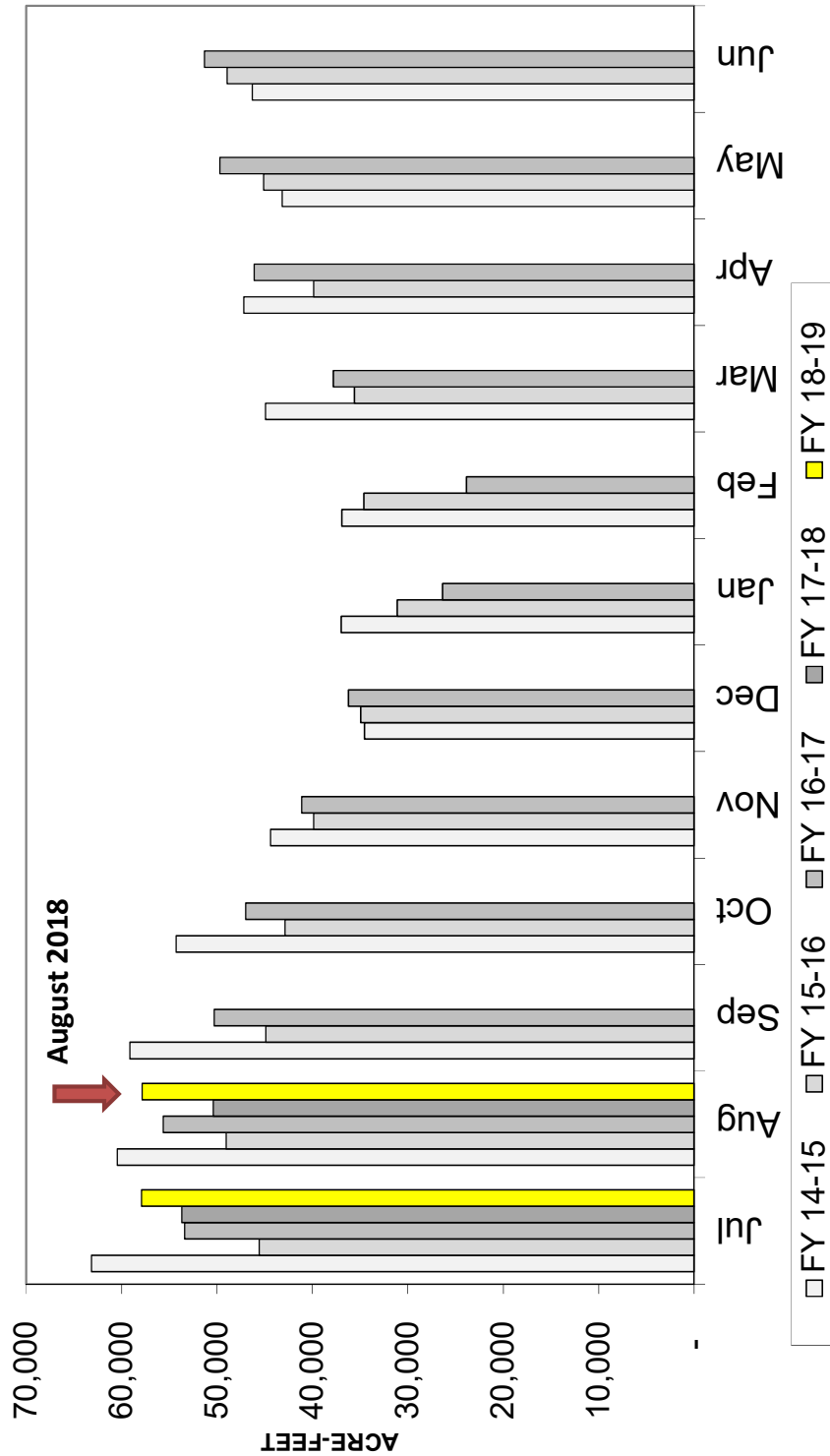
**Fig. 1 OC Water Usage, Monthly by Supply
with projection to end of fiscal year**



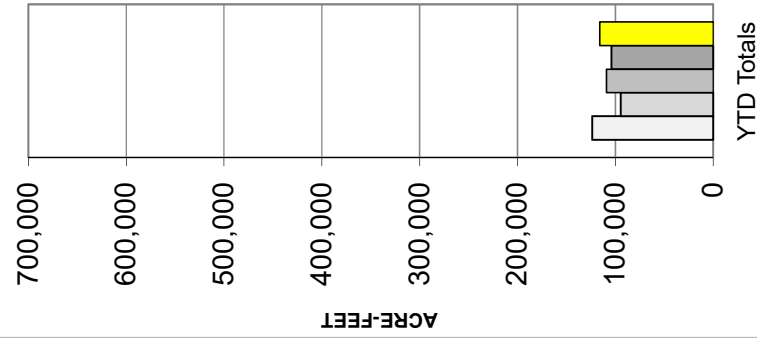
- [1] Imported water for consumptive use. Includes "In-Lieu" deliveries and CUP water extraction. Excludes "Direct Replenishment" deliveries of spreading water, "Barrier Replenishment" deliveries, and deliveries into Irvine Lake.
- [2] GW for consumptive use only. Excludes In-Lieu water deliveries and CUP water extraction that are counted with Import. BPP in FY '17-18 is 75%.
- [3] MWD OC's estimate of monthly demand is based on the projected FY 15-16 "Retail" water demand and historical monthly demand patterns.
- [4] Total water usage includes IRWD groundwater agricultural use and usage by non-retail water agencies.



Fig. 2 OC Monthly Water Usage [1]: Comparison to Last 4 Fiscal Years



Partial Year Subtotals

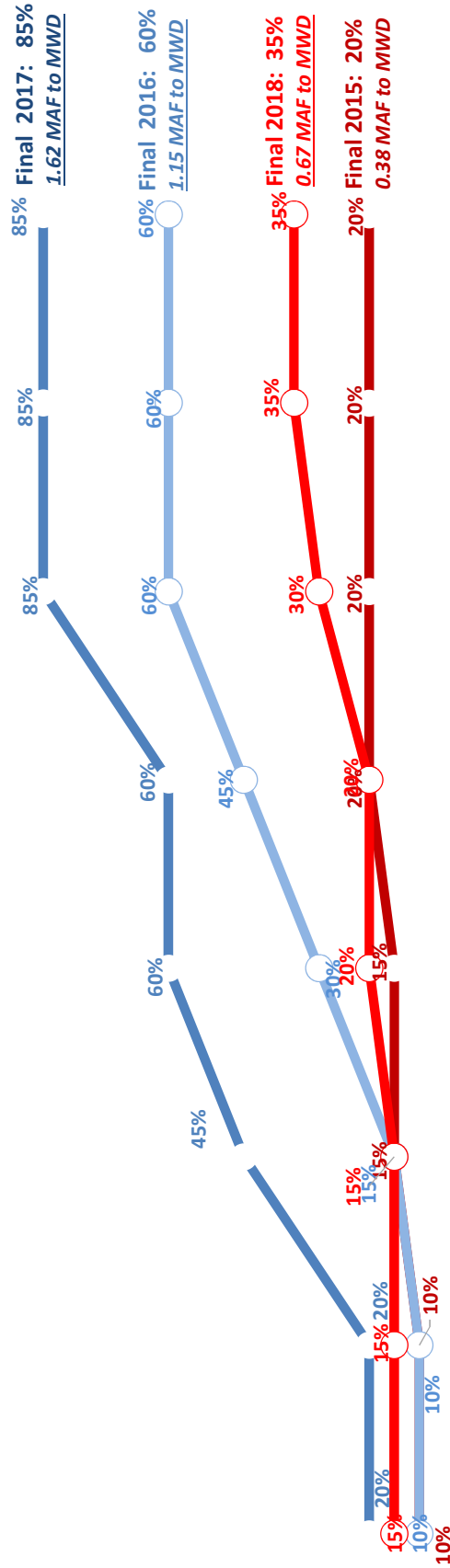


[1] Sum of Imported water for consumptive use (includes "In-Lieu" deliveries; excludes "Direct Replenishment" and "Barrier Replenishment") and Local water for consumptive use (includes recycled and non-potable water and excludes GWRS production) Recent months numbers include some estimation.

SWP TABLE A ALLOCATION

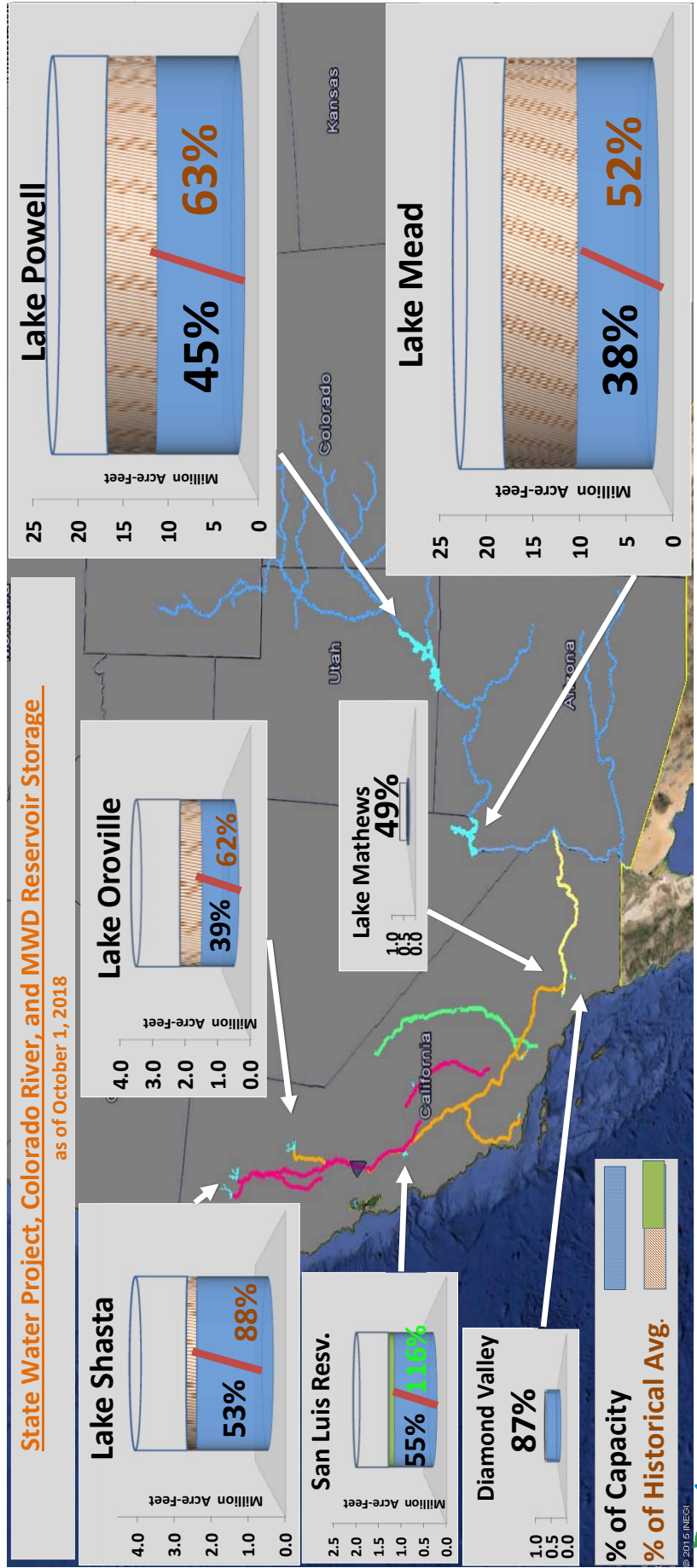
FOR STATE WATER PROJECT CONTRACTORS

Final 2019: ???



Water Year 2015 Water Year 2016 Water Year 2017 Water Year 2018 Water Year 2019

State Water Project, Colorado River, and MWD Reservoir Storage
as of October 1, 2018



Accumulated Overdraft of the OCWD Groundwater Basin as of August 2018

Full 0

50,000

100,000

150,000

200,000

250,000

300,000

350,000

400,000

450,000

500,000

550,000

Acre Feet

Aug-18
Jul-18
Jun-18
May-18
Apr-18
Mar-18
Feb-18
Jan-18
Dec-17
Nov-17
Oct-17
Sep-17
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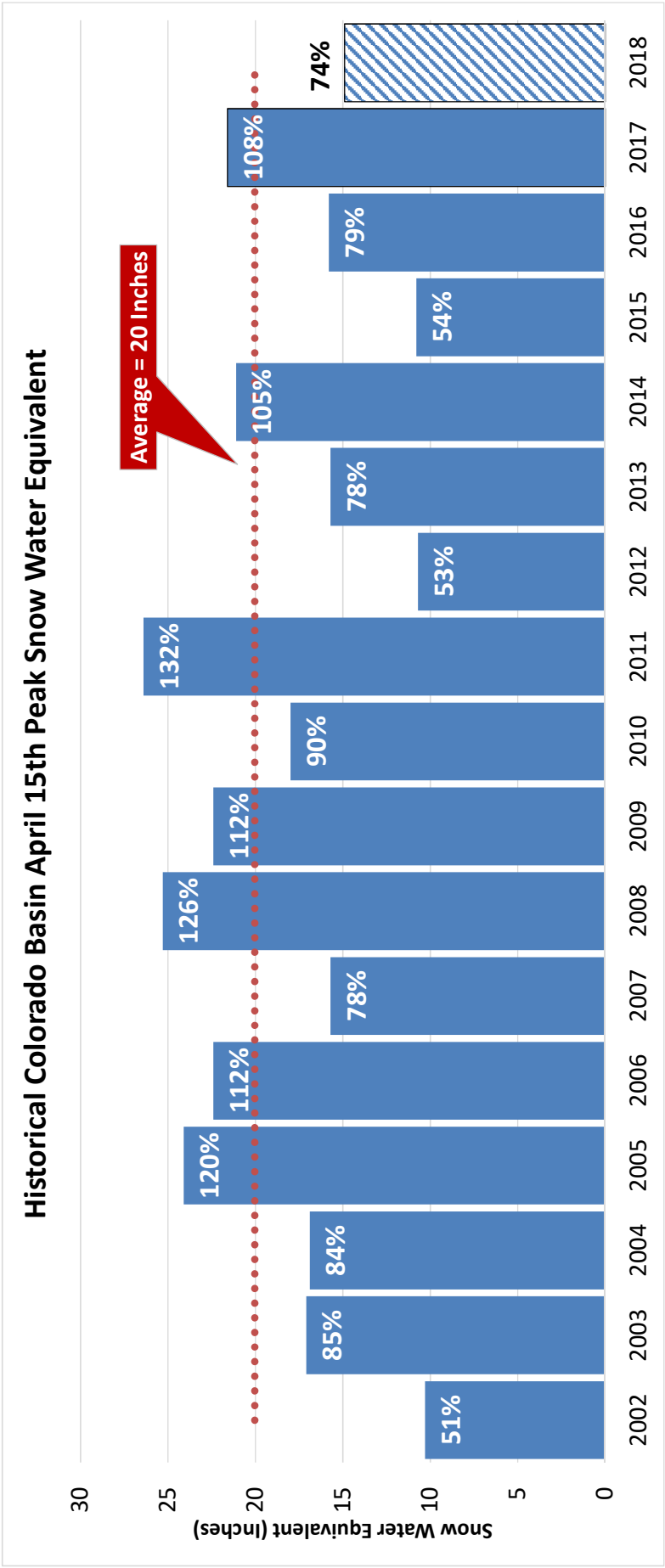


	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18
AO (AF)	308,488	321,131	306,280	290,800	277,691	278,056	261,521	272,475	268,752	269,889	280,329	286,163
AO w/CUP removed (AF)	310,216	321,131	308,007	292,522	277,691	279,776	263,237	274,188	270,463	271,601	282,041	287,869
AO (AF)	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19
AO w/CUP removed (AF)	292,869	294,090										
	294,572	295,790										



Historical Northern California April 1st Peak Snow Water Equivalent

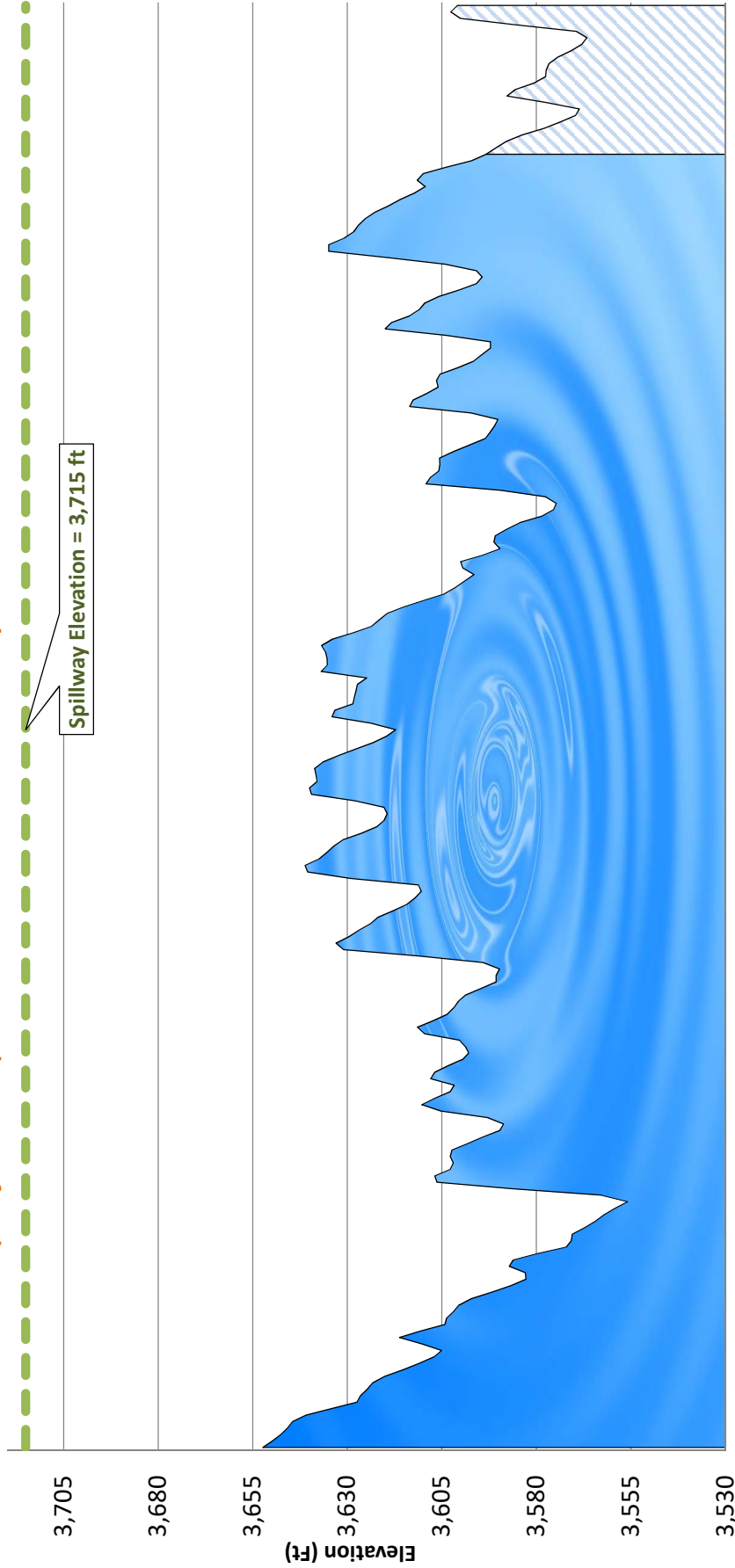






Lake Powell Levels: Historical and Projected projection per USBR 24-Month Study

■ Historical □ Projected





Lake Mead Levels: Historical and Projected projection per USBR 24-Month Study

■ Historical □ Projected

