

**AGENDA**  
**REGULAR MEETING BOARD OF DIRECTORS**  
**ORANGE COUNTY WATER DISTRICT**  
18700 Ward Street, Fountain Valley, CA (714) 378-3200  
**Wednesday, January 17, 2024 – 5:30 p.m. - Boardroom**

**This meeting will be held in person. As a convenience for the public, the meeting may also be accessed by Zoom Webinar and will be available by either computer or telephone audio as indicated below. Because this is an in-person meeting and the Zoom component is not required, but rather is being offered as a convenience, if there are any technical issues during the meeting, this meeting will continue and will not be suspended.**

Computer Audio: Please click the link below to join the Zoom webinar:  
<https://ocwd.zoom.us/j/87881361298>

Telephone Audio: (213) 338 8477

Meeting ID: 878 8136 1298

Teleconference Sites: Hilton Grand Club, Lobby, 575 S. Kihei Rd, Kihei, HI * Members of the public may attend and participate at both locations.
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**PLEDGE OF ALLEGIANCE**

**ROLL CALL**

**ITEMS RECEIVED TOO LATE TO BE AGENDIZED**

RECOMMENDATION: Adopt resolution determining 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 two-thirds vote of the Board members present, or, if less than two-thirds of the members are present, a unanimous vote of those members present.)

**VISITOR PARTICIPATION**

Time has been reserved at this point in the agenda for persons wishing to comment for up to three minutes to the Board of Directors on any item that is not listed on the agenda, but within the subject matter jurisdiction of the District. By law, the Board of Directors is prohibited from taking action on such public comments. As appropriate, matters raised in these public comments will be referred to District staff or placed on the agenda of an upcoming Board meeting.

At this time, members of the public may also offer public comment for up to three minutes on any item on the Consent Calendar. While members of the public may not remove an item from the Consent Calendar for separate discussion, a Director may do so at the request of a member of the public.

**FLAG PRESENTATION TO MIKE MARKUS**

**CONSENT CALENDAR (ITEMS NO. 1 – 16)**

All matters on the Consent Calendar are to be approved by one motion, without separate discussion on these items, unless a Board member or District staff request that specific items be removed from the Consent Calendar for separate consideration.

1. RESOLUTION COMMENDING ORANGE COUNTY WATER DISTRICT GENERAL MANAGER MICHAEL R. MARKUS UPON HIS RETIREMENT

RECOMMENDATION: Adopt resolution commending OCWD General Manager Mike Markus upon his retirement.

2. APPROVAL OF CASH DISBURSEMENTS

RECOMMENDATION: Ratify/authorize payment of bills

3. MINUTES OF BOARD OF DIRECTORS MEETINGS HELD DECEMBER 20, 2023 AND JANUARY 3, 2024

RECOMMENDATION: Approve as presented

4. RATIFICATION OF JOB CLASSIFICATION SALARY RANGE ADJUSTMENTS

RECOMMENDATION: Ratify the following job classification salary range adjustments effective January 18, 2024:

Operations Shift Supervisor: R-17 to R-18  
Chief Operator GWRS: R-19 to R-20  
Operations Manager GWRS: R-20 to R-21  
Maintenance Manager GWRS R-20 to R-21

5. AT-WILL EMPLOYMENT STATEMENT UPDATE

RECOMMENDATION: Approve the updated At-Will Employment Statement (Section 3.2) contained in the Personnel Manual effective January 18, 2024

**ITEMS RECOMMENDED FOR APPROVAL AT COMMUNICATIONS AND LEGISLATIVE LIAISON COMMITTEE MEETING HELD JANUARY 4 (ITEM NO. 6)**

6. FEDERAL LEGISLATIVE UPDATE

RECOMMENDATION: Take the following action:

Bill Number/Author	Short Title	Recommendation
(No Bill Number Yet/ Grace F. Napolitano (D- El Monte)	The Priority for Water Supply and Conservation Act	Write a letter in support of concept

**ITEMS RECOMMENDED FOR APPROVAL AT WATER ISSUES COMMITTEE MEETING HELD JANUARY 10 (ITEMS NO. 7 –10)**

7. GWRS PIPELINE REPAIR WORK

RECOMMENDATION: 1) Rescind Resolution No. R-23 -12-163, Authorizing Amendment No. 2 to FD Thomas, Inc. contract in the amount of \$10,117 for additional repair work to the GWRS pipeline, and,  
  
2) Authorize Amendment No. 2 to FD Thomas, Inc. contract in the amount of \$69,384 for additional repair work to the GWRS pipeline

8. AGREEMENT WITH DDB ENGINEERING FOR THE PREPARATION OF 2023 GWRS ANNUAL REPORT

RECOMMENDATION: Authorize issuance of Agreement to DDB Engineering Inc. for an amount not to exceed \$62,580 to provide consulting services for the preparation of the calendar year 2023 GWRS Annual Report

9. AGREEMENT TO POWERS BROS MACHINE FOR ANAHEIM LAKE VERTICAL TURBINE PUMP AND MOTOR INSPECTION AND REHABILITATION

RECOMMENDATION: 1) Establish the Anaheim Lake Vertical Turbine Pump and Motor Inspection and Replacement project in the amount of \$75,000; and,  
2) Authorize issuance of an Agreement to Powers Bros Machine Inc. for the project for an amount not to exceed \$75,000

10. ALAMITOS SEAWATER BARRIER 2024-25 OPERATIONS AND MAINTENANCE BUDGET

RECOMMENDATION: Approve the Alamitos Barrier 2024-25 total O&M budget in the amount of \$3,170,000, and authorize the amount of the District's share not to exceed \$1,263,000 payable to the Los Angeles County Department of Public Works after receipt and review of invoices

**ITEMS RECOMMENDED FOR APPROVAL AT ADMINISTRATION FINANCE COMMITTEE MEETING HELD JANUARY 11 (ITEMS NO. 11 – 16)**

11. MONTHLY CASH CONTROL REPORT

RECOMMENDATION: Receive and file Summary Cash and Cash Equivalents Control Reports dated December 31, 2023

12. INVESTMENT PORTFOLIO HOLDINGS REPORTS

RECOMMENDATION: Receive and file the Investment Portfolio Holdings Reports dated December 31, 2023

13. AUTHORIZE PURCHASE ORDER TO DXP ENTERPRISES FOR REPAIR OF RO HIGH PRESSURE FEED PUMP F01

RECOMMENDATION: Authorize issuance of a purchase order to DXP Enterprises, Inc. in the amount of \$98,123 for repair of reverse osmosis high pressure feed pump F01

14. AGREEMENT WITH WESTERN AUDIO VISUAL AND SECURITY (WAVS) TO DEVELOP AUDIOVISUAL SPECIFICATIONS FOR THE BOARDROOM AND CONFERENCE ROOMS

RECOMMENDATION: Authorize issuance of Agreement with Western Audio Visual & Security in an amount not to exceed \$14,000 to develop audiovisual specifications for the Boardroom, C2 and C3 Conference Rooms

15. SURPLUS OF COMPUTER EQUIPMENT, TOOLS, OFFICE FURNITURE, AND HEAVY-DUTY EQUIPMENT

RECOMMENDATION: Declare items on Surplus List as of January 3, 2024, surplus and authorize the sale and disposal thereof

16. **BASIN PRODUCTION PERCENTAGE AND REPLENISHMENT ASSESSMENT ESTIMATES FOR FISCAL YEAR 2024-25**

RECOMMENDATION: Provide the Fiscal Year 2024-25 Replenishment Assessment and Basin Production Percentage estimates to the Groundwater Producers along with any additional Board comments

**MATTER FOR CONSIDERATION**

17. **DIVISION SEVEN BOARD VACANCY**

RECOMMENDATION: 1) Board action to consider or not consider candidate Bruce Elieff who submitted an application at 5:26 p.m. which was after the requested 5:00 p.m. January 10, 2024, deadline;

2) Board action to utilize the described process to select a new director for Division Seven; and,

3) Board action to select a candidate for Division Seven

**INFORMATIONAL ITEMS**

18. **WATER RESOURCES SUMMARY**

19. **SAWPA UPDATE**

20. **COMMITTEE/CONFERENCE/MEETING REPORTS**

- ▶ Jan 04 - Communication & Legislative Liaison Committee (Chair Bilodeau)
- ▶ Jan 08 - GWRS Steering Committee (Chair Whitaker)
- ▶ Jan 10 - Water Issues Committee (Chair Whitaker)
- ▶ Jan 11 - Administration and Finance Issues Committee (Chair Yoh)
  
- ▶ Reports on Committees/Conferences/Meetings Attended at District Expense (at which a quorum of the Board was present)

21. **VERBAL REPORTS**

- PRESIDENT'S REPORT
- GENERAL MANAGER'S REPORT
- DIRECTORS' REPORTS
- GENERAL COUNSEL REPORT

**ADJOURNMENT**

Agenda Posting: In accordance with the requirements of California Government Code Section 54954.2, this agenda has been posted in the main lobby of the Orange County Water District, 18700 Ward Street, Fountain Valley, CA and on the OCWD website: [www.ocwd.com](http://www.ocwd.com) not less than 72 hours prior to the meeting date and time above. All written materials relating to each agenda item are available for public inspection in the office of the Assistant District Secretary. Backup material for the Agenda is available at the District offices for public review and can be viewed online at the District's website: [www.ocwd.com](http://www.ocwd.com).

Accommodations to the Disabled: Pursuant to the Americans with Disabilities Act, persons with a disability who require a disability-related modification or accommodation in order to participate in a meeting, including auxiliary aids or services, may request such modification or accommodation from the District Secretary at (714) 378-3234 or by email at [cfuller@ocwd.com](mailto:cfuller@ocwd.com). Notification 24 hours prior to the meeting will enable District staff to make reasonable arrangements to assure accessibility to the meeting.

Availability of Agenda Material: As a general rule, agenda reports or other written documentation that has been prepared or organized with respect to each item of business listed on the agenda can be reviewed at [www.ocwd.com](http://www.ocwd.com). Copies of these materials and other disclosable public records distributed to all or a majority of the members of the Board of Directors in connection with an open session agenda item are also on file with and available for inspection at the Office of the District Secretary, 18700 Ward Street, Fountain Valley, California, during regular business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday. If such writings are distributed to members of the Board of Directors on the day of a Board meeting, the writings will be available at the entrance to the Board of Directors meeting room at the Orange County Water District office.



## AGENDA ITEM SUBMITTAL

**Meeting Date:** January 17, 2024

**To:** Board of Directors

**From:** Mike Markus

**Staff Contact:** J. Kennedy / G. Ayala

**Budgeted:** N/A

**Budgeted Amount:** N/A

**Cost Estimate:** N/A

**Funding Source:** N/A

**Program/Line Item No.:** N/A

**General Counsel Approval:** N/A

**Engineers/Feasibility Report:** N/A

**CEQA Compliance:** N/A

**Subject: RESOLUTION COMMENDING ORANGE COUNTY WATER DISTRICT  
GENERAL MANAGER MICHAEL R. MARKUS UPON HIS RETIREMENT**

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### SUMMARY

Orange County Water District General Manager Michael (Mike) R. Markus is retiring January 26, 2024. The attached resolution commends Mike on his exemplary career and contributions to the water industry.

Attachment: Resolution commending OCWD General Manager Mike Markus

### RECOMMENDATION

Adopt resolution commending OCWD General Manager Mike Markus upon his retirement.

### BACKGROUND/ANALYSIS

Serving as the general manager since 2007, Mike Markus is only the sixth general manager in OCWD's history. Under his leadership OCWD has driven innovation and set the gold standard for many projects and programs. Mike's 45-year distinguished career in water resource management has left an indelible mark on the water industry and has helped paved the way for many successful projects. The board seeks to commend and congratulate Mike for his visionary leadership at OCWD.

**RESOLUTION OF THE BOARD OF DIRECTORS OF  
THE ORANGE COUNTY WATER DISTRICT  
COMMEMORATING THE RETIREMENT OF MICHAEL R. MARKUS FROM THE  
ORANGE COUNTY WATER DISTRICT**

**WHEREAS**, Michael R. Markus, P.E., D.WRE, BCEE, F.ASCE, is retiring as general manager of the Orange County Water District (OCWD; the District), having served in this capacity since September 2007, becoming only the sixth general manager in the District's history; and

**WHEREAS**, Mr. Markus has successfully led OCWD in accomplishing its core operation to manage, replenish and protect the Orange County Groundwater Basin – Orange County's largest source of drinking water – in a financially sound manner, by diversifying and expanding the District's water portfolio. The basin provides a record amount of 85% of the water supply to 2.5 million residents in north and central Orange County; and

**WHEREAS**, Prior to becoming OCWD's general manager, Mr. Markus' career at OCWD began in 1988 as a construction manager, rising to the ranks of assistant general manager, where he was responsible for managing and implementing the District's capital improvement program, the construction of over \$1.5 billion in water infrastructure projects, optimizing District operations and assets, and leading community and stakeholder communications; and

**WHEREAS**, Throughout his 45-year career, Mr. Markus has become a respected leader and global expert on groundwater and water reuse issues, including serving as a Santa Ana River Watermaster, and has managed all aspects of the world-renowned Groundwater Replenishment System (GWRS) – from project implementation, optimization, and public outreach; and

**WHEREAS**, Mr. Markus was instrumental in working with the Orange County Sanitation District (OC San) and multiple project partners and stakeholders to bring the GWRS online in 2008 as the world's largest water purification system for indirect potable reuse, producing 70 million gallons of water a day (70 MGD). He led the implementation of the initial expansion in 2015, producing 100 MGD and the final expansion, completed in 2023, producing 130 MGD and recycling 100% of OC San's reclaimable wastewater flows, enough to serve nearly one million people in north and central Orange County; and

**WHEREAS**, Under Mr. Markus' leadership, OCWD has won more than 100 awards including the Stockholm Industry Water Award, ASCE Outstanding Civil Engineering Achievement Award, U.S. Water Prize, ACWA Innovation Award, WaterReuse Large Recycled Water Agency of the Year, and the Lee Kuan Yew Prize; and

**WHEREAS**, Throughout his tenure as general manager, Mr. Markus represented the District to external audiences, including effectively engaging in legislative advocacy and providing Congressional testimony. His technical expertise consistently garnered recognition from prominent media outlets including CBS, CNN, and CNBC. Furthermore,



he made noteworthy appearances on the award-winning television programs *60 Minutes* and *California's Gold*, adding prestige to the District's profile.

**WHEREAS**, Mr. Markus is called upon often to share his knowledge and expertise with agencies and associations around the world and has served in leadership capacities for many organizations, including WaterReuse California, Water Research Foundation, National Water Research Institute, American Water Works Association, and Association of Metropolitan Water Agencies; and

**WHEREAS**, His leadership extends beyond OCWD, which has been recognized by the many awards and achievements Mr. Markus has received, including the USC Sonny Astani Department of Civil and Environmental Engineering Lifetime Achievement Award, Pioneer in Groundwater by the Environmental & Water Resources Institute, Top 25 Industry Leaders by Water & Wastewater International, Säid Khoury Award for Engineering Construction Excellence, Excellence in Promotion of Infrastructure, and American Society of Civil Engineers' Government Engineer of the Year Award; and

**WHEREAS**, Mr. Markus obtained a Bachelor of Science degree in civil engineering from California State Polytechnic University, Pomona and a Master of Science degree in civil engineering from the University of Southern California, paving the road to his ultimate success and legacy in water resource management; and

**NOW, THEREFORE, BE IT RESOLVED** that the Board of Directors of the Orange County Water District does hereby officially commend and congratulate Mr. Markus for his visionary leadership at the Orange County Water District and wishes him well in his retirement and continued success in his future endeavors.



**AGENDA ITEM SUBMITTAL**

**Meeting Date:** January 17, 2024

**To:** Board of Directors

**From:** Mike Markus

**Staff Contact:** M. Ochoa

**Budgeted:** N/A

**Budgeted Amount:**

**Cost Estimate \$10,515,762.20**

**Funding Source:** N/A

**Program/Line Item No.** N/A

**General Counsel Approval:** N/A

**Engineers/Feasibility Report:** N/A

**CEQA Compliance:** N/A

**Subject: APPROVAL OF CASH DISBURSEMENTS**

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**SUMMARY**

For the period of December 28, 2023 through January 10, 2024, including manual checks and wire transfers, staff is presenting cash disbursements totaling \$10,515,762.20 disbursed for each period as follows:

Accounts Payable:	
12/28/2023 - 01/03/2024	\$ 1,467,689.87
01/04/2024 - 01/10/2024	\$ 7,718,322.98
Payroll	\$ 1,329,749.35
<b>Total Disbursements</b>	<b>\$ 10,515,762.20</b>

**RECOMMENDATION**

Ratify/Authorize payment of bills

**PRIOR RELEVANT BOARD ACTION(S)**

Semi-monthly

# Orange County Water District

## Check Register

**Begin Date:** 2023-12-28

**End Date:** 2024-01-03

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### Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
803795	2024-01-03	ALTA FOODCRAFT	Inv# 12349812	BPO FIRST AID SUPPLIES	\$1,214.32		
803795	2024-01-03	ALTA FOODCRAFT	Inv# 12350112	BPO FIRST AID SUPPLIES	\$22.86		
<b>Total for Check: 803795</b>						<b>\$1,237.18</b>	<b>\$11,977.10</b>
803796	2024-01-03	SIGMA-ALDRICH, INC.	Inv# 561582793	SUPPLIES	\$423.04		
803796	2024-01-03	SIGMA-ALDRICH, INC.	Inv# 561582793	SUPPLIES	\$85.70		
803796	2024-01-03	SIGMA-ALDRICH, INC.	Inv# 561582793	Trans/Handling	\$18.91		
<b>Total for Check: 803796</b>						<b>\$527.65</b>	<b>\$12,900.61</b>
803797	2024-01-03	SPEX CERTIPREP, LLC	Inv# 489676	SUPPLIES	\$64.00		
803797	2024-01-03	SPEX CERTIPREP, LLC	Inv# 489676	Freight	\$15.99		
<b>Total for Check: 803797</b>						<b>\$79.99</b>	<b>\$6,732.45</b>
803798	2024-01-03	WESTAIR GASES & EQUIPMENT	Inv# 0011750510	12/7 Lab-nitrogen & helium	\$1,429.14		
803798	2024-01-03	WESTAIR GASES & EQUIPMENT	Inv# 0011750510	hazardous m, frt, surcharges	\$872.56		
<b>Total for Check: 803798</b>						<b>\$2,301.70</b>	<b>\$59,307.95</b>
<b>Run Date: 1/3/2024</b>					<b>\$4,146.52</b>	<b>\$4,146.52</b>	

# Orange County Water District

## Check Register

**Begin Date:** 2023-12-28

**End Date:** 2024-01-03

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### Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
116166	2024-01-03	ACCUSTANDARD, INC.	Inv# 994753	Shipping	\$105.18		
116166	2024-01-03	ACCUSTANDARD, INC.	Inv# 994753	Handling	\$13.06		
116166	2024-01-03	ACCUSTANDARD, INC.	Inv# 994753	SUPPLIES	\$217.50		
<b>Total for Check:</b>		116166				\$335.74	\$9,083.97
116167	2024-01-03	AGILENT TECHNOLOGIES, INC.	Inv# 126873172	SUPPLIES	\$386.50		
116167	2024-01-03	AGILENT TECHNOLOGIES, INC.	Inv# 126873172	Shipping and Handling	\$5.44		
116167	2024-01-03	AGILENT TECHNOLOGIES, INC.	Inv# 126881880	SUPPLIES	\$1,064.88		
116167	2024-01-03	AGILENT TECHNOLOGIES, INC.	Inv# 126881880	Shipping and Handling	\$3.26		
<b>Total for Check:</b>		116167				\$1,460.08	\$279,835.85
116168	2024-01-03	AMAZON CAPITAL SERVICES, INC	Inv# 14QV-MVND-R3YJ	OFFICE SUPPLY	\$30.98		
116168	2024-01-03	AMAZON CAPITAL SERVICES, INC	Inv# 14QV-MVND-R3YJ	OFFICE SUPPLY	\$17.88		
116168	2024-01-03	AMAZON CAPITAL SERVICES, INC	Inv# 14QV-MVND-R3YJ	OFFICE SUPPLY	\$17.55		
116168	2024-01-03	AMAZON CAPITAL SERVICES, INC	Inv# 1H7R-7HX9-7WQ1	SUPPLIES	\$14.90		
116168	2024-01-03	AMAZON CAPITAL SERVICES, INC	Inv# 1H7R-7HX9-7WQ1	SUPPLIES	\$12.09		
116168	2024-01-03	AMAZON CAPITAL SERVICES, INC	Inv# 1H7R-7HX9-7WQ1	Shipping	\$7.60		
116168	2024-01-03	AMAZON CAPITAL SERVICES, INC	Inv# 1T3K-6RRX-JQ4G	OFFICE SUPPLY	\$20.03		
116168	2024-01-03	AMAZON CAPITAL SERVICES, INC	Inv# 1VYH-XR6P-6MHM	SUPPLIES	\$108.74		
116168	2024-01-03	AMAZON CAPITAL SERVICES, INC	Inv# 1VYH-XR6P-6MHM	SUPPLIES	\$17.38		
116168	2024-01-03	AMAZON CAPITAL SERVICES, INC	Inv# 1VYH-XR6P-6MHM	SUPPLIES	\$15.21		
<b>Total for Check:</b>		116168				\$262.36	\$24,593.46
116169	2024-01-03	AMERICAN WATER CHEMICAL, INC	Inv# 52227571	1279	\$53,028.80		
<b>Total for Check:</b>		116169				\$53,028.80	\$1,047,125.20
116170	2024-01-03	ARAMARK UNIFORM SERVICES	Inv# 5880486059	949	\$284.40		
116170	2024-01-03	ARAMARK UNIFORM SERVICES	Inv# 5890317092	949	\$254.79		
116170	2024-01-03	ARAMARK UNIFORM SERVICES	Inv# 5890317092	949	\$16.45		
116170	2024-01-03	ARAMARK UNIFORM SERVICES	Inv# 5890318067	949	\$177.23		
116170	2024-01-03	ARAMARK UNIFORM SERVICES	Inv# 5890318067	949	\$29.55		
116170	2024-01-03	ARAMARK UNIFORM SERVICES	Inv# 5890318068	949	\$303.20		
116170	2024-01-03	ARAMARK UNIFORM SERVICES	Inv# 5890318068	949	\$4.77		
116170	2024-01-03	ARAMARK UNIFORM SERVICES	Inv# 5890318069	949	\$6.08		
116170	2024-01-03	ARAMARK UNIFORM SERVICES	Inv# 5890318070	949	\$155.56		
116170	2024-01-03	ARAMARK UNIFORM SERVICES	Inv# 5890318091	BPO UNIFORMS	\$32.63		

# Orange County Water District

## Check Register

**Begin Date:** 2023-12-28

**End Date:** 2024-01-03

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### Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
<b>Total for Check:</b>		116170				\$1,264.66	\$29,135.88
116171	2024-01-03	B&K VALVES & EQUIPMENT INC	Inv# 3011.1-1	Generated by reorder 10/26/23	\$14,426.78		
116171	2024-01-03	B&K VALVES & EQUIPMENT INC	Inv# 3011.1-1	Freight	\$368.44		
<b>Total for Check:</b>		116171				\$14,795.22	\$14,795.22
116172	2024-01-03	BC WIRE ROPE & RIGGING	Inv# 0376445-IN	BPO RIGGING SUPPLIES	\$108.56		
116172	2024-01-03	BC WIRE ROPE & RIGGING	Inv# 0376555-IN	6/mo.fall protection inspectin	\$1,600.00		
<b>Total for Check:</b>		116172				\$1,708.56	\$11,499.01
116173	2024-01-03	BEACH WIRE AND CABLE, INC.	Inv# 667916	NEW FY BPO	\$33.08		
<b>Total for Check:</b>		116173				\$33.08	\$107.43
116174	2024-01-03	BLACK & VEATCH CORPORATION	Inv# 1414646	Thru 11/17 GWRSFE const.mgmt	\$27,545.89		
<b>Total for Check:</b>		116174				\$27,545.89	\$487,599.64
116175	2024-01-03	BOOT BARN INC.	Inv# INV00321830	BPO BOOT BARN	\$200.00		
<b>Total for Check:</b>		116175				\$200.00	\$4,735.00
116176	2024-01-03	BUCKNAM INFRASTRUCTURE GROUP INC	Inv# 392-01.02	1552	\$4,009.50		
<b>Total for Check:</b>		116176				\$4,009.50	\$5,018.50
116177	2024-01-03	CAMBRIDGE ISOTOPE LABORATORIES	Inv# SI-00002204	SUPPLIES	\$331.69		
116177	2024-01-03	CAMBRIDGE ISOTOPE LABORATORIES	Inv# SI-00002204	SUPPLIES	\$320.82		
116177	2024-01-03	CAMBRIDGE ISOTOPE LABORATORIES	Inv# SI-00002204	SUPPLIES	\$320.81		
116177	2024-01-03	CAMBRIDGE ISOTOPE LABORATORIES	Inv# SI-00002204	SUPPLIES	\$320.81		
116177	2024-01-03	CAMBRIDGE ISOTOPE LABORATORIES	Inv# SI-00002204	Charges	\$55.73		
<b>Total for Check:</b>		116177				\$1,349.86	\$10,464.17
116178	2024-01-03	CART MART, INC	Inv# 293669	BPO	\$119.82		
116178	2024-01-03	CART MART, INC	Inv# 293669	Handling	\$37.70		
<b>Total for Check:</b>		116178				\$157.52	\$364.68
116179	2024-01-03	CEL ANALYTICAL INC	Inv# 231115-4434	BPO WQ ANALYSIS	\$630.00		
<b>Total for Check:</b>		116179				\$630.00	\$6,995.00
116180	2024-01-03	CITY OF HUNTINGTON BEACH	Inv# 5386189_20231227	1/22/2023-12/22/2023	\$43.82		
<b>Total for Check:</b>		116180				\$43.82	\$306.94

# Orange County Water District

## Check Register

**Begin Date:** 2023-12-28

**End Date:** 2024-01-03

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### Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
116181	2024-01-03	COLE-PARMER INSTRUMENT CO.	Inv# 3602939	LAB SUPPLIES	\$152.57		
116181	2024-01-03	COLE-PARMER INSTRUMENT CO.	Inv# 3602939	LAB SUPPLIES	\$50.00		
116181	2024-01-03	COLE-PARMER INSTRUMENT CO.	Inv# 3602939	Freight and Surcharge	\$40.22		
<b>Total for Check:</b>		116181				\$242.79	\$673.29
116182	2024-01-03	ENS RESOURCES, INC.	Inv# 3458	Nov23 legis.support/D.C.	\$8,000.00		
<b>Total for Check:</b>		116182				\$8,000.00	\$48,137.89
116183	2024-01-03	EXCELSIOR ELEVATOR	Inv# 33953	BPO ELEVATOR SERVICE	\$410.00		
116183	2024-01-03	EXCELSIOR ELEVATOR	Inv# 33953	Discount	(\$4.10)		
<b>Total for Check:</b>		116183				\$405.90	\$13,479.88
116184	2024-01-03	FACTORY MOTOR PARTS	Inv# 164-305908	RO: E-24 ELECTRIC CART BATTERI	\$1,724.30		
116184	2024-01-03	FACTORY MOTOR PARTS	Inv# 164-305908	Battery Fee	\$24.00		
<b>Total for Check:</b>		116184				\$1,748.30	\$7,958.29
116185	2024-01-03	FEDERAL EXPRESS CORPORATION	Inv# 8-356-57563	Package Delivery	\$85.01		
116185	2024-01-03	FEDERAL EXPRESS CORPORATION	Inv# 8-363-07092	Package Delivery	\$30.98		
116185	2024-01-03	FEDERAL EXPRESS CORPORATION	Inv# 8-363-07093	Package Delivery	\$141.98		
<b>Total for Check:</b>		116185				\$257.97	\$9,445.64
116186	2024-01-03	FILMTEC CORP	Inv# 951390567	Replacement membranes	\$500,902.50		
116186	2024-01-03	FILMTEC CORP	Inv# 951390567	Replacement membranes	\$15,027.07		
116186	2024-01-03	FILMTEC CORP	Inv# 951390571	Replacement membranes	\$30,667.50		
116186	2024-01-03	FILMTEC CORP	Inv# 951390571	Replacement membranes	\$920.03		
<b>Total for Check:</b>		116186				\$547,517.10	\$1,659,353.18
116187	2024-01-03	FIRE SPRINKLER INSPECTIONS, INC	Inv# 23-170	BPO FIRE SPRINKLER SERIVCE	\$2,375.00		
<b>Total for Check:</b>		116187				\$2,375.00	\$9,325.00
116188	2024-01-03	FISHER SCIENTIFIC CO.	Inv# 6533118	SUPPLIES	\$57.60		
116188	2024-01-03	FISHER SCIENTIFIC CO.	Inv# 6533118	Shipping	\$6.45		
116188	2024-01-03	FISHER SCIENTIFIC CO.	Inv# 6645494	SUPPLIES	\$91.35		
116188	2024-01-03	FISHER SCIENTIFIC CO.	Inv# 6645494	Shipping	\$7.70		
116188	2024-01-03	FISHER SCIENTIFIC CO.	Inv# 7919466	SUPPLIES	\$3,156.47		
116188	2024-01-03	FISHER SCIENTIFIC CO.	Inv# 7919466	SUPPLIES	\$30.15		
116188	2024-01-03	FISHER SCIENTIFIC CO.	Inv# 7919466	Shipping	\$8.20		

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Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
		<b>Total for Check:</b>	116188			\$3,357.92	\$138,267.98
116189	2024-01-03	FRONTIER COMMUNICATIONS	Inv# 714-965-1308_20231222	12/22/21-01/21/24	\$250.42		
		<b>Total for Check:</b>	116189			\$250.42	\$27,788.42
116190	2024-01-03	FRONTIER COMMUNICATIONS	Inv# 323-171-0001_20231226	12/26/23-01/25/24	\$555.00		
		<b>Total for Check:</b>	116190			\$555.00	\$27,788.42
116191	2024-01-03	GANAHL LUMBER COMPANY	Inv# 030739782	BPO LUMBER SUPPLIES	\$57.35		
		<b>Total for Check:</b>	116191			\$57.35	\$825.31
116192	2024-01-03	GRAINGER INC.	Inv# 9911653609		\$128.67		
116192	2024-01-03	GRAINGER INC.	Inv# 9911880624	BPO INDUSTRIAL SUPPLIES	\$107.30		
116192	2024-01-03	GRAINGER INC.	Inv# 9911932151	Water Heater for the Maintenanc	\$276.88		
116192	2024-01-03	GRAINGER INC.	Inv# 9914032512	BPO INDUSTRIAL SUPPLIES	\$191.96		
116192	2024-01-03	GRAINGER INC.	Inv# 9914108395	BPO INDUSTRIAL SUPPLIES	\$27.29		
		<b>Total for Check:</b>	116192			\$732.10	\$118,059.29
116193	2024-01-03	GREAT SCOTT TREE SERVICES, INC.	Inv# 51670	1519	\$5,363.00		
116193	2024-01-03	GREAT SCOTT TREE SERVICES, INC.	Inv# 51670	1519	\$5,316.00		
		<b>Total for Check:</b>	116193			\$10,679.00	\$31,345.00
116194	2024-01-03	HACH COMPANY	Inv# 13837300	SUPPLIES	\$1,294.13		
116194	2024-01-03	HACH COMPANY	Inv# 13837300	Handling	\$8.70		
		<b>Total for Check:</b>	116194			\$1,302.83	\$32,206.24
116195	2024-01-03	HOME DEPOT CREDIT SERVICES	Inv# 0510501	BPO INDUSTRIAL SUPPLIES	\$15.67		
116195	2024-01-03	HOME DEPOT CREDIT SERVICES	Inv# 3382610	BPO INDUSTRIAL SUPPLIES	\$334.96		
116195	2024-01-03	HOME DEPOT CREDIT SERVICES	Inv# 3510109	BPO INDUSTRIAL SUPPLIES	\$55.90		
116195	2024-01-03	HOME DEPOT CREDIT SERVICES	Inv# 8543123	BPO INDUSTRIAL SUPPLIES	\$258.00		
		<b>Total for Check:</b>	116195			\$664.53	\$17,857.84
116196	2024-01-03	HYDROTECH ZS CONSULTING	Inv# INV12915	FIELD EQUIPMENT SUPPLIES	\$1,950.00		
116196	2024-01-03	HYDROTECH ZS CONSULTING	Inv# INV12915	FIELD EQUIPMENT SUPPLIES	\$520.00		
116196	2024-01-03	HYDROTECH ZS CONSULTING	Inv# INV12915	FIELD EQUIPMENT SUPPLIES	\$520.00		
116196	2024-01-03	HYDROTECH ZS CONSULTING	Inv# INV12915	Shipping	\$312.00		
		<b>Total for Check:</b>	116196			\$3,302.00	\$3,302.00
116197	2024-01-03	Haney, Lisa	Inv# SEPT-DEC23 TRAVELS (3) travels	9/11, 11/28-30, 12/7-9	\$1,838.31		



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<b>Total for Check:</b>		116197				\$1,838.31	\$2,448.30
116198	2024-01-03	INNOVAPREP LLC	Inv# 18380		\$828.00		
116198	2024-01-03	INNOVAPREP LLC	Inv# 18380	UPS Ground	\$29.00		
<b>Total for Check:</b>		116198				\$857.00	\$4,730.97
116199	2024-01-03	INSIGHT PUBLIC SECTOR, INC	Inv# 1101118197	4 MS VS Prof 2022 User lics	\$1,332.64		
116199	2024-01-03	INSIGHT PUBLIC SECTOR, INC	Inv# 1101118556	Switches replacement	\$11,426.49		
116199	2024-01-03	INSIGHT PUBLIC SECTOR, INC	Inv# 1101118556	Switches replacement	\$323.12		
<b>Total for Check:</b>		116199				\$13,082.25	\$69,524.93
116200	2024-01-03	IRVINE PIPE & SUPPLY CO	Inv# S117090442.001	BPO PIPE SUPPLIES	\$81.80		
116200	2024-01-03	IRVINE PIPE & SUPPLY CO	Inv# S117090442.001	Discount	(\$1.50)		
<b>Total for Check:</b>		116200				\$80.30	\$54,808.81
116201	2024-01-03	JC MACHINE & MFG., CORP.	Inv# 17141	R&D supplies	\$902.63		
116201	2024-01-03	JC MACHINE & MFG., CORP.	Inv# 17141	R&D supplies	\$500.25		
<b>Total for Check:</b>		116201				\$1,402.88	\$1,402.88
116202	2024-01-03	JPMS LLC CASH MANAGEMENT	Inv# 445462-1	68427M / COMM PPR	\$1,056.74		
<b>Total for Check:</b>		116202				\$1,056.74	\$4,479.66
116203	2024-01-03	Kennedy, John C.	Inv# STIPENDS AND DEC 21 TRAVE	stipends, & 12/21	\$282.75		
<b>Total for Check:</b>		116203		travel		\$282.75	\$522.75
116204	2024-01-03	LHOIST NORTH AMERICA	Inv# 1102329777	1298	\$20,510.15		
116204	2024-01-03	LHOIST NORTH AMERICA	Inv# 1102329950	1298	\$20,571.36		
<b>Total for Check:</b>		116204				\$41,081.51	\$897,073.69
116205	2024-01-03	LIEBERT CASSIDY WHITMORE	Inv# 257085	Professional Law services	\$393.50		
<b>Total for Check:</b>		116205				\$393.50	\$12,224.00
116206	2024-01-03	LIFECOM	Inv# 2101848-IN	Air Cylinder Refill	\$40.00		
<b>Total for Check:</b>		116206				\$40.00	\$473.65
116207	2024-01-03	MCFADDEN-DALE HARDWARE CO.	Inv# 5339845	BPO INDUSTRIAL SUPPLIES	\$47.41		
116207	2024-01-03	MCFADDEN-DALE HARDWARE CO.	Inv# 5339845	Discount	(\$1.32)		
<b>Total for Check:</b>		116207				\$46.09	\$6,764.50
116208	2024-01-03	MICRO MOTION, INC.	Inv# 40768774	Generated by reorder 11/8/23	\$5,390.57		
116208	2024-01-03	MICRO MOTION, INC.	Inv# 40768774	Generated by reorder 11/8/23	\$2,542.30		
116208	2024-01-03	MICRO MOTION, INC.	Inv# 40768774	Frt&Handling	\$161.10		
116208	2024-01-03	MICRO MOTION, INC.	Inv# 40769165	Generated by reorder 11/2/23	\$7,469.82		

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116208	2024-01-03	MICRO MOTION, INC.	Inv# 40769165	Frt&Handling	\$18.42		
116208	2024-01-03	MICRO MOTION, INC.	Inv# 40769197	Generated by reorder 11/8/23	\$12,799.51		
116208	2024-01-03	MICRO MOTION, INC.	Inv# 40769197	Frt&Handling	\$191.87		
		<b>Total for Check:</b>	116208			<b>\$28,573.59</b>	<b>\$67,288.94</b>
116209	2024-01-03	OC BACKFLOW TESTING	Inv# 2023-1111	LAB plumbing repair	\$1,108.45		
		<b>Total for Check:</b>	116209			<b>\$1,108.45</b>	<b>\$13,270.95</b>
116211	2024-01-03	OLIN CHLOR ALKALI PRODUCTS	Inv# 900355147	CHEMICAL SUPPLY/DELIVERY	\$10,593.14		
116211	2024-01-03	OLIN CHLOR ALKALI PRODUCTS	Inv# 900355342	CHEMICAL SUPPLY/DELIVERY	\$10,653.46		
116211	2024-01-03	OLIN CHLOR ALKALI PRODUCTS	Inv# 900355343	CHEMICAL SUPPLY/DELIVERY	\$10,666.38		
116211	2024-01-03	OLIN CHLOR ALKALI PRODUCTS	Inv# 900355344	CHEMICAL SUPPLY/DELIVERY	\$10,614.68		
116211	2024-01-03	OLIN CHLOR ALKALI PRODUCTS	Inv# 900355752	CHEMICAL SUPPLY/DELIVERY	\$10,618.99		
116211	2024-01-03	OLIN CHLOR ALKALI PRODUCTS	Inv# 900355753	CHEMICAL SUPPLY/DELIVERY	\$10,575.91		
116211	2024-01-03	OLIN CHLOR ALKALI PRODUCTS	Inv# 900355754	CHEMICAL SUPPLY/DELIVERY	\$10,692.23		
116211	2024-01-03	OLIN CHLOR ALKALI PRODUCTS	Inv# 900355755	CHEMICAL SUPPLY/DELIVERY	\$10,662.07		
116211	2024-01-03	OLIN CHLOR ALKALI PRODUCTS	Inv# 900355756	CHEMICAL SUPPLY/DELIVERY	\$10,631.91		
116211	2024-01-03	OLIN CHLOR ALKALI PRODUCTS	Inv# 900355757	CHEMICAL SUPPLY/DELIVERY	\$10,537.14		
116211	2024-01-03	OLIN CHLOR ALKALI PRODUCTS	Inv# 900356429	CHEMICAL SUPPLY/DELIVERY	\$10,636.22		
116211	2024-01-03	OLIN CHLOR ALKALI PRODUCTS	Inv# 900356430	CHEMICAL SUPPLY/DELIVERY	\$10,597.45		
116211	2024-01-03	OLIN CHLOR ALKALI PRODUCTS	Inv# 900356580	CHEMICAL SUPPLY/DELIVERY	\$10,532.83		
116211	2024-01-03	OLIN CHLOR ALKALI PRODUCTS	Inv# 900356581	CHEMICAL SUPPLY/DELIVERY	\$10,640.53		
116211	2024-01-03	OLIN CHLOR ALKALI PRODUCTS	Inv# 900356904	CHEMICAL SUPPLY/DELIVERY	\$10,679.30		
116211	2024-01-03	OLIN CHLOR ALKALI PRODUCTS	Inv# 900357196	CHEMICAL SUPPLY/DELIVERY	\$10,558.68		
		<b>Total for Check:</b>	116211			<b>\$169,890.92</b>	<b>\$4,228,171.80</b>
116212	2024-01-03	ONESOURCE DISTRIBUTORS INC.	Inv# S7274127.002	B-Line Shallow 304 SS Slot Cha	\$1,310.57		
116212	2024-01-03	ONESOURCE DISTRIBUTORS INC.	Inv# S7364723.002	Generated by reorder 12/4/23	\$37.48		
116212	2024-01-03	ONESOURCE DISTRIBUTORS INC.	Inv# S7364723.002	Discount	(\$0.34)		
116212	2024-01-03	ONESOURCE DISTRIBUTORS INC.	Inv# S7274127.002	Discount	(\$12.05)		
		<b>Total for Check:</b>	116212			<b>\$1,335.66</b>	<b>\$69,232.87</b>
116213	2024-01-03	ORANGE COUNTY CONSERVATION CORPS	Inv# 12042023-OCWDADOPT	ADOPT A CHANNEL	\$2,798.33		
		<b>Total for Check:</b>	116213			<b>\$2,798.33</b>	<b>\$24,588.31</b>
116214	2024-01-03	ORANGE COUNTY TREASURER-TAX COLLECTOR	Inv# SAR PRCL E01-706.1	September2023	\$2,420.25		

# Orange County Water District

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Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
		<b>Total for Check:</b>	116214			\$2,420.25	\$16,941.75
116215	2024-01-03	ORR PROTECTION SYSTEMS	Inv# IN-0030081	FM-200 System Maintenance	\$520.00		
		<b>Total for Check:</b>	116215			\$520.00	\$3,550.00
116216	2024-01-03	Ochoa, Melissa	Inv# JUL23-JAN24 PHONE STIPEND stipends (6)	7/14/23-1/13/24	\$240.00		
		<b>Total for Check:</b>	116216			\$240.00	\$480.00
116217	2024-01-03	P.L HAWN COMPANY INC	Inv# 206365	27.5x54.5x2 HIA Metal Mesh Fil	\$6,924.77		
		<b>Total for Check:</b>	116217			\$6,924.77	\$6,924.77
116218	2024-01-03	PACIFIC OFFICE AUTOMATION	Inv# 896609	BPO KONICA SERVICE	\$138.16		
		<b>Total for Check:</b>	116218			\$138.16	\$1,741.90
116219	2024-01-03	PENDERGRAFT, REX	Inv# JANUARY 2024	Retiree Cash Medical	\$412.45		
		<b>Total for Check:</b>	116219			\$412.45	\$2,840.65
116220	2024-01-03	PHENOVA INC	Inv# 199697	SUPPLIES	\$783.00		
116220	2024-01-03	PHENOVA INC	Inv# 199697	Frt&Handling	\$39.10		
116220	2024-01-03	PHENOVA INC	Inv# 199869	SUPPLIES	\$880.88		
116220	2024-01-03	PHENOVA INC	Inv# 199869	FRT&Handling	\$22.41		
116220	2024-01-03	PHENOVA INC	Inv# 199934	SUPPLIES	\$94.72		
116220	2024-01-03	PHENOVA INC	Inv# 199934	FRT&Handling	\$39.10		
116220	2024-01-03	PHENOVA INC	Inv# 199940	SUPPLIES	\$97.88		
116220	2024-01-03	PHENOVA INC	Inv# 200117	SUPPLIES	\$435.00		
116220	2024-01-03	PHENOVA INC	Inv# 200117	FRT&Handling	\$39.10		
		<b>Total for Check:</b>	116220			\$2,431.19	\$4,455.48
116221	2024-01-03	PIKE, JAMES EDWIN	Inv# 305	Dec23 Prad Basin	\$2,234.00		
		<b>Total for Check:</b>	116221			\$2,234.00	\$32,064.00
116222	2024-01-03	PMC-STES INC	Inv# 115351	Pressure Level Transducer, MP-	\$1,928.00		
116222	2024-01-03	PMC-STES INC	Inv# 115351	Pressure Level Transducer, MP-	\$240.00		
116222	2024-01-03	PMC-STES INC	Inv# 115351	Pressure Level Transducer, MP-	\$190.00		
116222	2024-01-03	PMC-STES INC	Inv# 115351	UPS	\$37.10		
		<b>Total for Check:</b>	116222			\$2,395.10	\$7,165.28
116223	2024-01-03	QDOXS	Inv# IN56051	COPIER MAINTENANCE	\$409.53		
		<b>Total for Check:</b>	116223			\$409.53	\$2,837.55
116224	2024-01-03	QUADIENT LEASING USA, INC.	Inv# Q1093308	Replace PO 509256	\$1,096.38		
		<b>Total for Check:</b>	116224			\$1,096.38	\$3,289.14

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116225	2024-01-03	QUINN COMPANY	Inv# WO830106323	UNDERCARRIAGE FOR TL-39	\$61,808.68		
116225	2024-01-03	QUINN COMPANY	Inv# WO830106323		\$2,640.00		
116225	2024-01-03	QUINN COMPANY	Inv# WO830106323		(\$6,091.31)		
116225	2024-01-03	QUINN COMPANY	Inv# WO830106377	RT-46 TRANS OIL PUMP	\$2,233.96		
116225	2024-01-03	QUINN COMPANY	Inv# WO830106377	RT-46 TRANS OIL PUMP	\$2,121.70		
116225	2024-01-03	QUINN COMPANY	Inv# WO830106377	RT-46 TRANS OIL PUMP	\$1,080.00		
116225	2024-01-03	QUINN COMPANY	Inv# WO830106377	RT-46 TRANS OIL PUMP	\$125.00		
116225	2024-01-03	QUINN COMPANY	Inv# WO830106377		\$32.42		
<b>Total for Check:</b> 116225						<b>\$63,950.45</b>	<b>\$1,789,194.88</b>
116226	2024-01-03	RED WING SHOE CO. INC.	Inv# 789-1-55756	BPO WORK BOOTS	\$169.64		
116226	2024-01-03	RED WING SHOE CO. INC.	Inv# 789-1-55757	BPO WORK BOOTS	\$200.00		
116226	2024-01-03	RED WING SHOE CO. INC.	Inv# 855-1-37749	BPO WORK BOOTS	\$200.00		
<b>Total for Check:</b> 116226						<b>\$569.64</b>	<b>\$7,519.81</b>
116227	2024-01-03	RIGHT OF WAY INC	Inv# 67746	TRAFFIC CONTROL PLAN	\$1,680.00		
116227	2024-01-03	RIGHT OF WAY INC	Inv# 67746	TRAFFIC CONTROL PLAN	\$325.00		
116227	2024-01-03	RIGHT OF WAY INC	Inv# 67746	TRAFFIC CONTROL PLAN	\$65.00		
<b>Total for Check:</b> 116227						<b>\$2,070.00</b>	<b>\$2,070.00</b>
116228	2024-01-03	INTERSTATE BILLING SERVICE, INC.	Inv# CM3029099136		\$200.63		
<b>Total for Check:</b> 116228						<b>\$200.63</b>	<b>\$11,809.50</b>
116229	2024-01-03	SALCO DYNAMIC SOLUTIONS INC.	Inv# 104981	Generated by reorder 11/29/23	\$6,663.60		
116229	2024-01-03	SALCO DYNAMIC SOLUTIONS INC.	Inv# 104981	Envr Fee	\$54.25		
116229	2024-01-03	SALCO DYNAMIC SOLUTIONS INC.	Inv# 104981		\$54.11		
116229	2024-01-03	SALCO DYNAMIC SOLUTIONS INC.	Inv# 104981	Discount	(\$122.55)		
<b>Total for Check:</b> 116229						<b>\$6,649.41</b>	<b>\$23,233.26</b>
116230	2024-01-03	STATE OF CALIFORNIA	Inv# 12-ORA-057-0010-04		\$810.00		
<b>Total for Check:</b> 116230						<b>\$810.00</b>	<b>\$4,860.00</b>
116231	2024-01-03	SURF CITY OPTOMETRY	Inv# 110070	BPO FOR RX GLASSES	\$289.00		
<b>Total for Check:</b> 116231						<b>\$289.00</b>	<b>\$1,695.00</b>
116232	2024-01-03	TETRA TECH, INC.	Inv# 52159407	Thruu 10/27 PFAS wo#5A F.Kimbe	\$101,060.54		
116232	2024-01-03	TETRA TECH, INC.	Inv# 52159479	Thru 10/27 PFAS GSWC wo#6	\$6,843.35		
<b>Total for Check:</b> 116232						<b>\$107,903.89</b>	<b>\$637,723.34</b>
116233	2024-01-03	THE ROVISYS COMPANY	Inv# 89592	FHQ SCADA SOFTWARE	\$2,887.50		

# Orange County Water District

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		<b>Total for Check:</b>	116233			\$2,887.50	\$8,772.50
116234	2024-01-03	TOM'S TRUCK CENTER, INC	Inv# 1322820	BPO FORD PARTS	\$96.25		
116234	2024-01-03	TOM'S TRUCK CENTER, INC	Inv# 1322820	Freight	\$27.00		
116234	2024-01-03	TOM'S TRUCK CENTER, INC	Inv# 1323041	BPO FORD PARTS	\$587.26		
116234	2024-01-03	TOM'S TRUCK CENTER, INC	Inv# 1323041	Freight	\$27.00		
		<b>Total for Check:</b>	116234			\$737.51	\$26,989.90
116235	2024-01-03	U-LINE	Inv# 171731952	CARBON TREATMENT SUPPLIES	\$1,461.73		
116235	2024-01-03	U-LINE	Inv# 171731952	Freight	\$68.45		
116235	2024-01-03	U-LINE	Inv# 171731952	CARBON TREATMENT SUPPLIES	\$32.63		
		<b>Total for Check:</b>	116235			\$1,562.81	\$11,350.11
116236	2024-01-03	U.S. PEROXIDE / USP TECHNOLOGIES	Inv# CIN470015834	1524	\$11,935.50		
		<b>Total for Check:</b>	116236			\$11,935.50	\$295,646.15
116237	2024-01-03	UNIVAR SOLUTIONS USA	Inv# 51736800	12/27 672 gal s.bisulfite	\$1,381.21		
116237	2024-01-03	UNIVAR SOLUTIONS USA	Inv# 51736800	discount	(\$27.62)		
116237	2024-01-03	UNIVAR SOLUTIONS USA	Inv# 51739590	12/27 23.55 ton sulfuric acid	\$5,840.40		
116237	2024-01-03	UNIVAR SOLUTIONS USA	Inv# 51739590	discount	(\$116.81)		
116237	2024-01-03	UNIVAR SOLUTIONS USA	Inv# 51739592	12/27 22.20 ton sulfuric acid	\$5,505.60		
116237	2024-01-03	UNIVAR SOLUTIONS USA	Inv# 51739592	discount	(\$110.11)		
		<b>Total for Check:</b>	116237			\$12,472.67	\$421,211.63
116238	2024-01-03	UTILIQUEST LLC	Inv# 330123-Q	1295	\$1,015.18		
116238	2024-01-03	UTILIQUEST LLC	Inv# 330123-Q	1295	\$592.18		
116238	2024-01-03	UTILIQUEST LLC	Inv# 330123-Q	1295	\$72.58		
116238	2024-01-03	UTILIQUEST LLC	Inv# 330123-Q	1295	\$12.01		
		<b>Total for Check:</b>	116238			\$1,691.95	\$59,621.95
116239	2024-01-03	VALLEY CITIES/GONZALES FENCE INC.	Inv# 1493	1315	\$2,240.00		
		<b>Total for Check:</b>	116239			\$2,240.00	\$16,060.00
116240	2024-01-03	VANDERMOST CONSULTING SERVICES, INC.	Inv# 24001	1512	\$2,909.35		
		<b>Total for Check:</b>	116240			\$2,909.35	\$15,089.40
116241	2024-01-03	VWR INTERNATIONAL LLC	Inv# 8814745813		\$186.75		
		<b>Total for Check:</b>	116241			\$186.75	\$71,403.02

# Orange County Water District

## Check Register

**Begin Date:** 2023-12-28

**End Date:** 2024-01-03

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### Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
116242	2024-01-03	WASTE MANAGEMENT CORPORATE SERVICES INC	Inv# 1060616-4946-8	01/01/24-01/31/24	\$205.51		
<b>Total for Check:</b> 116242						\$205.51	\$1,441.65
116243	2024-01-03	WATER DISTRICT JOBS	Inv# 1142311	Senior Programmer/Analyst	\$145.00		
<b>Total for Check:</b> 116243						\$145.00	\$290.00
116244	2024-01-03	XEROX FINANCIAL SERVICES	Inv# 5118768	BOARD ADMINISTRATION	\$962.44		
116244	2024-01-03	XEROX FINANCIAL SERVICES	Inv# 5118768		\$90.53		
116244	2024-01-03	XEROX FINANCIAL SERVICES	Inv# 5118768		\$22.03		
<b>Total for Check:</b> 116244						\$1,075.00	\$8,328.41
116245	2024-01-03	YSI INCORPORATED	Inv# 1050808	SUPPLIES	\$5,199.00		
116245	2024-01-03	YSI INCORPORATED	Inv# 1050808		\$4,043.67		
116245	2024-01-03	YSI INCORPORATED	Inv# 1050808		\$1,155.33		
116245	2024-01-03	YSI INCORPORATED	Inv# 1050808		(\$5,199.00)		
<b>Total for Check:</b> 116245						\$5,199.00	\$18,837.10
116246	2024-01-03	Yoshiba, Gary	Inv# DECEMBER 2023 LICENSE license	12/27/23 geologist	\$180.00		
<b>Total for Check:</b> 116246						\$180.00	\$180.00
978286	2023-12-28	WELLS FARGO BANK	Inv# JANUARY 2, 2024 #6911	Jan.2,24 DPR#1 #6911	\$22,374.68		
<b>Total for Check:</b> 978286						\$22,374.68	\$12,289,459.45
978287	2024-01-02	FIDELITY INVESTMENTS	Inv# JANUARY 2, 2024 401A	Jan.2,24 DPR#1 401a	\$7,028.76		
<b>Total for Check:</b> 978287						\$7,028.76	\$953,372.28
978288	2024-01-02	FIDELITY INVESTMENTS	Inv# JANUARY 2, 2024 457B	Jan.2,24 DPR#01 457b	\$5,146.55		
<b>Total for Check:</b> 978288						\$5,146.55	\$372,979.63
978289	2024-01-03	U.S. BANK TRUST	Inv# COMM PPR TAX EXEMPT 01.03 CALLENDER	ATTN: ROSALYN	\$37,315.46		
<b>Total for Check:</b> 978289						\$37,315.46	\$14,901,309.78
978290	2024-01-03	U.S. BANK NA	Inv# COP 2003A INT 12.06-01.02 NGUYEN-DAO	ATTN: HONG	\$228,992.91		
<b>Total for Check:</b> 978290						\$228,992.91	\$33,509,577.18

**Run Date:** 1/3/2024

**\$1,498,093.34**

**\$1,498,093.34**

# Orange County Water District

## Check Register

Begin Date: 2024-01-04

End Date: 2024-01-10

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### Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
803799	2024-01-10	EWING IRRIGATION	Inv# 21250121	MATERIAL-SANTIAGO MITIGATION	\$2,538.95		
<b>Total for Check:</b> 803799						\$2,538.95	\$2,538.95
803800	2024-01-10	GOPHER PATROL	Inv# 11164747	PATROL	\$185.00		
<b>Total for Check:</b> 803800						\$185.00	\$4,260.00
803801	2024-01-10	IRON MOUNTAIN	Inv# 202819305	BPO ARCHIVAL SERVICES	\$154.89		
803801	2024-01-10	IRON MOUNTAIN	Inv# JCMK720	BPO ARCHIVAL SERVICES	\$4,713.44		
<b>Total for Check:</b> 803801						\$4,868.33	\$46,182.23
803802	2024-01-10	SIGMA-ALDRICH, INC.	Inv# 561627842	SUPPLIES	\$77.87		
803802	2024-01-10	SIGMA-ALDRICH, INC.	Inv# 561627842		\$7.76		
<b>Total for Check:</b> 803802						\$85.63	\$12,986.24
803803	2024-01-10	SPEX CERTIPREP, LLC	Inv# 489991	SUPPLIES	\$167.20		
803803	2024-01-10	SPEX CERTIPREP, LLC	Inv# 489991	SUPPLIES	\$57.60		
<b>Total for Check:</b> 803803						\$224.80	\$6,957.25
803804	2024-01-10	WECK LABORATORIES, INC.	Inv# W3L1090	BPO WATER ANALYSES	\$130.00		
<b>Total for Check:</b> 803804						\$130.00	\$13,159.25
803805	2024-01-10	WESTAIR GASES & EQUIPMENT	Inv# 0011754320	12/12 Lab-nitrogen	\$110.54		
803805	2024-01-10	WESTAIR GASES & EQUIPMENT	Inv# 0011754320	hazardous m, frt, surcharge	\$59.12		
<b>Total for Check:</b> 803805						\$169.66	\$59,477.61
<b>Run Date:</b> 1/9/2024					<b>\$8,202.37</b>	<b>\$8,202.37</b>	

# Orange County Water District

## Check Register

**Begin Date:** 2024-01-04

**End Date:** 2024-01-10

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### Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
116247	2024-01-08	MILE SQUARE GOLF COURSE	Inv# DEPOSIT HOLIDAY LUNCH2024 Deposit 2024	Holiday Lunch	\$4,250.00		
<b>Total for Check:</b> 116247						\$4,250.00	\$12,213.71
116248	2024-01-10	QUINN COMPANY	Inv# 26985101	65' Lift rental (used in Burri	\$1,253.51		
116248	2024-01-10	QUINN COMPANY	Inv# 26985101		\$328.75		
116248	2024-01-10	QUINN COMPANY	Inv# 26985101		\$121.19		
116248	2024-01-10	QUINN COMPANY	Inv# PC830417315	BPO EQUIPMENT & SUPPLIES	\$394.84		
116248	2024-01-10	QUINN COMPANY	Inv# PC830417367	BPO EQUIPMENT & SUPPLIES	\$567.09		
116248	2024-01-10	QUINN COMPANY	Inv# WO830106376	TL-36 Drive motors replacement	\$66,228.11		
116248	2024-01-10	QUINN COMPANY	Inv# WO830106376		\$39,101.09		
<b>Total for Check:</b> 116248						\$107,994.58	\$1,897,189.46
116249	2024-01-10	CALIFORNIA LOCKSMITH SECURITY SOLUTIONS	Inv# 25918	BPO RE-KEYING & REPAIRING LOCK	\$145.00		
<b>Total for Check:</b> 116249						\$145.00	\$523.92
116250	2024-01-10	ACCUSTANDARD, INC.	Inv# 995387	SUPPLIES	\$478.50		
116250	2024-01-10	ACCUSTANDARD, INC.	Inv# 995387		\$10.88		
<b>Total for Check:</b> 116250						\$489.38	\$9,573.35
116251	2024-01-10	ACWA/JPIA	Inv# 701555	Health Insurance Feb2024	\$466,760.02		
<b>Total for Check:</b> 116251						\$466,760.02	\$3,132,997.01
116252	2024-01-10	AGILENT TECHNOLOGIES, INC.	Inv# 126918777	SUPPLIES	\$268.83		
116252	2024-01-10	AGILENT TECHNOLOGIES, INC.	Inv# 126918777	SUPPLIES	\$143.16		
116252	2024-01-10	AGILENT TECHNOLOGIES, INC.	Inv# 126918777		\$8.70		
116252	2024-01-10	AGILENT TECHNOLOGIES, INC.	Inv# 126936837	SUPPLIES	\$823.62		
116252	2024-01-10	AGILENT TECHNOLOGIES, INC.	Inv# 126936837	SUPPLIES	\$71.19		
116252	2024-01-10	AGILENT TECHNOLOGIES, INC.	Inv# 126936837		\$8.70		
<b>Total for Check:</b> 116252						\$1,324.20	\$281,160.05
116253	2024-01-10	ALTERNATIVE HOSE, INC.	Inv# 6070263	BPO HOSES	\$20.00		
<b>Total for Check:</b> 116253						\$20.00	\$1,954.91
116254	2024-01-10	AMAZON CAPITAL SERVICES, INC	Inv# 11K3-J9H6-NVLM AWARDS	DISPLAYS STANDS FOR	\$17.39		
116254	2024-01-10	AMAZON CAPITAL SERVICES, INC	Inv# 11K3-J9H6-NVLM AWARDS	DISPLAYS STANDS FOR	\$14.13		
116254	2024-01-10	AMAZON CAPITAL SERVICES, INC	Inv# 11K3-J9H6-NVLM		\$7.61		
116254	2024-01-10	AMAZON CAPITAL SERVICES, INC	Inv# 11P1-NNTN-11WP	REPLACES BPO# 516808	\$24.99		



# Orange County Water District

## Check Register

**Begin Date:** 2024-01-04

**End Date:** 2024-01-10

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### Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
116254	2024-01-10	AMAZON CAPITAL SERVICES, INC	Inv# 167K-7JHG-TGRK	T-147 BRAKE CONTOR &	\$67.43		
			LAGON 30"				
116254	2024-01-10	AMAZON CAPITAL SERVICES, INC	Inv# 1FNG-P36C-MVMV		\$255.51		
116254	2024-01-10	AMAZON CAPITAL SERVICES, INC	Inv# 1X99-9JQD-P4WM	T-147 BRAKE CONTOR &	\$67.43		
			LAGON 30"				
		<b>Total for Check:</b>	116254			\$454.49	\$25,047.95
116255	2024-01-10	AMERICAN MEMBRANE TECHNOLOGY ASSOC.	Inv# 13778	MEMBERSHIP RENEWAL	\$525.00		
		<b>Total for Check:</b>	116255			\$525.00	\$525.00
116256	2024-01-10	ANAHEIM, CITY OF	Inv# 0110562000_20240102	11/16/23-12/15/23	\$4,972.82		
		<b>Total for Check:</b>	116256			\$4,972.82	\$190,813.35
116257	2024-01-10	ARAMARK UNIFORM SERVICES	Inv# 5880492370	949	\$39.51		
116257	2024-01-10	ARAMARK UNIFORM SERVICES	Inv# 5890320522	949	\$254.79		
116257	2024-01-10	ARAMARK UNIFORM SERVICES	Inv# 5890320522	949	\$16.45		
116257	2024-01-10	ARAMARK UNIFORM SERVICES	Inv# 5890321518	949	\$177.23		
116257	2024-01-10	ARAMARK UNIFORM SERVICES	Inv# 5890321518	949	\$29.55		
116257	2024-01-10	ARAMARK UNIFORM SERVICES	Inv# 5890321519	949	\$301.01		
116257	2024-01-10	ARAMARK UNIFORM SERVICES	Inv# 5890321520	949	\$6.08		
116257	2024-01-10	ARAMARK UNIFORM SERVICES	Inv# 5890321521	949	\$155.56		
116257	2024-01-10	ARAMARK UNIFORM SERVICES	Inv# 5890321519	949	\$4.77		
		<b>Total for Check:</b>	116257			\$984.95	\$30,120.83
116258	2024-01-10	BATTERY SYSTEMS	Inv# 28881211231622	Battery for T-126	\$143.24		
116258	2024-01-10	BATTERY SYSTEMS	Inv# 28881211231622		\$2.00		
		<b>Total for Check:</b>	116258			\$145.24	\$3,443.16
116259	2024-01-10	BLUESPACE INTERIORS	Inv# I-02182701	Generated by reorder 12/8/23	\$139.75		
116259	2024-01-10	BLUESPACE INTERIORS	Inv# I-02182701	Generated by reorder 12/8/23	\$133.65		
116259	2024-01-10	BLUESPACE INTERIORS	Inv# I-02182701	Fuel Surcharge	\$2.99		
		<b>Total for Check:</b>	116259			\$276.39	\$14,320.35
116260	2024-01-10	BPS SUPPLY GROUP	Inv# S3091311.001	Generated by reorder 12/8/23 1	\$255.81		
116260	2024-01-10	BPS SUPPLY GROUP	Inv# S3091311.001	Shipping	\$12.36		
116260	2024-01-10	BPS SUPPLY GROUP	Inv# S3091311.001	Handling	\$4.35		
116260	2024-01-10	BPS SUPPLY GROUP	Inv# S3091311.001	Discount	(\$4.70)		
116260	2024-01-10	BPS SUPPLY GROUP	Inv# S3094050.001	Generated by reorder 1/2/24	\$905.14		

# Orange County Water District

## Check Register

**Begin Date:** 2024-01-04

**End Date:** 2024-01-10

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### Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
116260	2024-01-10	BPS SUPPLY GROUP	Inv# S3094050.001	Shipping	\$12.36		
116260	2024-01-10	BPS SUPPLY GROUP	Inv# S3094050.001	Handling	\$4.35		
116260	2024-01-10	BPS SUPPLY GROUP	Inv# S3094050.001	Discount	(\$16.65)		
<b>Total for Check:</b> 116260						<b>\$1,173.02</b>	<b>\$14,920.86</b>
116261	2024-01-10	BRENNTAG PACIFIC INC.	Inv# BPI398847	12/29 21.74 ton citric acid	\$65,252.61		
116261	2024-01-10	BRENNTAG PACIFIC INC.	Inv# BPI398847	discount (rec'd inv on 1/3)	(\$1,305.05)		
<b>Total for Check:</b> 116261						<b>\$63,947.56</b>	<b>\$1,316,399.85</b>
116262	2024-01-10	CARL MARKHAM SIGNS	Inv# 22-377	SHIPPING & DELIVERY SIGN	\$538.31		
116262	2024-01-10	CARL MARKHAM SIGNS	Inv# 22-377	Shipping	\$75.00		
<b>Total for Check:</b> 116262						<b>\$613.31</b>	<b>\$613.31</b>
116263	2024-01-10	CDM SMITH, INC.	Inv# 90194353	11/12- 12/9 PFAS G.Grove #4	\$24,179.89		
<b>Total for Check:</b> 116263						<b>\$24,179.89</b>	<b>\$493,698.42</b>
116264	2024-01-10	CERIDIAN HCM, INC.	Inv# IN1090931	Dec23 payroll special service	\$3,530.00		
<b>Total for Check:</b> 116264						<b>\$3,530.00</b>	<b>\$52,622.29</b>
116265	2024-01-10	CITY OF ANAHEIM	Inv# EE003087	PFAS reimbursement #035	\$4,998,146.63		
<b>Total for Check:</b> 116265						<b>\$4,998,146.63</b>	<b>\$33,464,934.33</b>
116266	2024-01-10	COUNTY OF ORANGE	Inv# 156-101-06FINAL	OC Prop Tax 7/1-6/30/24 2nd	\$13,641.59		
116266	2024-01-10	COUNTY OF ORANGE	Inv# 253-451-07FINAL	OC Prop tax 7/1-6/30/24 2nd	\$739.77		
116266	2024-01-10	COUNTY OF ORANGE	Inv# 345-142-03FINAL	OC Prop Tax 7/1-6/30/24 2nd	\$347.57		
116266	2024-01-10	COUNTY OF ORANGE	Inv# 346-121-03FINAL	OC Prop Tax 7/1-6/30/24 2nd	\$3,321.63		
116266	2024-01-10	COUNTY OF ORANGE	Inv# 346-143-03FINAL	OC Prop Tax 7/1-6/30/24 2nd	\$261.27		
116266	2024-01-10	COUNTY OF ORANGE	Inv# 408-213-03FINAL	OC Prop Tax 7/1-6/30/24 2nd	\$28.55		
<b>Total for Check:</b> 116266						<b>\$18,340.38</b>	<b>\$36,680.76</b>
116267	2024-01-10	DELL MARKETING L.P.	Inv# 2009585451502	LAB USE	\$1,413.48		
116267	2024-01-10	DELL MARKETING L.P.	Inv# 2009585451502		\$211.18		
116267	2024-01-10	DELL MARKETING L.P.	Inv# 2009585451502	LAB USE	\$12.35		
<b>Total for Check:</b> 116267						<b>\$1,637.01</b>	<b>\$5,640.74</b>
116268	2024-01-10	ENVIRONMENTAL SCIENCE ASSOCIATES	Inv# 191480	Nov23 South Basin CEQA	\$2,293.31		
<b>Total for Check:</b> 116268						<b>\$2,293.31</b>	<b>\$30,955.26</b>
116269	2024-01-10	FACTORY MOTOR PARTS	Inv# 101-465488	BPO AUTO PARTS	\$27.67		
116269	2024-01-10	FACTORY MOTOR PARTS	Inv# 12-5678139	Generated by reorder 8/9/23 10	\$275.99		
116269	2024-01-10	FACTORY MOTOR PARTS	Inv# 12-5678139	Generated by reorder 8/9/23 10	\$271.05		

# Orange County Water District

## Check Register

**Begin Date:** 2024-01-04

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### Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
116269	2024-01-10	FACTORY MOTOR PARTS	Inv# 12-5678139	Generated by reorder 8/9/23 10	\$52.29		
116269	2024-01-10	FACTORY MOTOR PARTS	Inv# 12-5679437	BPO AUTO PARTS	\$375.32		
116269	2024-01-10	FACTORY MOTOR PARTS	Inv# 164-306815	BPO AUTO PARTS	\$27.67		
		<b>Total for Check:</b>	116269			\$1,029.99	\$8,988.28
116270	2024-01-10	FERGUSON WATERWORKS #1083	Inv# 0020460	Cover Gaskets for Crispin Air	\$480.24		
		<b>Total for Check:</b>	116270			\$480.24	\$2,800.30
116271	2024-01-10	FILMTEC CORP	Inv# 951405902	Replacement membranes	\$507,547.12		
116271	2024-01-10	FILMTEC CORP	Inv# 951405902	Replacement membranes	\$24,022.88		
116271	2024-01-10	FILMTEC CORP	Inv# 951405902	Energy Surcharge	\$15,027.07		
116271	2024-01-10	FILMTEC CORP	Inv# 951405902	Energy Surcharge	\$920.03		
		<b>Total for Check:</b>	116271			\$547,517.10	\$2,206,870.28
116272	2024-01-10	FIRELINE BROADBAND	Inv# 95167	INTERNET SERVICE FOR PRADO	\$825.00		
		<b>Total for Check:</b>	116272			\$825.00	\$5,775.00
116273	2024-01-10	FISHER SCIENTIFIC CO.	Inv# 8027282	SUPPLIES	\$77.92		
116273	2024-01-10	FISHER SCIENTIFIC CO.	Inv# 8027282	Shipping	\$8.20		
116273	2024-01-10	FISHER SCIENTIFIC CO.	Inv# 8062700	SUPPLIES	\$248.83		
116273	2024-01-10	FISHER SCIENTIFIC CO.	Inv# 8062700	Shipping	\$8.20		
		<b>Total for Check:</b>	116273			\$343.15	\$138,611.13
116274	2024-01-10	FRONTIER COMMUNICATIONS	Inv# 714-378-3200_20231228	12/28/23-01/27/24	\$2,506.91		
		<b>Total for Check:</b>	116274			\$2,506.91	\$30,295.33
116276	2024-01-10	GRAINGER INC.	Inv# 9916372288	BPO INDUSTRIAL SUPPLIES	\$56.01		
116276	2024-01-10	GRAINGER INC.	Inv# 9916706923	Credit Inv# 9914032512	(\$147.00)		
116276	2024-01-10	GRAINGER INC.	Inv# 9917825821		\$128.93		
116276	2024-01-10	GRAINGER INC.	Inv# 9917825821		\$72.37		
116276	2024-01-10	GRAINGER INC.	Inv# 9917930209	Generated by reorder 11/28/23	\$3,011.29		
116276	2024-01-10	GRAINGER INC.	Inv# 9917930209	Generated by reorder 11/28/23	\$871.35		
116276	2024-01-10	GRAINGER INC.	Inv# 9917930209	Generated by reorder 11/28/23	\$693.84		
116276	2024-01-10	GRAINGER INC.	Inv# 9917930209	Generated by reorder 11/28/23	\$399.65		
116276	2024-01-10	GRAINGER INC.	Inv# 9917930217	BPO INDUSTRIAL SUPPLIES	\$36.30		
116276	2024-01-10	GRAINGER INC.	Inv# 9918027484	BPO INDUSTRIAL SUPPLIES	\$30.51		
116276	2024-01-10	GRAINGER INC.	Inv# 9919239443	BPO INDUSTRIAL SUPPLIES	\$211.45		
116276	2024-01-10	GRAINGER INC.	Inv# 9919337593	BPO INDUSTRIAL SUPPLIES	\$158.80		

# Orange County Water District

## Check Register

**Begin Date:** 2024-01-04

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### Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
116276	2024-01-10	GRAINGER INC.	Inv# 9921670809	BPO INDUSTRIAL SUPPLIES	\$259.76		
<b>Total for Check:</b> 116276						\$5,783.26	\$123,842.55
116277	2024-01-10	GRAYBAR ELECTRIC COMPANY, INC.	Inv# 9335462059	Phoenix AI Controller For I-We	\$1,414.26		
116277	2024-01-10	GRAYBAR ELECTRIC COMPANY, INC.	Inv# 9335462059	Freight	\$13.86		
116277	2024-01-10	GRAYBAR ELECTRIC COMPANY, INC.	Inv# 9335462059	Handling	\$5.44		
116277	2024-01-10	GRAYBAR ELECTRIC COMPANY, INC.	Inv# 9335462059	Discount	(\$13.00)		
<b>Total for Check:</b> 116277						\$1,420.56	\$14,093.61
116278	2024-01-10	GREAT SCOTT TREE SERVICES, INC.	Inv# 51727	1519	\$15,331.00		
<b>Total for Check:</b> 116278						\$15,331.00	\$46,676.00
116279	2024-01-10	GREEN THUMB, LLC	Inv# 20240076	BPO PLANT SERVICE	\$291.56		
116279	2024-01-10	GREEN THUMB, LLC	Inv# 20240076	BPO PLANT SERVICE	\$102.44		
<b>Total for Check:</b> 116279						\$394.00	\$3,011.91
116280	2024-01-10	HACH COMPANY	Inv# 13849924	SUPPLIES	\$4,495.88		
116280	2024-01-10	HACH COMPANY	Inv# 13849924	SUPPLIES	\$232.07		
116280	2024-01-10	HACH COMPANY	Inv# 13849924	Freight	\$54.37		
116280	2024-01-10	HACH COMPANY	Inv# 13851723	SUPPLIES	\$124.80		
116280	2024-01-10	HACH COMPANY	Inv# 13851723	Handling Fee	\$8.71		
<b>Total for Check:</b> 116280						\$4,915.83	\$37,122.07
116281	2024-01-10	HALDEMAN INC.	Inv# 3004074	Loren Cook Exhaust Fan for Pro	\$7,971.38		
<b>Total for Check:</b> 116281						\$7,971.38	\$12,121.72
116282	2024-01-10	HAZEN AND SAWYER	Inv# 0000001	Sept-Oct23 Sunset GAP FS	\$20,930.84		
<b>Total for Check:</b> 116282						\$20,930.84	\$20,930.84
116283	2024-01-10	HOME DEPOT CREDIT SERVICES	Inv# 1510264	BPO INDUSTRIAL SUPPLIES	\$230.78		
<b>Total for Check:</b> 116283						\$230.78	\$18,088.62
116284	2024-01-10	INTEGRATED POWER SERVICES LLC	Inv# 31698	Cooler Coil Assemblies - RO Pu	\$24,129.45		
116284	2024-01-10	INTEGRATED POWER SERVICES LLC	Inv# 31698	Cooler Coil Assemblies - RO Pu	\$24,129.45		
<b>Total for Check:</b> 116284						\$48,258.90	\$120,256.23

# Orange County Water District

## Check Register

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### Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
116285	2024-01-10	KENNEDY/JENKS CONSULTANTS, INC.	Inv# 168151	Thru 11/24 PFAS Orange wo#2	\$12,785.00		
		<b>Total for Check:</b>	116285			\$12,785.00	\$123,216.25
116286	2024-01-10	LHOIST NORTH AMERICA	Inv# 1102330353	12/12 (2)lime 24.78,24.95 tons	\$20,289.83		
		<b>Total for Check:</b>	116286			\$20,289.83	\$917,363.52
116287	2024-01-10	LILLESTRAND LEADERSHIP CONSULTING	Inv# 7926	12/11 & 12/13 leadership consu	\$1,093.75		
		<b>Total for Check:</b>	116287			\$1,093.75	\$19,303.74
116288	2024-01-10	M.B. HERZOG ELECTRIC INC.	Inv# 5492	OCWD PIPELINE SINGLE-MODE FIBE	\$6,147.00		
		<b>Total for Check:</b>	116288			\$6,147.00	\$6,632.00
116289	2024-01-10	MAGNOLIA BIRD FARMS	Inv# 34854	BPO BIRD SEEDS & SUPPLIES	\$636.19		
		<b>Total for Check:</b>	116289			\$636.19	\$2,222.58
116290	2024-01-10	MARCO TRANSPORT, INC	Inv# 285051	Transport TL-47 Anaheim to Pra	\$700.00		
		<b>Total for Check:</b>	116290			\$700.00	\$700.00
116291	2024-01-10	MCFADDEN-DALE HARDWARE CO.	Inv# 5342105	BPO INDUSTRIAL SUPPLIES	\$24.11		
116291	2024-01-10	MCFADDEN-DALE HARDWARE CO.	Inv# 5342105	Discount	(\$0.67)		
116291	2024-01-10	MCFADDEN-DALE HARDWARE CO.	Inv# 5343545	BPO INDUSTRIAL SUPPLIES	\$14.22		
116291	2024-01-10	MCFADDEN-DALE HARDWARE CO.	Inv# 5343545	Discount	(\$0.40)		
116291	2024-01-10	MCFADDEN-DALE HARDWARE CO.	Inv# 6178011	BPO INDUSTRIAL SUPPLIES	\$27.48		
116291	2024-01-10	MCFADDEN-DALE HARDWARE CO.	Inv# 6178011	Discount	(\$0.76)		
		<b>Total for Check:</b>	116291			\$63.98	\$6,828.48
116292	2024-01-10	MICRO MOTION, INC.	Inv# 40768939	Generated by reorder 11/8/23	\$2,463.50		
116292	2024-01-10	MICRO MOTION, INC.	Inv# 40768939	Frt&handling	\$6.15		
		<b>Total for Check:</b>	116292			\$2,469.65	\$69,758.59
116293	2024-01-10	MUNICIPAL WATER DISTRICT OF OC	Inv# L.HANEY MWDOC REGISTRATIO	Haney 1/31	\$130.00		
		<b>Total for Check:</b>	116293	Costa Mesa MWDOC		\$130.00	\$1,882,610.30
116294	2024-01-10	MUNICIPAL WATER DISTRICT OF OC	Inv# 11333	Nov23 water purchase	\$156,733.96		
		<b>Total for Check:</b>	116294			\$156,733.96	\$1,882,610.30
116295	2024-01-10	MYTHICS	Inv# 193654	Renew Oracle CSI# 20538660	\$904.79		
		<b>Total for Check:</b>	116295			\$904.79	\$9,569.06
116296	2024-01-10	NAPA/ORANGE COUNTY AUTO PARTS	Inv# 694128	BPO AUTO PARTS	\$23.37		

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Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
116296	2024-01-10	NAPA/ORANGE COUNTY AUTO PARTS	Inv# 694128	Discount	(\$0.47)		
<b>Total for Check:</b> 116296						\$22.90	\$2,808.95
116297	2024-01-10	NIXON EGLI EQUIPMENT COMPANY INC	Inv# W16895	RO: T-169 CRANE TRUCK ADD MONE	\$2,908.20		
116297	2024-01-10	NIXON EGLI EQUIPMENT COMPANY INC	Inv# W16895	RO: T-169 CRANE TRUCK ADD MONE	\$2,895.00		
116297	2024-01-10	NIXON EGLI EQUIPMENT COMPANY INC	Inv# W16895	RO: T-169 CRANE TRUCK ADD MONE	\$660.00		
116297	2024-01-10	NIXON EGLI EQUIPMENT COMPANY INC	Inv# W16895	RO: T-169 CRANE TRUCK ADD MONE	\$617.13		
116297	2024-01-10	NIXON EGLI EQUIPMENT COMPANY INC	Inv# W16895	RO: T-169 CRANE TRUCK ADD MONE	\$502.40		
116297	2024-01-10	NIXON EGLI EQUIPMENT COMPANY INC	Inv# W16895	RO: T-169 CRANE TRUCK ADD MONE	\$388.59		
116297	2024-01-10	NIXON EGLI EQUIPMENT COMPANY INC	Inv# W16895	RO: T-169 CRANE TRUCK ADD MONE	\$320.57		
116297	2024-01-10	NIXON EGLI EQUIPMENT COMPANY INC	Inv# W16895	RO: T-169 CRANE TRUCK ADD MONE	\$30.00		
116297	2024-01-10	NIXON EGLI EQUIPMENT COMPANY INC	Inv# W16895	RO: T-169 CRANE TRUCK ADD MONE	\$0.01		
<b>Total for Check:</b> 116297						\$8,321.90	\$8,321.90
116298	2024-01-10	ODP BUSINESS SOLUTIONS LLC	Inv# 331037015001	Copy room supplies	\$69.57		
116298	2024-01-10	ODP BUSINESS SOLUTIONS LLC	Inv# 331037015001	Copy room supplies	\$68.49		
116298	2024-01-10	ODP BUSINESS SOLUTIONS LLC	Inv# 331037015001	Copy room supplies	\$66.32		
116298	2024-01-10	ODP BUSINESS SOLUTIONS LLC	Inv# 331037033001	Copy room supplies	\$76.10		
116298	2024-01-10	ODP BUSINESS SOLUTIONS LLC	Inv# 332843663001	SUPPLIES	\$129.90		
116298	2024-01-10	ODP BUSINESS SOLUTIONS LLC	Inv# 334841542001	SUPPLIES	\$14.92		
116298	2024-01-10	ODP BUSINESS SOLUTIONS LLC	Inv# 334863428001	SUPPLIES	\$13.04		
116298	2024-01-10	ODP BUSINESS SOLUTIONS LLC	Inv# 346333519001	SUPPLIES	\$203.97		
<b>Total for Check:</b> 116298						\$642.31	\$3,076.89
116300	2024-01-10	OLIN CHLOR ALKALI PRODUCTS	Inv# 900357970	CHEMICAL SUPPLY/DELIVERY	\$10,730.99		
116300	2024-01-10	OLIN CHLOR ALKALI PRODUCTS	Inv# 900357971	CHEMICAL SUPPLY/DELIVERY	\$10,670.69		
116300	2024-01-10	OLIN CHLOR ALKALI PRODUCTS	Inv# 900357972	CHEMICAL SUPPLY/DELIVERY	\$10,735.31		
116300	2024-01-10	OLIN CHLOR ALKALI PRODUCTS	Inv# 900357973	CHEMICAL SUPPLY/DELIVERY	\$10,649.14		

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116300	2024-01-10	OLIN CHLOR ALKALI PRODUCTS	Inv# 900358243	12/12 4928 gal s.hypochlorite	\$10,614.68		
116300	2024-01-10	OLIN CHLOR ALKALI PRODUCTS	Inv# 900358455	12/12 4932 gal s.hypochlorite	\$10,623.30		
116300	2024-01-10	OLIN CHLOR ALKALI PRODUCTS	Inv# 900358456	12/22 4926 gal s.hypochlorite	\$10,610.37		
116300	2024-01-10	OLIN CHLOR ALKALI PRODUCTS	Inv# 900358457	12/12 4932 gal s.hypochlorite	\$10,623.30		
116300	2024-01-10	OLIN CHLOR ALKALI PRODUCTS	Inv# 900359224	12/14 4958 gal s.hypochlorite	\$10,679.30		
116300	2024-01-10	OLIN CHLOR ALKALI PRODUCTS	Inv# 900359405	12/14 4926 gal s.hypochlorite	\$10,610.37		
116300	2024-01-10	OLIN CHLOR ALKALI PRODUCTS	Inv# 900359406	12/14 4948 gal s.hypochlorite	\$10,657.76		
116300	2024-01-10	OLIN CHLOR ALKALI PRODUCTS	Inv# 900359407	12/14 4928 gal s.hypochlorite	\$10,614.68		
116300	2024-01-10	OLIN CHLOR ALKALI PRODUCTS	Inv# 900359850	12/15 4938 gal s.hypochlorite	\$10,636.22		
116300	2024-01-10	OLIN CHLOR ALKALI PRODUCTS	Inv# 900359851	12/15 4926 gal s.hypochlorite	\$10,610.37		
<b>Total for Check: 116300</b>						<b>\$149,066.48</b>	<b>\$4,377,238.28</b>
116301	2024-01-10	ONESOURCE DISTRIBUTORS INC.	Inv# S7350304.001	Rockwell TechConnect Support A	\$17,508.75		
116301	2024-01-10	ONESOURCE DISTRIBUTORS INC.	Inv# S7350304.001	Rockwell TechConnect Support A	\$1,150.00		
116301	2024-01-10	ONESOURCE DISTRIBUTORS INC.	Inv# S7350304.001	Rockwell TechConnect Support A	\$1,120.00		
116301	2024-01-10	ONESOURCE DISTRIBUTORS INC.	Inv# S7350304.001	Rockwell TechConnect Support A	\$995.00		
116301	2024-01-10	ONESOURCE DISTRIBUTORS INC.	Inv# S7350304.001	Rockwell TechConnect Support A	\$433.00		
116301	2024-01-10	ONESOURCE DISTRIBUTORS INC.	Inv# S7350304.001	Discount	(\$197.98)		
116301	2024-01-10	ONESOURCE DISTRIBUTORS INC.	Inv# S7357287.003	AB Terminal Strip	\$32.63		
116301	2024-01-10	ONESOURCE DISTRIBUTORS INC.	Inv# S7357287.003		(\$0.30)		
<b>Total for Check: 116301</b>						<b>\$21,041.10</b>	<b>\$90,273.97</b>
116302	2024-01-10	PHENOMENEX INC.	Inv# CIUS-23078604	SUPPLIES	\$918.50		
116302	2024-01-10	PHENOMENEX INC.	Inv# CIUS-23078604	Discount	(\$16.89)		
116302	2024-01-10	PHENOMENEX INC.	Inv# CIUS-23079845	SUPPLIES	\$973.31		
116302	2024-01-10	PHENOMENEX INC.	Inv# CIUS-23079845	Handling	\$16.30		
116302	2024-01-10	PHENOMENEX INC.	Inv# CIUS-23079845	Discount	(\$18.20)		
116302	2024-01-10	PHENOMENEX INC.	Inv# CIUS-24001194	SUPPLIES	\$1,043.96		
116302	2024-01-10	PHENOMENEX INC.	Inv# CIUS-24001194	Shipping	\$34.07		
116302	2024-01-10	PHENOMENEX INC.	Inv# CIUS-24001194	Discount	(\$19.88)		
<b>Total for Check: 116302</b>						<b>\$2,931.17</b>	<b>\$64,722.73</b>
116304	2024-01-10	PHENOVA INC	Inv# 192633	SUPPLIES	\$325.16		
116304	2024-01-10	PHENOVA INC	Inv# 192633	Freight	\$66.48		
116304	2024-01-10	PHENOVA INC	Inv# 192633	Handling	\$8.70		

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Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
116304	2024-01-10	PHENOVA INC	Inv# 192977	SUPPLIES	\$391.50		
116304	2024-01-10	PHENOVA INC	Inv# 192977	Fr&Handling	\$39.10		
116304	2024-01-10	PHENOVA INC	Inv# 193685	SUPPLIES	\$163.13		
116304	2024-01-10	PHENOVA INC	Inv# 194458	SUPPLIES	\$489.38		
116304	2024-01-10	PHENOVA INC	Inv# 194458	FRT&Handling	\$39.10		
116304	2024-01-10	PHENOVA INC	Inv# 197247	SUPPLIES	\$217.50		
116304	2024-01-10	PHENOVA INC	Inv# 197247	Fr&Handling	\$41.90		
116304	2024-01-10	PHENOVA INC	Inv# 200261	SUPPLIES	\$1,033.13		
116304	2024-01-10	PHENOVA INC	Inv# 200261	FRT&Handling	\$39.10		
116304	2024-01-10	PHENOVA INC	Inv# 200379	Fr&Handling	\$39.10		
116304	2024-01-10	PHENOVA INC	Inv# 200379	SUPPLIES	\$94.72		
		<b>Total for Check:</b>	116304			\$2,988.00	\$7,443.48
116305	2024-01-10	Parmar, Prem	Inv# JUL23-JAN24 STIPENDS stipends (6)	7/29-23-1/28/24	\$240.00		
		<b>Total for Check:</b>	116305			\$240.00	\$2,209.02
116306	2024-01-10	Plumlee, Megan	Inv# MAY-DEC23 PHONE STIPENDS phone stipend(7)	5/28-12/27/23	\$172.91		
		<b>Total for Check:</b>	116306			\$172.91	\$4,035.54
116307	2024-01-10	RAINBOW DISPOSAL CO INC	Inv# 0605-001048828	BPO TRASH SERVICE	\$6,604.86		
		<b>Total for Check:</b>	116307			\$6,604.86	\$43,790.13
116308	2024-01-10	RED WING SHOE CO. INC.	Inv# 3-1-131930	BPO WORK BOOTS	\$200.00		
116308	2024-01-10	RED WING SHOE CO. INC.	Inv# 789-1-55908	BPO WORK BOOTS	\$200.00		
116308	2024-01-10	RED WING SHOE CO. INC.	Inv# 855-1-38013	BPO WORK BOOTS	\$200.00		
		<b>Total for Check:</b>	116308			\$600.00	\$8,119.81
116309	2024-01-10	RESTEK CORPORATION	Inv# CD50410486	SAMPLE ANALYSIS	\$505.69		
116309	2024-01-10	RESTEK CORPORATION	Inv# CD50410486	Discount	(\$10.11)		
		<b>Total for Check:</b>	116309			\$495.58	\$6,846.66
116310	2024-01-10	ROYAL WHOLESALE ELECTRIC	Inv# 7693-1012464	Emergency Light Fixture CPL LT	\$2,001.00		
116310	2024-01-10	ROYAL WHOLESALE ELECTRIC	Inv# 7693-1012464	Shipping	\$17.70		
116310	2024-01-10	ROYAL WHOLESALE ELECTRIC	Inv# 7693-1012620	Generated by reorder 12/7/23 7	\$80.48		
116310	2024-01-10	ROYAL WHOLESALE ELECTRIC	Inv# 7693-1012620	Shipping	\$16.78		
		<b>Total for Check:</b>	116310			\$2,115.96	\$5,513.89
116312	2024-01-10	SC FUELS	Inv# 0809945	BPO UNLEADED FUEL FOR VEHICLES	\$3,010.37		



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116312	2024-01-10	SC FUELS	Inv# 0809945	BPO UNLEADED FUEL FOR VEHICLES	\$583.01		
116312	2024-01-10	SC FUELS	Inv# 0809945	BPO UNLEADED FUEL FOR VEHICLES	\$388.43		
116312	2024-01-10	SC FUELS	Inv# 0809945	BPO UNLEADED FUEL FOR VEHICLES	\$341.60		
116312	2024-01-10	SC FUELS	Inv# 0809945	BPO UNLEADED FUEL FOR VEHICLES	\$307.39		
116312	2024-01-10	SC FUELS	Inv# 0809945	BPO UNLEADED FUEL FOR VEHICLES	\$303.59		
116312	2024-01-10	SC FUELS	Inv# 0809945	BPO UNLEADED FUEL FOR VEHICLES	\$246.19		
116312	2024-01-10	SC FUELS	Inv# 0809945	BPO UNLEADED FUEL FOR VEHICLES	\$201.18		
116312	2024-01-10	SC FUELS	Inv# 0809945	BPO UNLEADED FUEL FOR VEHICLES	\$191.31		
116312	2024-01-10	SC FUELS	Inv# 0809945	BPO UNLEADED FUEL FOR VEHICLES	\$61.54		
116312	2024-01-10	SC FUELS	Inv# 0809945	BPO UNLEADED FUEL FOR VEHICLES	\$53.07		
116312	2024-01-10	SC FUELS	Inv# 0809945	BPO UNLEADED FUEL FOR VEHICLES	\$52.92		
116312	2024-01-10	SC FUELS	Inv# 0809945	BPO UNLEADED FUEL FOR VEHICLES	\$33.43		
116312	2024-01-10	SC FUELS	Inv# 0809945	BPO UNLEADED FUEL FOR VEHICLES	\$0.35		
		<b>Total for Check:</b>	116312			\$5,774.38	\$62,929.18
116313	2024-01-10	SMART & FINAL	Inv# 4180050018801	Invoices	\$54.06		
		<b>Total for Check:</b>	116313			\$54.06	\$888.79
116314	2024-01-10	SOLTIS AND COMPANY, INC.	Inv# 7971	1258	\$3,000.00		
		<b>Total for Check:</b>	116314			\$3,000.00	\$59,450.52
116315	2024-01-10	SOUTHERN CALIFORNIA EDISON CO.	Inv# 700145466803	JAN24	\$736,604.23		
116315	2024-01-10	SOUTHERN CALIFORNIA EDISON CO.	Inv# 700306425771	JAN24	\$81,210.47		
116315	2024-01-10	SOUTHERN CALIFORNIA EDISON CO.	Inv# 700546365072	JAN24	\$14,599.44		
		<b>Total for Check:</b>	116315			\$832,414.14	\$6,238,174.31
116316	2024-01-10	SPARKLETTS DS WATER OF AMERICA LP	Inv# 6144555	122223 BPO WATER DELIVERY	\$37.97		
116316	2024-01-10	SPARKLETTS DS WATER OF AMERICA LP	Inv# 6144555	122223 BPO WATER DELIVERY	\$9.00		
		<b>Total for Check:</b>	116316			\$46.97	\$4,137.98
116317	2024-01-10	STAPLES ADVANTAGE	Inv# 3554646339	Office Supplies	\$73.70		
116317	2024-01-10	STAPLES ADVANTAGE	Inv# 3554646339	Office Supplies	\$52.13		
116317	2024-01-10	STAPLES ADVANTAGE	Inv# 3554713812*	Office Supplies	\$38.04		
116317	2024-01-10	STAPLES ADVANTAGE	Inv# 3554713813	Generated by reorder 12/7/23 1	\$312.68		

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116317	2024-01-10	STAPLES ADVANTAGE	Inv# 3554713813	Generated by reorder 12/7/23 1	\$283.05		
116317	2024-01-10	STAPLES ADVANTAGE	Inv# 3554713813	Generated by reorder 12/7/23 1	\$260.74		
116317	2024-01-10	STAPLES ADVANTAGE	Inv# 3554713813	Generated by reorder 12/7/23 1	\$90.89		
116317	2024-01-10	STAPLES ADVANTAGE	Inv# 3554713813	Generated by reorder 12/7/23 1	\$77.90		
116317	2024-01-10	STAPLES ADVANTAGE	Inv# 3554713813	Generated by reorder 12/7/23 1	\$36.41		
<b>Total for Check:</b> 116317						\$1,225.54	\$17,384.00
116318	2024-01-10	STATE WATER RESOURCES CONTROL BOARD	Inv# WD-0262899	07.01.23-06.30.24	\$399.00		
116318	2024-01-10	STATE WATER RESOURCES CONTROL BOARD	Inv# WD-0262951	07.01.23-06.30.24	\$399.00		
<b>Total for Check:</b> 116318						\$798.00	\$55,607.44
116319	2024-01-10	SUPERIOR SWEEPING LTD.	Inv# 377-1223	BPO STREET SWEEPING	\$495.00		
<b>Total for Check:</b> 116319						\$495.00	\$3,465.00
116320	2024-01-10	TOM'S TRUCK CENTER, INC	Inv# 1322381	BPO FORD PARTS	\$367.74		
<b>Total for Check:</b> 116320						\$367.74	\$27,357.64
116321	2024-01-10	TROJAN TECHNOLOGIES, INC.	Inv# 200 / 18809	Generated by reorder 11/14/23	\$32,625.00		
116321	2024-01-10	TROJAN TECHNOLOGIES, INC.	Inv# 200 / 18809	Freight	\$492.69		
<b>Total for Check:</b> 116321						\$33,117.69	\$731,619.60
116322	2024-01-10	TROPICAL PLAZA NURSERY, INC.	Inv# 2275	MULCH APPLICATION AT LA JOLLA	\$640.00		
116322	2024-01-10	TROPICAL PLAZA NURSERY, INC.	Inv# 2275	MULCH APPLICATION AT LA JOLLA	\$384.00		
116322	2024-01-10	TROPICAL PLAZA NURSERY, INC.	Inv# 2275	MULCH APPLICATION AT LA JOLLA	\$304.00		
<b>Total for Check:</b> 116322						\$1,328.00	\$61,128.51
116323	2024-01-10	U-LINE	Inv# 171971908	U-Line 3M DBI-SALA ExoFit Safe	\$423.04		
116323	2024-01-10	U-LINE	Inv# 171971908	Freight	\$1.63		
<b>Total for Check:</b> 116323						\$424.67	\$11,774.78
116324	2024-01-10	U.S. BANK	Inv# 14058448	11.01.23-11.30.23	\$1,261.67		
<b>Total for Check:</b> 116324						\$1,261.67	\$34,805.29
116325	2024-01-10	U.S. PEROXIDE / USP TECHNOLOGIES	Inv# CIN470015909	12/4 21.90 ton H.Peroxide	\$11,935.50		
116325	2024-01-10	U.S. PEROXIDE / USP TECHNOLOGIES	Inv# CIN470015910	12/11 21.86 ton H.peroxide	\$11,913.70		
116325	2024-01-10	U.S. PEROXIDE / USP TECHNOLOGIES	Inv# CIN470015951	12/13 21.88 ton H.peroxide	\$11,924.60		
<b>Total for Check:</b> 116325						\$35,773.80	\$331,419.95

# Orange County Water District

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**End Date:** 2024-01-10

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### Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
116326	2024-01-10	UNITED PARCEL SERVICE	Inv# 0000X81601014 01/06/24		\$157.79		
		<b>Total for Check:</b>	116326			\$157.79	\$3,279.50
116327	2024-01-10	UNITED WATER WORKS INC	Inv# S100123159.001		\$1,997.73		
		<b>Total for Check:</b>	116327			\$1,997.73	\$1,997.73
116328	2024-01-10	UTILIQUEST LLC	Inv# 330278-Q	12/3-9 screen/mark pipes	\$1,131.61		
116328	2024-01-10	UTILIQUEST LLC	Inv# 330278-Q	12/3-9 screen/mark pipes	\$660.10		
116328	2024-01-10	UTILIQUEST LLC	Inv# 330278-Q	12/3-9 screen/mark pipes	\$80.91		
116328	2024-01-10	UTILIQUEST LLC	Inv# 330278-Q	12/3-9 screen/mark pipes	\$13.38		
		<b>Total for Check:</b>	116328			\$1,886.00	\$61,507.95
116329	2024-01-10	VEOLIA WTS SERVICES USA INC	Inv# 902463848	BPO DI WATER SERVICE	\$548.10		
		<b>Total for Check:</b>	116329			\$548.10	\$147,861.22
116330	2024-01-10	VWR INTERNATIONAL LLC	Inv# 8814801324	SUPPLIES	\$51.49		
116330	2024-01-10	VWR INTERNATIONAL LLC	Inv# 8814813855	lab supplies	\$180.68		
116330	2024-01-10	VWR INTERNATIONAL LLC	Inv# 8814813855	lab supplies	\$145.14		
116330	2024-01-10	VWR INTERNATIONAL LLC	Inv# 8814820964	lab supplies	\$300.97		
116330	2024-01-10	VWR INTERNATIONAL LLC	Inv# 8814833261		\$47.56		
		<b>Total for Check:</b>	116330			\$725.84	\$72,128.86
116331	2024-01-10	W. A. RASIC CONSTRUCTION COMPANY, INC.	Inv# 344784	11/1-20 wo#6 Costa Mesa	\$17,444.29		
		<b>Total for Check:</b>	116331			\$17,444.29	\$83,977.78
116332	2024-01-10	YSI INCORPORATED	Inv# 1052507	(R23018) IQ pipe flowmeter rep	\$10,344.00		
116332	2024-01-10	YSI INCORPORATED	Inv# 1052507	(R23018) IQ pipe flowmeter rep	\$1,885.63		
116332	2024-01-10	YSI INCORPORATED	Inv# 1052507	(R23018) IQ pipe flowmeter rep	\$1,670.13		
116332	2024-01-10	YSI INCORPORATED	Inv# 1052507	Shipping	\$40.00		
		<b>Total for Check:</b>	116332			\$13,939.76	\$32,776.86
978291	2024-01-09	WELLS FARGO BANK	Inv# JANUARY 10, 23 #6527	Jan.10,24 PR#01 #6527	\$42,335.21		
		<b>Total for Check:</b>	978291			\$42,335.21	\$13,248,563.53
978292	2024-01-09	WELLS FARGO BANK	Inv# JANUARY 10, 23 #6911	Jan.10,24 PR#01 #6911	\$914,499.50		
		<b>Total for Check:</b>	978292			\$914,499.50	\$13,248,563.53
978293	2024-01-09	WELLS FARGO BANK	Inv# JANUARY 10, 24 GARNABF	Jan.10, 24 PR#01 GARNABF	\$2,269.37		
		<b>Total for Check:</b>	978293			\$2,269.37	\$13,248,563.53
978294	2024-01-10	FIDELITY INVESTMENTS	Inv# JANUARY 10, 2024 401A	Jan.10, 24 PR#01 4010a	\$239,864.21		

# Orange County Water District

## Check Register

Begin Date: 2024-01-04

End Date: 2024-01-10

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### Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
<b>Total for Check:</b>		978294				\$239,864.21	\$1,193,236.49
978295	2024-01-10	FIDELITY INVESTMENTS	Inv# JANUARY 10, 2024 457B	Jan.10,24 PR#1 457b	\$96,231.07		
<b>Total for Check:</b>		978295				\$96,231.07	\$469,210.70
<b>Run Date:</b>	1/9/2024				<b>\$9,005,319.97</b>	<b>\$9,005,319.97</b>	



MINUTES OF MEETING  
BOARD OF DIRECTORS, ORANGE COUNTY WATER DISTRICT  
December 20, 2023, 5:30 p.m.

President Green called to order the December 20, 2023 regular meeting of the Orange County Water District Board of Directors at 5:30 p.m. Following the Pledge of Allegiance to the Flag, the District Secretary called the roll and reported a quorum as follows. Public access was also provided via Zoom webinar.

Directors

Valerie Amezcua  
Denis Bilodeau  
Cathy Green  
Dina Nguyen (absent)  
Natalie Meeks  
Vacant  
Stephen Sheldon  
Van Tran  
Bruce Whitaker  
Roger Yoh

Staff

Mike Markus, General Manager  
Jeremy Jungreis, General Counsel  
Christina Fuller, District Secretary

VISITOR PARTICIPATION

Mesa Water District Director Jim Fisler stated that he applied for the Division 7 Board vacancy and offered his congratulatory wishes to General Manager Mike Markus retiring in January.

CONSENT CALENDAR

The Consent Calendar was approved upon motion by Director Amezcua, seconded by Director Whitaker and carried [7-0] as follows, with Director Sheldon abstaining on Item No. 14, *OCWD Personnel Manual Update*:

Ayes: Amezcua, Bilodeau, Green, Sheldon, Tran, Whitaker, Yoh

Absent: Meeks, Nguyen

Abstain: Sheldon, Item No. 14

1. Approval of Cash Disbursements

MOTION NO. 23-120  
APPROVING CASH DISBURSEMENTS

Payment of bills for the period of November 30, 2023 through December 13, 2023 in the total amount of \$16,162,860.31 is ratified and approved.

2. Minutes of Board of Directors Meetings held November 15, November 22, December 1 and December 6, 2023
- 

MOTION NO. 23-121  
APPROVING MINUTES OF BOARD OF DIRECTORS MEETINGS

The Minutes of the Board of Directors meeting held November 15, November 22, December 1 and December 6, 2023 are hereby approved as presented.

3. Resolution Honoring Kelly E. Rowe for his Service to OCWD and the Water Industry

RESOLUTION NO. 23-12-158  
HONORING KELLY E. ROWE, IN MEMORIAM, FOR HIS DEDICATED SERVICE TO OCWD AND  
FOR HIS SIGNIFICANT CONTRIBUTIONS TO GROUNDWATER MANAGEMENT

WHEREAS, Kelly Rowe, a dedicated member of the Orange County Water District (OCWD) Board of Directors from 1998 to 2000 and again since 2018, passed away on November 22, 2023, at the age of 70; and

WHEREAS, representing Division 7, encompassing Costa Mesa, parts of Irvine, and Newport Beach, Kelly Rowe brought invaluable expertise as a water resources technical professional, significantly shaping Orange County's water management; and

WHEREAS, Kelly Rowe's leadership was crucial in managing the Orange County Groundwater Basin, a vital water source for over 2.5 million residents; and

WHEREAS, as a commissioner representing OCWD on the Santa Ana Watershed Project Authority since 2020, Kelly Rowe championed alternative water supply projects, including cloud seeding; and

WHEREAS, beginning in 1985, Kelly Rowe contributed to OCWD as a technical consultant and managed significant projects, including the overhaul of the coastal seawater intrusion barrier injection wells from 1996 to 1998; and

WHEREAS, Kelly Rowe's certifications as a California-licensed Professional Geologist, Certified Engineering Geologist, Certified Hydrogeologist, and Association of State Floodplain Managers (ASFPM) Certified Floodplain Manager highlighted his lifelong commitment to sustainable water management; and

WHEREAS, Kelly Rowe's career, starting with participation in the first Earth Day program in 1970 and included founding the American Water Resources Association Southern California Section, serving as a long-term member of the American Geophysical Union and Association of Engineering Geologists, and forming a consulting company, Kelly E. Rowe & Associates; and

WHEREAS, Kelly Rowe's passion for water and geology, fostered since high school and honed at UC San Diego and San Diego State University, led to an exemplary career as a hydrogeologist; and

WHEREAS, under Kelly Rowe’s guidance, OCWD garnered accolades for innovation, financial management, public outreach, and engineering excellence;

NOW, THEREFORE, BE IT RESOLVED, that the OCWD Board of Directors and staff honor Kelly Rowe's profound impact on groundwater management and celebrate his legacy of professional dedication.

ITEMS RECOMMENDED FOR APPROVAL AT RETIREMENT COMMITTEE MEETING HELD DECEMBER 5

- 4. 457(b) Deferred Compensation Plan Investment Line-Up Review and 401(a) Red Flag Fund Review

MOTION NO. 23-122

RECEIVING AND FILING 457(B) DEFERRED COMPENSATION PLAN LINE-UP REVIEW AND 401(a) RED FLAG FUND REVIEW

The 401(a) Money Purchase Retirement Plan and the 457(b) Deferred Compensation Plan investment portfolios are hereby received and filed and the following actions in connection with the funds are authorized.

457 (b) Items		
Fund Name	SYMBOL	ACTION
JPMorgan Emerging Markets Equity R6	JEMWX	Remove and replace with American Fund New World R6
Touchstone Mid Cap Y	TMCPX	Remove Red Flag
Franklin Gold and Precious Metals Adv	FGADX	Grey Flag
401(a) Items		
JP Morgan Mid Cap Growth RS	JMGFX	Keep Red Flag
Goldman Sachs Infl Protected Secs Instl	GSIPX	Merge with Bond Fund of America

ITEMS RECOMMENDED FOR APPROVAL AT COMMUNICATIONS AND LEGISLATIVE LIASION COMMITTEE MEETING HELD DECEMBER 7

- 5. 2024-2025 Orange County Water District Legislative Policies and 2024-2025 State and Federal Legislative Goals and Strategy

RESOLUTION NO. 23-12-159

APPROVING OCWD 2024-25 LEGISLATIVE GOALS AND POLICIES

RESOLVED, that the OCWD 2024-2025 Legislative Goals and Strategy Platform and Legislative Policies are hereby adopted as presented.



ITEMS RECOMMENDED FOR APPROVAL AT PROPERTY MANAGEMENT COMMITTEE MEETING HELD DECEMBER 8

- 6. Pollution Insurance for District Property Located at 3199 East La Palma Avenue in Anaheim (La Palma Basin)
- 

RESOLUTION NO. 23-12-160  
AUTHORIZING POLLUTION LIABILITY INSURANCE POLICY  
FOR LA PALMA BASIN

WHEREAS, on January 29, 2014, the District acquired the 17.69-acre property at 3199 East La Palma Avenue, Anaheim (Property) from La Palma/Miller Owners LLC (Panattoni) to construct the La Palma Recharge Basin (Basin).

WHEREAS, when OCWD purchased the Property, OCWD was required to indemnify the seller (Panattoni) and the prior property owner (Boeing) for the Property and an adjoining 23 acres.

WHEREAS, since OCWD was required to indemnify the prior owners, as an abundance of caution, OCWD purchased a 10-year pollution insurance policy for approximately \$287,070 for potential contamination which expires January 31, 2024.

WHEREAS, the Property Management Committee of this Board has recommended authoring the General Manager to negotiate and execute a pollution liability insurance policy for La Palma Basin for a term of up to 10 years in an amount not to exceed \$300,000.

NOW, THEREFORE, the Board of Directors of the Orange County Water District does hereby approve the aforementioned pollution liability insurance policy for La Palma Basin as outlined herein; and, upon approval as to form by General Counsel, its execution by the District officers is authorized.

ITEMS RECOMMENDED FOR APPROVAL AT WATER ISSUES COMMITTEE MEETING HELD DECEMBER 13

- 7. Amendment No. 3 to Agreement with Engineering Analytics, Inc. for Consulting Services for the South Basin Remedial Investigation Feasibility Study (RI/FS)
- 

RESOLUTION NO. 23-12-161  
APPROVING AMENDMENT TO AGREEMENT WITH ENGINEERING ANALYTICS, INC. FOR CONSULTING SERVICES FOR THE SOUTH BASIN REMEDIAL INVESTIGATION / FEASIBILITY STUDY

WHEREAS, pursuant to Resolution No. 20-6-76 adopted June 17, 2020, OCWD authorized an Agreement to Engineering Analytics, Inc. for an amount not to exceed \$507,969 to provide National Contingency Plan consulting services for the South Basin Remedial Investigation / Feasibility Study;

WHEREAS, staff has advised that the District is now conducting a CEQA evaluation of the remedy concurrent with the IRAP and requires EA's assistance in addressing public comments on the CEQA evaluation, authorization of Amendment No. 3 to EA's agreement in the amount not to exceed \$50,000 is requested;

WHEREAS, the Water Issues Committee of this Board has recommended issuance of Amendment No. 3 to agreement No. 1428 with Engineering Analytics, Inc. to provide technical support for the South Basin CEQA evaluation for an amount not to exceed \$50,000;

NOW, THEREFORE, the Board of Directors of the Orange County Water District does hereby approve Amendment No. 3 to Agreement No. 1428 with Engineering Analytics, Inc as outlined herein; and, upon approval as to form by District General Counsel, its execution by the District officers is authorized.

8. Amendment No. Six to Agreement with James Pike for Prado Vireo Monitoring

RESOLUTION NO. 23-12-162  
APPROVING AMENDMENT NO. SIX TO AGREEMENT WITH JAMES PIKE  
FOR PRADO VIREO MONITORING

WHEREAS, pursuant to Resolution No. 10-2-23 adopted February 17, 2010, as subsequently modified, OCWD authorized Agreement No. 0637 with James Pike for vireo and wildlife monitoring and services in the Prado Basin; and

WHEREAS, the Water Issues Committee of this Board has recommended approval of Amendment No. 6 to such Agreement to extend the termination date to December 31, 2025, and increase the not-to-exceed reimbursement amount by \$142,000 over a two-year period;

NOW, THEREFORE, the Board of Directors of the Orange County Water District does hereby approve Amendment No. 6 to such Agreement with James Pike as outlined herein; and, upon approval as to form, its execution by the District officers is authorized.

9. GWRS Pipeline Repair Work

RESOLUTION NO. 23-12-163  
APPROVING AMENDMENT NO. 2 TO FD THOMAS, INC. CONTRACT FOR ADDITIONAL  
REPAIR WORK TO THE GWRS PIPELINE

WHEREAS, pursuant to Resolution No. 21-3-34 adopted March 3, 2021, as subsequently modified, OCWD authorized Agreement No. 1458 to FD Thomas, Inc. for epoxy coating of portions of the Unit II GWRS Pipeline; and

WHEREAS, the Water Issues Committee of this Board has recommended approval of Amendment No. 2 to such Agreement in the amount of \$10,117 for additional repair work to the GWRS pipeline;

NOW, THEREFORE, the Board of Directors of the Orange County Water District does hereby approve Amendment No. 2 to such Agreement with FD Thomas, Inc, as outlined herein; and, upon approval as to form, its execution by the District officers is authorized.

10. Amendment No. 6 to Agreement No. 1175 with Intera, Inc. for Additional Groundwater Modeling Services Regarding Sunset Gap Seawater Intrusion

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RESOLUTION NO. 23-12-164

APPROVING AMENDMENT TO AGREEMENT WITH INTERA, INC. FOR ADDITIONAL GROUNDWATER MODELING SERVICES REGARDING SUNSET GAP SEAWATER INTRUSION

WHEREAS, pursuant to Resolution No. 16-7-102 adopted July 20, 2016, as subsequently amended, OCWD issued Agreement No. 1175 to Intera, Inc. for expanding the Alamitos Gap groundwater model into the Sunset Gap area; and

WHEREAS, the Water Issues Committee of this Board has recommended issuance of Amendment No. 6 to such Agreement in the amount of 162,920 for additional groundwater basin modeling of the Sunset Gap area;

NOW, THEREFORE, the Board of Directors of the Orange County Water District does hereby approve the aforementioned Amendment to Agreement No. 1175 as outlined herein; and, upon approval as to form by General Counsel, its execution by the District officers is authorized.

11. Appointment of John Kennedy to SAWPA Project Committee's 22 and 23

RESOLUTION NO. 23-12-165

APPOINTING JOHN KENNEDY TO SUCCEED MIKE MARKUS AS A MEMBER OF THE SANTA ANA WATERSHED PROJECT AUTHORITY'S PROJECT COMMITTEE 22 AND PROJECT COMMITTEE 23

RESOLVED, that John Kennedy is hereby appointed to serve on Santa Ana Watershed Project Authority's Project Committee 22 and Project Committee 23 effective January 27, 2024.

ITEMS RECOMMENDED FOR APPROVAL AT ADMINISTRATION FINANCE COMMITTEE MEETING HELD NOVEMBER 9

12. Monthly Cash Control Report

MOTION NO. 23-123

RECEIVING AND FILING THE MONTHLY CASH CONTROL REPORTS

The Summary Cash and Cash Equivalents Control Reports dated November 30, 2023 are hereby received and filed.

13. Investment Portfolio Holdings Reports

MOTION NO. 23-124

RECEIVING AND FILING INVESTMENT PORTFOLIO HOLDINGS REPORTS

The Investment Portfolio Holdings Reports dated November 30, 2023 are hereby received and filed.

14. OCWD Personnel Manual Update

MOTION NO. 23-125  
APPROVING UPDATED PERSONNEL MANUAL

The updated Personnel Manual effective December 21, 2023, on file at the District office, is hereby approved as presented.

15. Purchase Reverse Osmosis End Cap Seals for RO Trains E, F, and G

RESOLUTION NO. 23-12-166  
AUTHORIZING PURCHASE ORDER TO PROTEC ARISAWA FOR PURCHASE ORDER FOR 2,700  
END CAP SEALS

RESOLVED, that issuance of a Purchase Order is authorized to Protec Arisawa in an amount not to exceed \$108,000 for 2,700 end cap seals.

16. Award of Chemical Contracts for Water Treatment Systems

RESOLUTION NO. 23-12-167  
APPROVING CHEMICAL CONTRACTS FOR WATER TREATMENT SYSTEMS

WHEREAS, pursuant to Resolution No. R21-12-179 adopted December 21, 2021, OCWD authorized Agreements to vendors for the purchase of water treatment chemicals; and

WHEREAS, the Administration and Finance Issues Committee of this Board has recommended renewal of such Agreements for a one-year period as follows:

- 1) Hydrogen Peroxide: Brenntag Pacific @ \$500/ton
- 2) Citric Acid: Brenntag Pacific. @ \$1214/ton
- 3) Sodium Hypochlorite: JCI Jones @ \$1.721/gal.
- 4) Sulfuric Acid: Univar Solutions USA @ \$226/ton
- 5) Caustic Soda (sodium hydroxide): Brenntag Pacific @ \$676/ton

NOW, THEREFORE, the Board of Directors of the Orange County Water District does hereby approve the Agreements for the aforementioned chemical contracts as outlined herein are approved; and, upon approval as to form by District General Counsel, execution of the contracts accordingly by the District officers is authorized.

INFORMATIONAL ITEMS

17. Update on Research & Development Activities

Research Director Megan Plumlee provided an update on the following current projects:

1. Ongoing work to upgrade pilots at the District's Engineering Research Center (ERC) including two ultrafiltration (UF) pilots and two reverse osmosis (RO) pilots;

2. Results from a completed pilot study funded by the Southern California Salinity Coalition (SCSC) and United States Bureau of Reclamation (USBR) to evaluate flow-reversal reverse osmosis (FR-RO) as a potential technology to increase GWRS water recovery in the GWRS RO facility; and,
3. Initiation of a new project recently awarded funding from USBR to study a treatment strategy for removing and destroying per- and polyfluoroalkyl substances (PFAS) in GWRS RO concentrate.

18. Water Resources Summary

General Manager Mike Markus stated the report is in the packet.

19. SAWPA Update

Director Whitaker provided an update on recent SAWPA activities.

20. Committee/Conference/Meeting Reports

The Board reported on attendance at the following Committee meetings, noting the Action Agendas were included in tonight's Board packet.

- Dec 05 - Retirement Committee
- Dec 07 - Communication & Legislative Liaison Committee
- Dec 08 - Property Management Committee
- Dec 13 - Water Issues Committee
- Dec 14 - Administration and Finance Issues Committee

21. Verbal Reports

General Manager Mike Markus reported that OCWD Operations Manager Derick Mansell received an award from the Southwest Membrane Operators Association for *Large Plant Operator of the Year*. He noted that the District also received an award for GWRS, *Plant of the Year*, from the same association.

22. RECESS TO CLOSED SESSION

The Board recessed to Closed Session at 6:01 p.m.as follows:

CONFERENCE WITH REAL PROPERTY NEGOTIATOR [Government Code Section 54956.8]  
 Real property located at: land adjacent to the Santa Ana River, Anaheim, CA 92806  
 Parcels (5) - APNs 375-221-01, 375-221-02, 374-791-01, 374-792-02; 253-472-01  
 OCWD negotiator: Michael Markus  
 Negotiating party: City of Anaheim  
 Under negotiation: Price and Terms

RECONVENE IN OPEN SESSION

The Board reconvened in Open Session whereupon General Counsel Jeremy Jungreis advised that there were no reportable items.

ADJOURNMENT

There being no further business to come before the Board, the meeting adjourned at 6:50 p.m.

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Christina Fuller, District Secretary

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Cathy Green, President

MINUTES OF MEETING  
BOARD OF DIRECTORS, ORANGE COUNTY WATER DISTRICT  
January 3, 2024, 5:30 p.m.

President Green called to order the January 3, 2024 regular meeting of the Orange County Water District Board of Directors at 5:30 p.m. Following the Pledge of Allegiance to the Flag, the District Secretary called the roll and reported a quorum as follows. Public access was also provided via Zoom webinar.

Directors

Valerie Amezcua  
Denis Bilodeau  
Cathy Green  
Dina Nguyen  
Natalie Meeks  
Vacant  
Stephen Sheldon (Closed session only)  
Van Tran  
Bruce Whitaker  
Roger Yoh

Staff

Mike Markus, General Manager  
Jeremy Jungreis, General Counsel  
Christina Fuller, District Secretary

PRESENTATION OF SERVICE AWARDS

General Manager Michael Markus presented service awards to OCWD employees with 20 and 30 years of service.

VISITOR PARTICIPATION

Mesa Water District Director Jim Fisler stated that he supports OCWD reducing the Basin Equity Assessment which would provide savings for retail agencies. He advised that he applied for the vacancy of Division 7 and looks forward to speaking with the Directors.

CONSENT CALENDAR

The Consent Calendar was then approved upon motion by Director Amezcua, seconded by Director Whitaker and carried [8-0] as follows.

Ayes: Amezcua, Bilodeau, Green, Meeks, Nguyen, Tran, Whitaker, Yoh  
Absent: Sheldon

1. Approval of Cash Disbursements

MOTION NO. 24-1  
APPROVING CASH DISBURSEMENTS

Payment of bills for the period of December 14, 2023 through December 27, 2023 in the total amount of \$8,332,838.63 is ratified and approved.

INFORMATIONAL ITEMS

2. PFAS Update

Director of Engineering Chris Olsen provided an update on PFAS treatment plant construction activities.

3. Committee/Conference/Meeting Reports

There were no Committee reports.

4. Verbal Reports

There were no verbal reports given.

RECESS TO CLOSED SESSION

- CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION, [Government Code Section 54956.9 (d)(1)] – OCWD v. 3M Company et al.
- CONFERENCE WITH LABOR NEGOTIATORS – [Government Code Section 54957.6]  
OCWD designated representative: Stephanie Dosier  
Employee Organization: Orange County Employee Association
- CONFERENCE WITH REAL PROPERTY NEGOTIATOR [Government Code Section 54956.8]  
Real property located at: land adjacent to the Santa Ana River, Anaheim, CA 92806  
Parcels (5) - APNs 375-221-01, 375-221-02, 374-791-01, 374-792-02; 253-472-01  
OCWD negotiator: Michael Markus  
Negotiating party: City of Anaheim  
Under negotiation: Price and Terms

RECONVENE IN OPEN SESSION

The Board reconvened in Open Session whereupon General Counsel Jungreis advised that there were no reportable items.

ADJOURNMENT

There being no further business to come before the Board, the meeting adjourned at 7:34 p.m.

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Christina Fuller, District Secretary

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Cathy Green, President





## AGENDA ITEM SUBMITTAL

**Meeting Date:** January 17, 2024

**To:** Board of Directors

**From:** Mike Markus

**Staff Contact:** S. Dosier

**Budgeted:** N/A

**Budgeted Amount:** N/A

**Cost Estimate:** ~\$4,800

**Funding Source:** N/A

**Program/Line Item:** N/A

**General Counsel Approval:** N/A

**Engineers Report Approved:** N/A

**CEQA Compliance:** N/A

**Subject: RATIFICATION OF JOB CLASSIFICATION SALARY RANGE  
ADJUSTMENTS**

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### SUMMARY

Staff met with the Board in closed session on January 3, 2024, to review a recommendation to adjust the salary ranges for four job classifications and obtain authorization to meet and confer with the OCWD Employee Association regarding the proposed actions. Staff presented the request to the OCWD Employee Association and completed the meet and confer process; therefore, staff is requesting ratification of the proposed salary range adjustments.

### RECOMMENDATION:

Ratify the following job classification salary range adjustments effective January 18, 2024:

- Operations Shift Supervisor: R-17 to R-18
- Chief Operator GWRS: R-19 to R-20
- Operations Manager GWRS: R-20 to R-21
- Maintenance Manager GWRS R-20 to R-21

**PRIOR RELEVANT BOARD ACTION(S):** N/A



## AGENDA ITEM SUBMITTAL

**Meeting Date:** January 17, 2024

**To:** Board of Directors

**From:** Mike Markus

**Staff Contact:** S. Dosier

**Budgeted:** N/A

**Budgeted Amount:** N/A

**Cost Estimate:** N/A

**Funding Source:** N/A

**Program/Line Item:** N/A

**General Counsel Approval:** Yes

**Engineers Report Approved:** N/A

**CEQA Compliance:** N/A

**Subject: AT-WILL EMPLOYMENT STATEMENT UPDATE**

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### SUMMARY

Staff was requested to modify the District's At-Will Employment Statement which is contained in the District Personnel Manual. The statement, Section 3.2 of the Personnel Manual, has been updated to include the job classifications of Executive Director as at-will to the General Manager. This change will be effective for employees hired or promoted to those job classifications after January 18, 2024. The updated Personnel Manual section has been attached for review. If approved, the Personnel Manual will be updated accordingly.

Attachment(s):

- At-Will Employment Statement

### RECOMMENDATION:

Approve the updated At-Will Employment Statement (Section 3.2) contained in the Personnel Manual effective January 18, 2024.

**PRIOR RELEVANT BOARD ACTION(S):** N/A

### **3.2 At-Will Employment Statement -**

It must be remembered that the employment relationship is based on the mutual consent of the employee and OCWD. Accordingly, at any time, either the employee or the District can terminate the employment relationship at-will, with or without cause or notice. This at-will relationship permits the District to change the terms and conditions of employment with or without notice, with or without cause, including, but not limited to, termination, demotion, promotion, transfer, compensation, benefits, duties, and location of work. There is no agreement, express or implied, that employment will continue for a set period of time, or that any person's employment will be terminated only under particular circumstances. While supervisors and managers have certain hiring authority, no supervisor or manager or representative of the District has any authority to alter the at-will relationship. Only the General Manager, with the permission of the Board of Directors, may amend the policy in a written statement, at any time.

This policy becomes effective for employees hired after October 1, 2003, for the following job classifications that serve at the pleasure of the Board of Directors:

- A. General Manager
- B. Assistant General Manager
- C. Chief Financial Officer and/or Treasurer

This policy becomes effective for employees hired or promoted after January 18, 2024, to the following job classifications that serve at the pleasure of the General Manager:

1. Executive Director of Operations
2. Executive Director of Engineering and Water Resources
3. Executive Director of Water Quality & Technical Resources
4. Executive Director of Planning and Natural Resources



## AGENDA ITEM SUBMITTAL

**Meeting Date:** January 4, 2024  
**To:** Communications/Leg. Liaison Cte  
Board of Directors  
**From:** Mike Markus  
**Staff Contact:** G. Ayala/A. Dunkin  
**Subject:** **FEDERAL LEGISLATIVE UPDATE**

**Budgeted:** N/A  
**Budgeted Amount:** N/A  
**Cost Estimate:** N/A  
**Funding Source:** N/A  
**Program/Line-Item No.:** N/A  
**General Counsel Approval:** N/A  
**Engineers/Feasibility Report:** N/A  
**CEQA Compliance:** N/A

### SUMMARY

The Orange County Water District (OCWD) federal advocate and staff will provide an update on progress towards an exemption for water entities from PFAS liability and funding for PFAS cleanup. Also, a federal bill dealing with water supply will be discussed.

#### Attachment(s):

- ENS Resources January Update
- The Priority for Water Supply and Conservation Act

### RECOMMENDATION

#### **RECOMMENDED BY COMMITTEE**

Agendize for January 17 Board meeting: Take action as appropriate.

Bill Number/Author	Short Title	Recommendation
(No Bill Number Yet/ Grace F. Napolitano (D-EI Monte)	The Priority for Water Supply and Conservation Act	Write a letter in support of concept

Please see attached “ENS Resources January Update” for specific details regarding gaining an exemption for water entities from PFAS liability and ‘The Priority for Water Supply and Conservation Act.’ Congresswoman Napolitano’s legislation has not been dropped yet as it will most likely become part of upcoming WRDA legislation. OCWD staff and consultants recommend writing a “support” letter for the concept bill as gaining water storage as part of the operations of Prado Dam is a goal of the District and consistent with the OCWD Legislative Platform.

On page 2 of the OCWD 2024-2025 Legislative Platform it states, “  
Add “water supply” to the authorized use of Prado Dam.”

**The Priority for Water Supply and Conservation Act Grace F. Napolitano (D-EI Monte)**

The U.S. Army Corps of Engineers (Corps), the nation's largest water resources management agency, has a primary mission of flood control, navigation, and ecosystem/environmental restoration. The 'Priority for Water Supply and Conservation Act' would elevate in federal law that water supply, including water conservation are given equal priority in the role, purpose, and value of the Corps' water resources development infrastructure. Specifically, the bill states, "The Secretary of the Army, acting through the Chief of Engineers, shall include water supply and water conservation as a primary mission of the Corps of Engineers in planning, designing, constructing, operating, and maintaining water resources projects." Please see the attached draft bill, 'The Priority for Water Supply and Conservation Act'.

The Priority for Water Supply and Conservation Act would aid OCWD in capturing more stormwater at Prado dam for the purpose of water supply; therefore, OCWD staff and consultant recommend a "support" position on the legislation.





## AGENDA ITEM SUBMITTAL

**Meeting Date:** January 10, 2024

**To:** Water Issues Committee  
Board of Directors

**From:** Mike Markus

**Staff Contact:** C. Olsen

**Budgeted:** Partial

**Budgeted Amount:** \$875,000

**Final Cost:** \$943,884

**Funding Source:** R&R

**Program/Line Item No.:** R21001

**General Counsel Approval:** NA

**Engineers/Feasibility Report:** NA

**CEQA Compliance:** NA

**Subject:** **GWRS PIPELINE REPAIR WORK**

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### SUMMARY

Staff coordinated inspection and repair work on the GWRS pipeline during a 14-day GWRS outage in 2021 for work associated with the GWRS Final Expansion Project. During this outage, staff inspected the GWRS pipeline Unit I epoxy coating and also inspected the condition of the cement mortar lining (CML) of Unit II and Unit III of the GWRS pipeline. An additional 1,000-linear feet of the Unit II GWRS pipeline lining was also epoxy coated during this outage.

### RECOMMENDATION

#### RECOMMENDED BY COMMITTEE

Agendize for January 17 Board meeting:

1. Rescind Resolution No. R23-12-163, Authorizing Amendment No. 2 to FD Thomas, Inc. contract in the amount of \$10,117 for additional repair work to the GWRS pipeline; and,
2. Authorize Amendment No. 2 to FD Thomas, Inc. contract in the amount of \$69,384 for additional repair work to the GWRS pipeline.

### DISCUSSION

As part of the GWRS Final Expansion Project, there was a planned 14-day outage to complete work within the Advanced Water Treatment Facility (AWTF). This 14-day outage occurred in 2021. Staff used this outage as an opportunity to enter within GWRS pipeline for inspection and to complete some repairs to the lining in Unit II. Staff and the Board authorized FD Thomas, Inc. to complete this work.

FD Thomas, Inc. completed all the required work to the satisfaction of staff and within the time frame of the outage. The extra work, which in total was \$69,384, included rental of a desilting tank to dispose of water drained from the pipeline appropriately, one extra day of two 12-hour shifts of work completed to finalize the repair work in Unit II and additional rental of sound barriers for work that was completed near homeowners.

After further investigation into previous billings and payments, it was determined that the original Agreement was for \$850,000 and there was Amendment No. 1 for \$25,000 which was expected to cover the costs for extra work completed and described above in the original contract scope. In fact, the extra work totaled \$69,384 more than the Agreement plus Amendment No. 1. Therefore, the December 20, 2023 Board recommendation was incorrect as there were not sufficient funds to cover the majority of the balance as originally expected.

The Agreement and Amendment No. 1 totaled \$875,000 and OCWD was notified by FD Thomas that the cost for the extra work was \$69,384 more than anticipated and budgeted. Staff agreed that these costs were extra work.

#### **PRIOR RELEVANT BOARD ACTIONS:**

6/20/2018, R18-6-69: Authorize filing of Categorical Exemption with Orange County Recorder's Office; and Accept bid, waive inconsequential bid informalities, and award Contract GWRS-2018-1, Groundwater Replenishment System Unit I Pipeline Rehabilitation Project: Alternative A (30 days) to the lowest responsive bidder F.D. Thomas, Inc. in the amount of \$4,833,540; and Authorize issuance of Agreement to CSI Services, Inc. for Inspection and Testing Services for an amount not to exceed \$72,252; and Authorize issuance of Agreement to Jamison Engineering Contractors, Inc for Construction Support Services for an amount not to exceed \$159,400; and Reduce project budget by \$1.9 million, for a total project budget of \$6,100,000.

3/3/2021, R-21-3-34: Authorize issuance of an Agreement to Jamison Engineering Contractors, Inc to support the GWRS Pipeline 2021 Inspection Work for an amount not to exceed \$175,000; Authorize issuance of an Agreement to CSI Services, Inc. for inspection services of the existing GWRS pipeline and epoxy coating of Unit II for an amount not to exceed \$40,000; Authorize issuance of an Agreement to FD Thomas, Inc. for epoxy coating of portions of the Unit II GWRS Pipeline for an amount not to exceed \$875,000.



## AGENDA ITEM SUBMITTAL

**Meeting Date:** January 10, 2024  
**To:** Water Issues Committee  
Board of Directors  
**From:** Mike Markus  
**Staff Contact:** C. Johnson, J. Dadakis  
**Budgeted:** Yes  
**Budgeted Amount:** \$65,000  
**Cost Estimate:** \$62,580  
**Funding Source:** General Fund  
**Program/ Line Item No.** 1046.53001.9922  
**General Counsel Approval:** N/A  
**Engineers/Feasibility Report:** N/A  
**CEQA Compliance:** N/A

**Subject: AGREEMENT WITH DDB ENGINEERING FOR THE PREPARATION OF 2023 GWRS ANNUAL REPORT**

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### SUMMARY

Staff recommends issuance of a Professional Service Agreement with DDB Engineering Inc. for the preparation of the calendar year 2023 GWRS Annual Report. Preparation of the Annual Report by an engineer registered in California and experienced in the fields of wastewater treatment and public water supply is a requirement of the GWRS Regional Board permit. DDB Engineering possesses the qualifications and long-standing familiarity with the GWRS project to prepare the required Annual Report efficiently.

Attachment: DDB Engineering Inc. proposal dated December 14, 2023

### RECOMMENDATION

#### RECOMMENDED BY COMMITTEE

Agendize for January 17 Board meeting: Authorize issuance of Agreement to DDB Engineering Inc. for an amount not to exceed \$62,580 to provide consulting services for the preparation of the calendar year 2023 GWRS Annual Report.

### BACKGROUND/ANALYSIS

The District's permit to operate the Groundwater Replenishment System (GWRS) was issued by the Santa Ana Regional Water Quality Control Board (RWQCB) via Order No. R8-2022-0050 on December 2, 2022. This permit superseded older permits for the GWRS project including R8-2004-0002 (as amended) and R8-2021-0003 and permitted operational changes associated with the GWRS Final Expansion (GWRSFE), including the increase in production to 130 mgd and ability to accept OC San Plant Number 2 secondary effluent for recycling. Calendar year 2023 represents the first year of monitoring and reporting under Order No. R8-2022-0050.

The Annual Report must be prepared by an engineer licensed in California and experienced in the fields of wastewater treatment and public water supply. The purpose of the report is to present an in-depth review of GWRS treatment, Talbert Barrier, Mid-

Basin Injection, and Miller/Kraemer/Miraloma/La Palma Basin operations, performance, and water quality for the calendar year. The 2023 report will also include a one-time summary of optimization of the RO and AOP advanced treatment processes during the first 12-months of GWRSFE operation. The Annual Report is used as a primary reference by District staff and is frequently distributed to external parties seeking information about the project.

Since 2004, the GWRS Annual Report has been produced each year by DDB Engineering, Inc. (DDBE). DDBE has been involved with the GWRS treatment and permitting process since the inception of the project. Throughout design, startup, and operations of the GWRS, GWRSIE, and GWRSFE projects, DDBE provided a range of support and engineering services for all permit applications, amendments, and compliance related issues, including development of the required Operation Optimization Plan (OOP) and Title 22 Engineering Reports.

DDBE is uniquely qualified to prepare the Annual Report and brings a wide range of comprehensive knowledge and direct experience with the GWRS treatment processes, as well as regulatory permit and compliance issues. Debra Burris, the firm's principal, and her staff have done an outstanding job of helping the District comply with GWRS reporting requirements from the RWQCB and the state Division of Drinking Water (DDW). Furthermore, DDBE's history with the project, plus past experience preparing Annual Reports and earlier GWRS permits, provides significant cost and time efficiencies to the District.

#### **PRIOR RELEVANT BOARD ACTION (S)**

1/18/23, R23-1-8: Authorize issuance of Agreement to DDB Engineering Inc. for an amount not to exceed \$58,825 to provide consulting services for the preparation of the calendar year 2022 GWRS Annual Report

1/19/22, R22-1-5: Authorize issuance of agreement to DDB Engineering Inc. for an amount not to exceed \$57,750 to provide consulting services for the preparation of the calendar year 2021 GWRS Annual Report.

7/21/21, R21-7-104: Authorize amendment to existing agreement with DDB Engineering Inc. issued pursuant to Board Action R17-11-144 for an amount not to exceed \$151,350 to provide additional permitting and regulatory support services for the GWRS Final Expansion Project.

1/20/21, R21-1-4: Authorize issuance of agreement to DDB Engineering Inc. for an amount not to exceed \$55,000 to provide consulting services for the preparation of the calendar year 2020 GWRS Annual Report.

1/22/20, R20-1-3: Authorize issuance of agreement to DDB Engineering Inc. for an amount not to exceed \$53,000 to provide consulting services for the preparation of the calendar year 2019 GWRS Annual Report

1/16/19, R19-1-7: Authorize issuance of agreement to DDB Engineering Inc. for an amount not to exceed \$52,000 to provide consulting services for the preparation of the calendar year 2018 GWRS Annual Report

1/17/18, R18-1-4: Authorize issuance of agreement to DDB Engineering Inc. for an amount not to exceed \$49,900 to provide consulting services for the preparation of the calendar year 2017 GWRS Annual Report

11/15/17, R17-11-144: Authorize issuance of agreement with DDB Engineering for an amount not to exceed \$198,000 for permitting and regulatory support services for the GWRS Final Expansion Project

1/21/15, R15-1-7: Approve agreement with DDB Engineering for preparation of 2014-2016 GWRS annual reports.

1/18/12, R12-1-4: Authorize issuance of Professional Service Agreement to DDB Engineering Inc. for an amount not to exceed \$158,400 to provide consulting services for the preparation of the 2011-13 GWRS Annual Reports and amendments to the GWRS & Green Acres Project Regional Water Quality Control Board permits.





## AGENDA ITEM SUBMITTAL

**Meeting Date:** January 10, 2024

**To:** Water Issues Committee  
Board of Directors

**From:** Mike Markus

**Staff Contact:** M. Patel / B. Smith

**Budgeted:** Yes

**Budgeted Amount:** \$75,000

**Cost Estimate:** \$75,000

**Funding Source:** R&R

**Program/Line Item No.:** R23020

**General Counsel Approval:** N/A

**Engineers/Feasibility Report:** N/A

**CEQA Compliance:** Cat. Ex.

**Subject: AGREEMENT TO POWERS BROS MACHINE FOR ANAHEIM LAKE  
VERTICAL TURBINE PUMP AND MOTOR INSPECTION AND  
REHABILITATION**

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### SUMMARY

The vertical turbine pump and motor at Anaheim Lake are due for inspection and rehabilitation due to age and amount of use. The pump is used to transfer water from the lake to other recharge facilities. Staff advertised a request for quotes and recommends award of the scope.

Attachment: Powers Bros Machine quotation

### RECOMMENDATION

#### RECOMMENDED BY COMMITTEE

Agendize for January 17 Board meeting:

1. Establish the Anaheim Lake Vertical Turbine Pump and Motor Inspection and Replacement project in the amount of \$75,000; and
2. Authorize issuance of an Agreement to Powers Bros Machine Inc. for the project for an amount not to exceed \$75,000.

### BACKGROUND/ANALYSIS

Anaheim Lake is a critical part of the forebay's surface recharge system. In addition to its percolation capacity, it has a large storage capacity and is a central piece in the conveyance of imported and storm water. Additionally, the lake is used as a desilting facility when capturing and routing storm water. Water is pumped from the lake to downstream facilities including Kraemer, Miller, La Jolla, Raymond, and Placentia Basins. The lake has a submersible pump station and a vertical turbine pump. The submersibles are primarily used for routing, while the vertical turbine is primarily used for dewatering. The vertical turbine was installed in the mid 1980's. Since its installation the motor has been serviced a few times when it failed, however there is no record of the pump being serviced. Staff advertised a Request for Quotation (RFQ) to pull the motor and pump, inspect, and perform rehabilitation as needed as part of a preventative maintenance effort. Since limited information is available for the existing pump, the quote was formatted for a base bid plus line item costs for potential

rehabilitation items. Two contractors responded before the deadline, see Table 1. Staff recommends awarding the work to the lowest quote which has a base bid \$39,600, however the quoted amount does not include the work that will be required on the downhole pump components. Staff recommends award of the work to Powers Bros Machine, Inc. for an amount not to exceed \$75,000.

**Table 1: Vertical Turbine Pump and Motor Quotes**

<b>Firm</b>	<b>Base Bid*</b>
Powers Bros Machine	\$ 39,600
General Pump	\$ 45,390

\*Note: the Base Bid does not include the full scope of work that will be determined after the pump is removed.

**PRIOR RELEVANT BOARD ACTION(S):**

N/A



## AGENDA ITEM SUBMITTAL

**Meeting Date:** January 10, 2024

**To:** Water Issues Committee  
Board of Directors

**From:** Mike Markus

**Staff Contact:** R. Herndon/D. Mark

**Budgeted:** Yes

**Budgeted Amount:** \$1,263,000 (FY24-25)

**Cost Estimate:** \$1,263,000

**Funding Source:** General Fund

**Program/Line Item No.:** 1050.56026.9932

**General Counsel Approval:** N/A

**Engineers/Feasibility Report:** N/A

**CEQA Compliance:** N/A

**Subject: ALAMITOS SEAWATER BARRIER 2024-25 OPERATIONS AND  
MAINTENANCE BUDGET**

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### SUMMARY

Staff recommends approval of the 2024-25 Alamitos Barrier operations and maintenance (O&M) budget of \$3,170,000, of which \$1,263,000 is the District's share, as proposed by the Alamitos Barrier Joint Management Committee.

Attachment: Alamitos Barrier 2024-25 Operation and Maintenance Budget Table

### RECOMMENDATION

#### RECOMMENDED BY COMMITTEE

Agendize for January 17 Board meeting: Approve the Alamitos Barrier 2024-25 total O&M budget in the amount of \$3,170,000 and authorize the amount of the District's share not to exceed \$1,263,000 payable to the Los Angeles County Department of Public Works after receipt and review of invoices.

### BACKGROUND/ANALYSIS

In 1964, the District entered into an "Agreement for the Cooperative Implementation of Alamitos Barrier Project," with the Los Angeles County Flood Control District (now part of the Los Angeles County Department of Public Works - LACPW). Under the terms of the agreement, the LACPW operates and maintains the Alamitos Seawater Barrier and its physical facilities under the direction of the interagency Joint Management Committee (JMC). The JMC comprises eight agency staff members, half appointed by LACPW and half appointed by the District.

Each year the JMC reviews and recommends for approval an O&M budget for the upcoming fiscal year. The barrier O&M budget comprises several activities including injection facilities O&M and administration, monitoring well data collection and maintenance, data analysis and reporting, and insurance. The total O&M budget is divided between LACPW and OCWD in proportion to the water injected into the barrier by each agency. The District's share of total injection (8,000 AF/year) is estimated to be

about 40% or 3,200 AF/year.

On November 9, 2023, the JMC proposed a total O&M budget of \$3,170,000 for 2024-25, of which the District's estimated share is \$1,263,000. These amounts include approximately \$85,000 for liability insurance premiums which are shared equally between LACPW and OCWD. There is a lag time in receiving invoices from LACPW, so one-half of the annual expenses is paid in FY24-25, and the other half is paid in FY25-26. Staff recommends Board approval of the O&M budget and payment of the District's share.

### **PRIOR RELEVANT BOARD ACTIONS**

12/21/22, M22-133 – Approve the 2023-24 O&M budget for the Alamitos Barrier in the amount of \$2,980,000 and authorize OCWD's share in the amount not to exceed \$1,186,500, payable to LACPW.

9/16/15, R15-9-125 - Approve and authorize execution of *Amendment to Agreement for Cooperative Implementation of Alamitos Barrier Project, Supplement No. 8* with the Los Angeles County Department of Public Works (LACDPW) to revise the District's annual payment to LACDPW that incorporates a prorated portion of the actual costs of the Alamitos Barrier maintenance yard.

9/17/14, R14-9-126 - Approve and authorize execution of the cost-sharing *Agreement for Construction of Additional Facilities for the Alamitos Barrier Project Supplement No. 7* with the LACDPW for the design and construction of injection and monitoring well facilities and payment by LACDPW to OCWD at one-half of the cost of the new facilities located between Points B and C for a total not to exceed \$1,253,000; and approve an increase to the Alamitos Barrier Improvement Project budget by \$4,693,000 for a revised total capital project budget of \$14,752,000.

12/18/13, M13-181 – Authorize general liability insurance policy for the Alamitos Barrier for calendar year 2014 and authorize inclusion of general liability insurance premiums in future Alamitos Barrier annual O&M budgets submitted separately for Board approval.

9/16/98, R98-9-141 - Approve and authorize execution of Supplement No. 6 to Alamitos Barrier Project agreement with LACDPW. Provides for the District to construct additional barrier facilities identified in Geologist's Report on Alamitos Barrier Improvement Project Construction Unit 12, consisting of 5 new injection wells, one new extraction well, and 3 new monitoring wells.

3/17/93, R93-3-44 - Authorize execution of Supplement No. 5 to Alamitos Barrier Project agreement with Los Angeles County Flood Control District (now part of Los Angeles County Department of Public Works). Supplement provides for expansion of Alamitos Barrier Joint Management Committee from six to eight members (LACFCD and the District each to appoint one additional member)

10/4/89, R89-10-201 - Authorize execution of Supplement No. 4 to Alamitos Barrier Project agreement with Los Angeles County Flood Control District providing for joint participation in design, construction, operation and maintenance of the Alamitos Barrier Project. Provides for the District to design and construct required additional Alamitos

Barrier facilities identified in the District's Engineer's Report regarding Seawater Intrusion at the Alamitos Barrier, approved 5/3/89 by Resolution No. 89-5-90.

4/17/85, R85-4-41 - Approve and authorize execution of Alamitos Barrier Hydroelectric Project Site lease and Royalty Agreement with Los Angeles County Flood Control Dist. & Hydro Electric Constr. Inc.; & Supplement No. 3 to Alamitos Barrier Project Agreement to provide for construction of hydroelectric project at Alamitos Barrier.

9/25/69, R69-9-96 - Approve Supplement No. 2, Amending the Agreement for Cooperative Implementation of the Alamitos Barrier Project.

1/20/65, R891 – Authorize Agreement with LACFCD for Geologic Services on Alamitos Barrier Project (Supplement No. 1).

6/17/64, R831 - Approve Agreement for Cooperative Implementation of the Alamitos Barrier Project.



## AGENDA ITEM SUBMITTAL

**Meeting Date:** January 11, 2024  
**To:** Administration/Finance Issues Cte.  
Board of Directors

**From:** Mike Markus

**Staff Contact:** R. Fick/D. Swanson

**Budgeted:** N/A  
**Budgeted Amount:** N/A  
**Cost Estimate:** N/A  
**Funding Source:** N/A  
**Program/Line-Item No.:** N/A  
**General Counsel Approval:** N/A  
**Engineers Report:** N/A  
**CEQA Compliance:** N/A

**Subject:** **MONTHLY CASH CONTROL REPORTS**

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### SUMMARY

The following monthly financial information is provided in the staff report.

#### Attachment(s):

- Summary Cash and Cash Equivalent Control Reports
- Summary of Reserves
- Summary Sources and Disbursements
- Sources of Funds
- Disbursement of Funds

### RECOMMENDATION

Agendize for January 17 Board meeting: Receive and file Summary Cash and Cash Equivalent Control Reports dated December 31, 2023.

**PRIOR RELEVANT BOARD ACTION(S)** Monthly





## AGENDA ITEM SUBMITTAL

**Meeting Date:** January 11, 2024

**To:** Administration/Finance Issues Cte.  
Board of Directors

**From:** Mike Markus

**Staff Contact:** R. Fick/D. Swanson

**Budgeted:** N/A

**Budgeted Amount:** N/A

**Cost Estimate:** N/A

**Funding Source:** N/A

**Program/Line Item No:** N/A

**General Counsel Approval:** N/A

**Engineers/Feasibility Report:** N/A

**CEQA Compliance:** N/A

**Subject:** INVESTMENT PORTFOLIO HOLDINGS REPORTS

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### SUMMARY

The District's monthly Investment Portfolio Holdings Report is provided for Committee review.

Attachment(s): Investment Portfolio Holdings Reports dated December 31, 2023.

### RECOMMENDATION

#### RECOMMENDED BY COMMITTEE

Agendize for January 17 Board meeting: Receive and file the Investment Portfolio Holdings Reports dated December 31, 2023.

### BACKGROUND/ANALYSIS

The Investment Portfolio Holdings Report is a list of each of the District's fixed income investments and provides the market value at the end of each month. All securities within the District's Investment Portfolio are in compliance with the District's Statement of Investment Policy. The District's portfolio maturities provide cash liquidity sufficient to meet the District's projected six-month expenditures (as required by Government Code Section 53646).

Highlights of the current and previous report:

Description	Prior Month	Current Month
SWAP Value (in Citi's favor)	\$4,433,130	\$5,765,646
Required Collateral	None	None
Duration/Maturity	385 Days or 1.05 years	391 Days or 1.07 years
Rate of Return/Yield	3.372%	3.196%

- The yield on the one-year Treasury note as of the month end is at 4.79%; two-year at 4.23% and the five-year at 3.84%. The last Federal Open Market committee (FOMC) meeting was held on December 12-13, 2023. The FOMC kept the Federal fund rates steady at a 22-year high of 5.25% to 5.50%. This is

the rate prime banks lend to each other.



## AGENDA ITEM SUBMITTAL

**Meeting Date:** January 11, 2024

**To:** Admin Finance Committee/  
Board of Directors

**From:** Mike Markus

**Staff Contact:** M. Patel

**Budgeted:** Yes

**Budgeted Amount:** \$500,000

**Cost Estimate:** \$98,123

**Funding Source:** R&R

**Program/Line Item No.** R23008

**General Counsel Approval:** N/A

**Engineers/Feasibility Report:** N/A

**CEQA Compliance:** N/A

**Subject: AUTHORIZE PURCHASE ORDER TO DXP ENTERPRISES FOR REPAIR OF  
RO HIGH PRESSURE FEED PUMP F01**

### SUMMARY

The reverse osmosis (RO) treatment process used in the Groundwater Replenishment System (GWRS) Advanced Water Purification Facility (AWFP) contains twenty seven individual five million gallon per day RO units. Each RO unit contains a one thousand horsepower high pressure feed pump. During the current installation of replacement RO membranes on unit F01 there was found to be damage to the high pressure feed pump and emergency repairs were performed by DXP Enterprises, Inc.

### RECOMMENDATION

#### RECOMMENDED BY COMMITTEE

Agendize for January 17 Board meeting: Authorize issuance of a purchase order to DXP Enterprises, Inc. in the amount of \$98,123 for repair of reverse osmosis high pressure feed pump F01.

### BACKGROUND/ANALYSIS

The GWRS RO treatment facility consists of 27 RO units each capable of producing 5-mgd with one unit in reserve. There are fifteen original RO units in operation since 2008, six that were added in 2015 as part of the GWRS Initial Expansion, and six additional units added as part of the recently completed GWRS Final Expansion. Each unit contains an individual one thousand horsepower vertical turbine pump. This pump provides the necessary pressure to force microfiltered water through the RO membranes within the unit. Recently large RO membrane replacement project budgeted in fiscal year 2023-2024 for nine units that make up RO trains E, F, and G was started. The first unit whose membranes were removed for replacement was F01. Upon removal of the RO membrane vessel end caps the presence of carbon shavings was found on the first stage membranes. This was a sign that the carbon bearings within the vertical turbine high pressure feed pump had deteriorated and broke apart within the pump barrel and pumped into the vessels. Upon removal of the high pressure feed pump it was discovered that one of the carbon bearings had totally deteriorated and another

partially deteriorated. Pump F01 is manufactured by FlowServe and first installed in 2014 as part of the GWRS Initial Expansion construction project. This pump is a four stage vertical turbine pump with stainless steel components and contains several carbon bearings (one per bowl and one at the stuffing box). Further inspection of the pump components (including impellers, bowls, stuffing box and shaft) showed additional damage to the pump shaft in form of scoring or marking caused by the broken carbon bearing material. In order to repair the pump components in a timely manner and not delay the ongoing RO membrane replacements, the FlowServe local pump representative DXP Enterprises was contacted. On December 6 the pump was disassembled by staff and sent to DXP's repair shop in Anaheim, California. DXP determined that all five bearings require replacement as well as the entire shaft. In addition, DXP recommended trial of a new bearing material called PEEK in lieu of traditional carbon material. This new material has the potential to last longer and not break apart upon failure. OCWD has observed carbon bearing failure in several of the older, fifteen original RO units installed as part of the first GWRS facility construction in 2008. Traditionally carbon bearings are to last at least 10-15 years. Given the failures observed prior to that timeframe the installation of the PEEK material bearing in RO unit F01 will allow district staff to determine if this change in material may be beneficial.

Staff recommends approval of a purchase order to DXP Enterprises, Inc in the amount of \$98,123 to repair RO high pressure pump F01 using funds from the current R&R fund R23008. The R&R fund R23008 is set up to cover unforeseen large cost repairs or replacement of equipment within the GWRS, Green Acres Project, and Fountain Valley building campus.

**PRIOR RELEVANT BOARD ACTION(S) N/A**



## AGENDA ITEM SUBMITTAL

**Meeting Date:** January 11, 2024

**To:** Administration/Finance Issues Cte  
Board of Directors

**From:** Mike Markus

**Staff Contact:** B. Dosier

**Budgeted:** No

**Budgeted Amount:** \$0

**Cost Estimate:** \$14,000

**Funding Source:** N/A

**Program/Line Item No.:** N/A

**General Counsel Approval:** N/A

**Engineers/Feasibility Report:** NA

**CEQA Compliance:** N/A

**Subject: AGREEMENT WITH WESTERN AUDIO VISUAL AND SECURITY (WAVS)  
TO DEVELOP AUDIOVISUAL SPECIFICATIONS FOR THE BOARDROOM  
AND CONFERENCE ROOMS**

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### SUMMARY

The existing audiovisual systems in the Boardroom, C2 and C3 conference rooms were installed by Integrated Media Systems, Inc. (IMS) approximately 12 years ago. Audiovisual equipment in the three meeting rooms have reached their useful lifetimes and are no longer supported. Staff has had issues with the equipment and has found it difficult to replace, acquiring some on eBay second-hand. Due to the age of the audiovisual equipment in the Boardroom and conference rooms, staff recommends hiring an audiovisual contractor to develop audiovisual specifications to evaluate the existing systems, make recommendations for improvements, enhancements, and replacement, and develop specifications for doing so.

Attachment: Western Audio Visual & Security Quote for Audiovisual System Evaluation and Recommendations

### RECOMMENDATION

Agendize for January 17 Board meeting: Authorize issuance of Agreement with Western Audio Visual & Security in an amount not to exceed \$14,000 to develop audiovisual specifications for the Boardroom, C2 and C3 conference rooms.

### BACKGROUND/ANALYSIS

The District Boardroom is used primarily for meetings of the District's 10-member Board of Directors and provides audience seating for up to 130 people. OCWD conducts semi-monthly Board meetings on the 1<sup>st</sup> and 3<sup>rd</sup> Wednesdays of the month, and holds a variety of workshops, committee meetings and other various types of public meetings in the Boardroom and C2 and C3 Conference Rooms. The Boardroom and conference rooms are also used by the Metropolitan Water Districts of Orange County (MWDOC), and occasionally, by several other outside agencies and organizations for public meetings.



Meetings are held in person, however, as a courtesy, audio and video is typically provided with Zoom.

The core equipment in all three meeting rooms have reached their useful lifetimes, with most having reached end-of-life (obsolete and no longer supported). Staff has had issues with equipment in the Boardroom and has found it difficult to replace failed equipment. Staff has had to acquire replacement equipment on eBay in the second-hand market. Examples of the end-of-life equipment that have failed are included in Exhibit 1 and other end-of-life equipment is in Exhibit 2.

Staff requested 3 audiovisual companies to provide quotes to develop audiovisual specifications to be used ultimately for an RFP to replace the audiovisual systems in the meeting rooms. They were requested to quote on performing the following:

1. **Needs Assessment** – review existing equipment, meet with District stakeholders, and draft a memo outlining the needs of an AV system.
2. **Design Alternatives** – provide summary descriptions and itemized cost estimates of 3 design alternatives.
3. **Bid package for AV system upgrade** – provide function design, plan drawings, tech specs and other info necessary for an RFP or other bid package.

Quotes were received from the following firms:

- |   |          |
|---|----------|
| 1. Western Audio Visual & Security (WAVS) | \$12,668 |
| 2. Solutionz                              | \$14,400 |
| 3. IMS                                    | \$35,000 |

Orange County-based WAVS provided the lowest quote and has local public agency clients including the Cities of Anaheim, Fullerton, Huntington Beach, Orange, and Santa Ana; the County of Orange, the Orange County Sanitation District, Irvine Ranch Water District, and the Yorba Linda Water District amongst a few.

Due to the age of the audiovisual equipment, staff recommends hiring an audiovisual contractor who can review existing systems and document requirements, evaluate existing systems for fitness for purpose, make recommendations for improvements, enhancements, and replacement, and develop specifications for doing so. Equipment to be replaced could include audio and video communication and control equipment, audio amplifiers and microphones, control panels, video screens, as well as request-to-speak and voting systems. The estimated cost of equipment replacement and programming is \$300k - \$500k.

On December 18, 2023, staff met with the Building Committee composed of both OCWD and MWDOC directors to provide a status update of the audiovisual systems, review the quotes and to receive comments from the committee. Per comments from the Building Committee, as part of the review process, staff would survey several other public agencies, for-profit organizations, and chambers of commerce.

As WAVS has provided the lowest quote of \$12,668 and has implemented systems at local cities and special districts, staff recommends entering into an agreement with WAVS to develop audiovisual specifications. Additionally, as there may be a potential for additional meeting time with the audiovisual contractor than was anticipated in the original request for quotes, staff recommends an amount not to exceed \$14,000.

## **PRIOR RELEVANT BOARD ACTION(S)**

01/18/2012 M12-15 Authorize issuance of a Change Order to Integrated Media Systems, Inc. for an increase to Purchase Order in the amount of \$74,445 for additional equipment and services required in the Boardroom and Conference Rooms upgrade.

09/21/2011 R11-9-145 Authorize issuance of a Purchase Order to Integrated Media Systems for an amount not to exceed \$466,177 for the purchase, configuration, installation, and commissioning of equipment and services to replace the District's existing audiovisual systems in the Boardroom and C2 and C3 Conference Rooms

03/16/2011 M11-51 Authorize issuance of an RFP for Boardroom and Conference Room Audiovisual contractor

09/16/1998 R98-9-146 Authorize Purchase Order to JOS Projection Systems for Boardroom Audiovisual System Improvements

**Exhibit 1**  
**End-of-Life Equipment that has failed**

Equipment	Purpose	Issue
Crestron DGE-1	Graphic controller controls the graphic interface for touch screen panels at the Board Clerk and Board President positions.	Used equipment ordered on eBay to replace these items.  Programming of this equipment is obsolete and cannot be changed without a wholesale change to the equipment.
Crestron DGE-2	Larger graphic controller controls graphic interface to the touch screen at Lectern.	
Crestron touchscreens	<p>“Remotes” for the system.</p> <p>Clerk Screen: Same functions as the Lectern screen with added controls of audio recording, microphone controls and room overflow for presentations and audio to C3 and lobby.</p> <p>Board President screen: Controls request to speak, voting, and microphone audio.</p>	
Biamp AudiaFLEX	3 audio amplifiers used in the Boardroom.	<p>Has failed twice, once during a Board meeting. Has continued to work.</p> <p>No longer made and have been replaced with new models using more recent technology.</p> <p>Replacing the new models requires an extensive change to the audiovisual equipment and reprogramming.</p>

**Exhibit 2  
End-of-Life Equipment**

<b>Equipment</b>	<b>Purpose</b>	<b>Issue</b>
Crestron DM	<p>2 DMs, 1 in the boardroom and 1 in C2.</p> <p>Manages switching of all the devices. All devices are connected to the DM via input cards in the back of the DM.</p>	Replacing the new models requires an extensive change to the audiovisual equipment and reprogramming
Crestron MC2E	Media Processor for the entire system. It handles the control options for all the devices. It's the brain of the system.	
Crestron touchscreens	<p>"Remotes" for the system.</p> <p>Lectern screen: Controls switching of media, devices, lights, audio, and video.</p> <p>Wireless Remote screen: Mirrors the lectern screen (no longer works).</p> <p>C2 and C3 Remotes.</p>	
System menu interface	Menus are on the Crestron touchscreens for controlling lighting, audio volumes, microphones, request to speak and voting	No longer supported



## AGENDA ITEM SUBMITTAL

**Meeting Date:** January 11, 2024

**To:** Administration/Finance Issues Cte  
Board of Directors

**From:** Mike Markus

**Staff Contact:** R. Fick/M. Villalobos

**Budgeted:** N/A

**Budgeted Amount:** N/A

**Cost Estimate:** N/A

**Funding Source:** N/A

**Program/ Line-Item No.** N/A

**General Counsel Approval:** N/A

**Engineers/Feasibility Report:** N/A

**CEQA Compliance:** N/A

**Subject: SURPLUS OF COMPUTER EQUIPMENT, TOOLS, OFFICE FURNITURE,  
AND HEAVY-DUTY EQUIPMENT**

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### SUMMARY

Staff has determined that certain heavy-duty equipment, computer equipment, furniture, and miscellaneous tools are irreparable or too costly to repair and no longer necessary for use in District operations. The items listed below were removed from service and placed in temporary storage in the warehouse until approved for disposal.

### RECOMMENDATION

#### RECOMMENDED BY COMMITTEE

Agendize for January 17 Board meeting: Declare items on Surplus List as of January 3, 2024, surplus and authorize the sale and disposal thereof.

### BACKGROUND/ANALYSIS

Below is a list of items recommended for surplus. The items listed are either outdated, parts are no longer available and cannot be serviced, or are inoperable.

The computer equipment and hardware have either been replaced or have become obsolete or beyond economical repair. Computer disk drives from JDE and Maximo, if any, have been removed and destroyed.

Disposal of the electronic equipment, furniture, tractors, and boats will be accomplished by selling them through an auction company, to private companies or sold for scrap.

Below is a list of the surplus items as of January 3, 2024.

### PRIOR RELEVANT BOARD ACTION(S)

NONE

# SURPLUS LIST AS OF January 17, 2024

## Fountain Valley

LOCATION	DESCRIPTION	QTY	ASSET#
Warehouse	Dell Desktop Computers	13	N/A
Warehouse	Dell Laptop	1	N/A
Warehouse	Dell Computer Monitors	8	N/A
Warehouse	Thin-Film-Transistor Liquid-Crystal Display Monitor	1	N/A
Warehouse	Computer Accessories (mouse)	3	N/A
Warehouse	Computer Accessories (keyboards)	3	N/A
Warehouse	Computer Accessories (speakers)	1	N/A
Warehouse	Uninterrupted Power Supply	2	N/A
Warehouse	Masterpiece Plus Remote Power Strip	1	N/A
Warehouse	Hewlett Packard Color Laser Jet Printer	1	N/A
Warehouse	Brother Desktop Printer	1	N/A
Warehouse	Club Car Golf Cart (Gasoline)	1	N/A
Warehouse	Glass Display Case	1	N/A
Warehouse	Flygt Mixer	1	N/A
Warehouse	16-foot Scaffolding Stage (500-pound rated load)	1	N/A
540 Building	50" Projector Screen (manual pull down. No remote)	1	N/A
Warehouse	Craftsman Metal Toolbox	2	N/A

## FHQ/PRADO

LOCATION	DESCRIPTION	QTY	ASSET#
FHQ	John Deere Tractor Undercarriage Wear Items (for an earthmover equipment that we no longer own)	N/A	N/A





## AGENDA ITEM SUBMITTAL

**Meeting Date:** January 11, 2024

**Budgeted:** N/A

**To:** Administration/Finance Issues Cte.  
Board of Directors

**Budgeted Amount:** N/A

**Funding Source:** N/A

**Cost Estimate:** N/A

**From:** Mike Markus

**Program/Line Item No:** N/A

**General Counsel Approval:** N/A

**Engineers/Feasibility Report:** N/A

**Staff Contact:** J. Kennedy/R. Fick

**CEQA Compliance:** N/A

**Subject: BASIN PRODUCTION PERCENTAGE AND REPLENISHMENT ASSESSMENT  
ESTIMATES FOR FISCAL YEAR 2024-25**

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### SUMMARY

The District annually provides an estimate of the Basin Production Percentage (BPP) and the Replenishment Assessment (RA) for the following fiscal year to assist the Groundwater Producers in preparing their annual budgets. Per the District Act, the RA and BPP must be set by the Board in the month of April.

Staff are currently preparing a recommended budget for review at the March 6, 2024, Board meeting which will directly impact the setting of the RA and BPP. The following estimates for the Fiscal Year (FY) 2024-25 RA and BPP are provided below.

Item	Current FY 2023-24	Estimated FY 2024-25
Combined Replenishment Assessment & Additional RA	\$624/acre-foot	\$688/acre-foot
Basin Production Percentage	85%	85%

Attachment(s): Presentation Material

### RECOMMENDATION

#### RECOMMENDED BY COMMITTEE

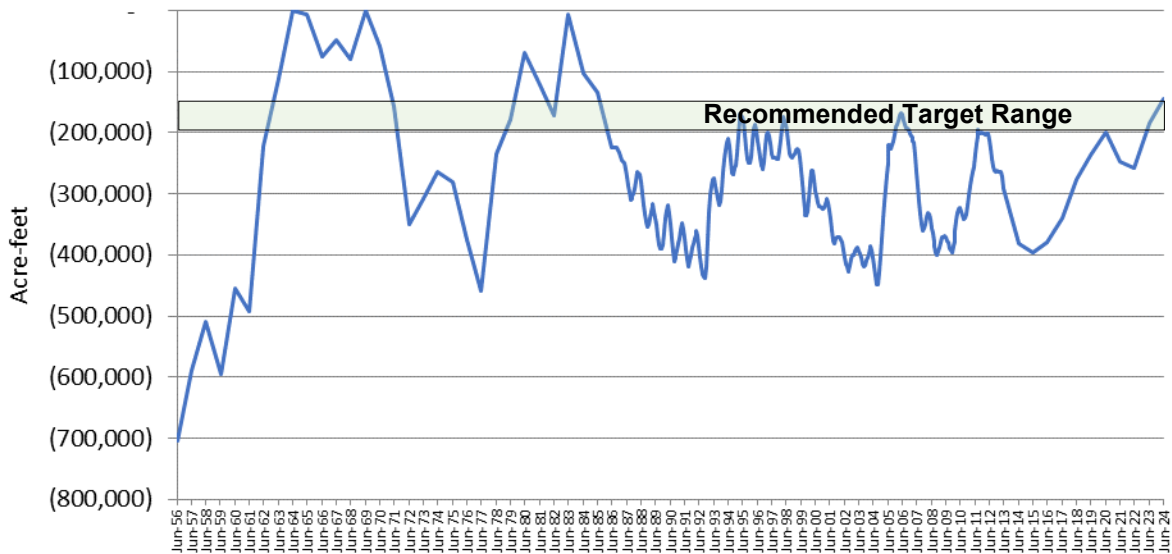
Agendize for January 17 Board meeting: Provide the Fiscal Year 2024-25 Replenishment Assessment and Basin Production Percentage estimates to the Groundwater Producers along with any additional Board comments.

### BACKGROUND/ANALYSIS

## Establishing the Basin Production Percentage Projection

The groundwater basin's accumulated overdraft is currently projected to be in the area of 148,000 acre-feet as of June 30, 2024, as shown in Figure 1 assuming average hydrology this winter. This estimate will be updated in last March 2024. The recommended accumulated overdraft target ranges from 150,000 to 200,000 acre-feet.

**Figure 1**  
**Groundwater Basin Accumulated Overdraft**



Historical total water demands (groundwater and imported water) of the 19 Groundwater Producers are shown in Figure 2. Total water demands in FY2022-23 were very low at 351,711 acre-feet due to conservation efforts and the above average rainfall that occurred. The last time water demands were this low was in FY1972-73. Water demands for the current fiscal year after five months are trending slightly lower than last year at the same point in time. However, staff generally expects total water demands to be slightly higher in FY2023-24 assuming average hydrology. Staff estimates that total water demands will be approximately 370,000 acre-feet for FY 2024-25.

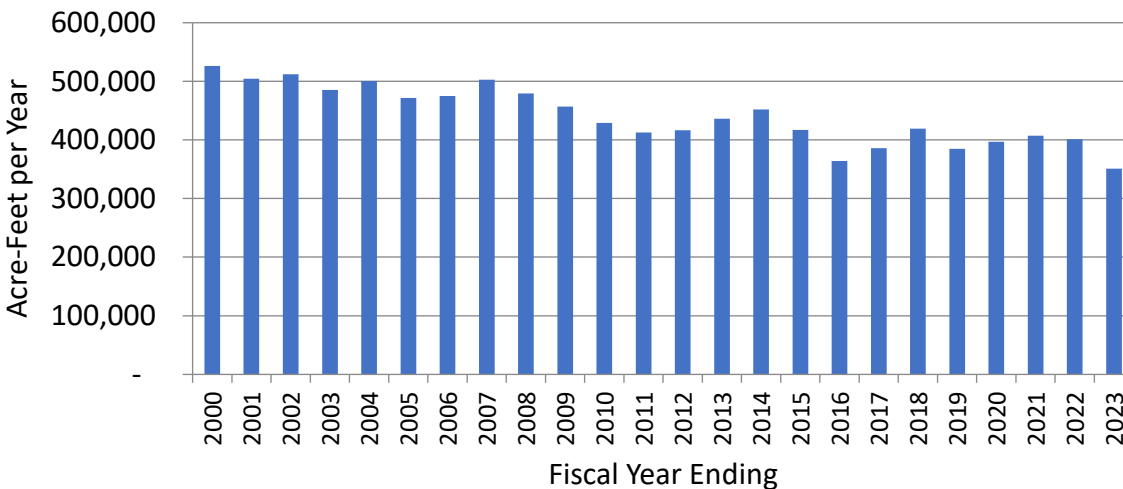
Staff recommends consideration to maintain the BPP at 85%. Staff estimates groundwater pumping will be approximately 292,000 acre-feet with an 85% BPP. Several factors need to be considered in setting the BPP and estimating the resultant groundwater pumping. They include:

- Staff is assuming the Groundwater Producers will not reduce their pumping from impacted wells once the Environmental Protection Agency (EPA) establishes a 4 ug/l Maximum Contaminant Level (MCL) for some PFAS compounds in early 2024. 40 to 45 wells will be impacted. This new MCL gives the Producers three years to construct necessary treatment facilities before they could be found to be in violation of the new

MCL. Staff would work to complete the new treatment facilities within that three-year period.

- As was previously discussed, staff expects total water demands to be slightly higher next year.
- Approximately six Producers routinely pump above the BPP and can often pump 100% of their water needs. These Producers either have water quality projects designed to operate above the BPP or just prefer to operate their systems primarily on groundwater.
- Regarding those Producers impacted by PFAS, a significant number of treatment systems have or will come online this fiscal year allowing them to increase their groundwater pumping as compared to last year.
- The remaining Producers would be expected to pump up to or close to the 85% BPP absent any well capacity issues.
- The District has lowered the Basin Equity Assessment in FY2023-24 by \$200 per acre-foot to encourage greater pumping above the BPP. Staff recommends continuing this financial incentive for FY2024-25.
- Groundwater pumping for FY2023-24 is budgeted at 280,000 acre-feet and is tracking very close to this amount after the first five months of the year.

**Figure 2  
Historical Total Water Demands**



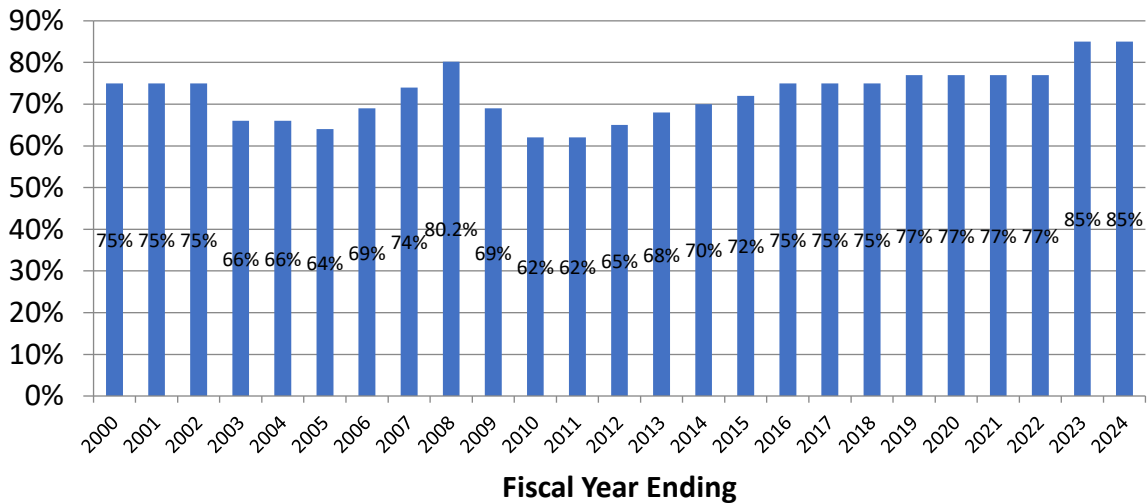
If the BPP remains at 85% for FY2024-25, it would be the 15<sup>th</sup> year in a row the BPP has not decreased, which would be a record for OCWD. For reference, the historical BPP since FY 1999-00 is shown on Figure 3.

Expected source waters to recharge the groundwater basin in FY 2024-25 are shown on the following Table 1. The groundwater basin’s accumulated overdraft would decrease by approximately 21,000 acre-feet assuming average hydrology for the year with the 85% BPP. With this tentative plan, if a relatively dry year were to occur, the accumulated overdraft would only increase by approximately 30,000 acre-feet.

## Replenishment Assessment (RA) Projection

The RA is determined by taking total expected operating costs, which primarily consist of the general fund, debt service, water purchases and the Refurbishment & Replacement transfer amount, subtracting non-RA operating revenues, and dividing this net amount by expected groundwater basin pumping.

**Figure 3**  
**Historical Basin Production Percentage**



**Table 1**  
**Expected FY 2024-25 Groundwater Basin Water Balance**

Sources	Amount (af)
Captured Santa Ana River Baseflows (1)	75,000
Captured Santa Ana River Stormflows (2)	58,000
Natural Incidental Recharge (2)	49,000
MWD Untreated Full Service water	0
GWR System	128,000
Alamitos Barrier	<u>3,000</u>
Total water recharged	<b>313,000</b>
Expected Basin Pumping at 85% BPP	<b><u>292,000</u></b>
Planned basin refill (decrease to accumulated overdraft)	21,000

Notes (1) Past five year average  
(2) 50% chance of occurring based upon past rainfall records

The District's department heads are beginning the preparation of their budgets which will be presented to the Board on March 6, 2024. The RA is currently \$624 per acre-foot and is expected to increase to approximately \$688 per acre-foot. The primary reason for the increase is the District needs to collect approximately \$270 million over the next 3 years to fund the 40-45 wells expected to be impacted by the EPA's 4 ug/l PFAS MCL without issuing any long-term debt. Grants and potential litigation settlements will assist in providing the necessary funding. \$42 million of PFAS funding is in the FY2023-24 budget. Staff will recommend increasing this amount to approximately \$56 million in March 2024.

The budget does not include the purchase of any Metropolitan Water District (MWD) untreated full service water. The District normally budgets for and purchases untreated imported water, which currently cost \$903/acre-foot, to recharge the groundwater basin to support higher levels of groundwater pumping. In general, it is a good basin management strategy to budget money for MWD untreated water purchases. During years when no water is purchased, this money stays in the water fund for future purchases. The two primary benefits of this strategy include:

- This program allows the District to conjunctively operate with the MWD imported water system. During drought years and reductions to imported water supplies, OCWD can overdraft the groundwater basin if necessary knowing that funding is available to refill the basin when wet periods occur.
- Eventually the water is pumped out of the groundwater basin by the Groundwater Producers, disinfected and served to their customers. This operation reduces the amount of treated imported water that is purchased by the Groundwater Producers, which currently costs \$1,256/acre-foot, resulting in a net water supply savings to the region.

Staff is recommending to temporarily deviate from this budgeting strategy due to several reasons, they include:

- Groundwater pumping remains less than normal due to the PFAS issue;
- The recent expansion of the GWRS is providing the District with additional recharge water;
- The groundwater basin is in very good condition; and
- The recommended Replenishment Assessment increase would be higher than what is currently being considered.

Staff anticipates recommending the inclusion of funding to purchase MWD untreated water in future budgets.

**PRIOR RELEVANT BOARD ACTION(S):** N/A



## AGENDA ITEM SUBMITTAL

**Meeting Date:** January 17, 2024

**To:** Board of Directors

**From:** Mike Markus

**Staff Contact:** J. Kennedy

**Budgeted:** N/A

**Budgeted Amount:** N/A

**Cost Estimate:** N/A

**Funding Source:** N/A

**Program/Line Item No.:** N/A

**General Counsel Approval:** N/A

**Engineers/Feasibility Report:** N/A

**CEQA Compliance:** N/A

**Subject: DIVISION SEVEN BOARD VACANCY**

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### SUMMARY

The following candidates have applied for the Orange County Water District Division Seven director vacancy.

Bruce Elieff  
James Fisler  
Leslie Lindahl  
Robert Ooten  
Brett Sanders  
Erik Weigand  
Mark Wille

Staff reviewed this issue with the Executive Committee on January 11, 2024.

#### Attachments:

Notice of Vacancy  
Candidate applications

### RECOMMENDATIONS

Board Actions

#1 – Board action to consider or not consider candidate Bruce Elieff who submitted an application at 5:26 p.m. which was after the requested 5:00 p.m. January 10, 2024, deadline.

#2 – Board action to utilize the described process to select a new director for Division Seven; and,

#3 – Board action to select a candidate for Division Seven.

### DISCUSSION/ANALYSIS

Director Kelly Rowe passed away on November 22, 2023. OCWD was notified of his passing on the same day. The Board has 60 days from that date to fill the Division Seven

vacancy by appointment or call for a special election. If the Board takes no action within 60 days, the power to appoint then vests in the Orange County Board of Supervisors.

OCWD advertised the vacancy per Government Code 1780, and seven candidates applied for the position. The Board has indicated it wants to interview qualified candidates at the January 17, 2024, regular board meeting prior to nominating, and potentially appointing, a qualified candidate. After receiving input from OCWD's Executive Committee, staff recommends the Board utilize the following procedures at the January 17 board meeting:

1. Board votes to determine whether to consider the application of Bruce Elieff and to approve the procedures recommended herein.
2. Request the candidates to move to the foyer outside the boardroom once the Board begins consideration of this issue and commences interviews.
3. Staff brings in candidates individually into the boardroom for interview based upon alphabetical order.
4. Candidates are to be allowed three minutes for an opening statement.
5. Board will be allowed up to 15 minutes per applicant for any questions they wish to ask each applicant.
6. Time, as needed, for Director discussion regarding the candidates. Following said discussion, staff to announce that candidates can reenter the Boardroom.

#### Selection Procedure

7. Board members begin the nomination process by writing the name of the candidate they want to be considered on the provided paper, which will be given to the Board Secretary. Board members attending the meeting via Zoom will tell the Board Secretary their nomination via text or email. Documents used to nominate applicants will be kept by the Board Secretary and can be made available upon request.
8. The Board Secretary will announce if any candidate has five or more nominations based upon the nominations received. If a candidate has five or more nominations, the Board can then take a formal vote to potentially appoint that candidate to the Division Seven seat.
9. If no candidate has five or more nominations, the Board Secretary will then eliminate the candidate(s) that received one or less nominations from further consideration and announce the name(s) of the candidate(s) no longer being considered.
10. The Board will repeat steps 7-9 until a candidate has five or more nominations. Once an applicant has five or more nominations, a formal vote can then occur taking action to fill the vacancy by selecting an applicant.
11. The Board reserves the right to change the process described above as may be needed.

Once an applicant has been selected by vote of the Board, the District Secretary would administer the oath of office and the applicant would take their seat on the dais.

**PRIOR RELEVANT BOARD ACTION(S) N/A**



DIRECTORS

VALERIE AMEZCUA  
DENIS R. BILODEAU, P.E.  
CATHY GREEN  
NATALIE MEEKS  
DINA L. NGUYEN, ESQ.  
STEPHEN R. SHELDON  
VAN TRAN, ESQ.  
BRUCE WHITAKER  
ROGER C. YOH, P.E.



OFFICERS

President  
CATHY GREEN  
  
First Vice President  
DENIS BILODEAU, P.E.  
  
Second Vice President  
VAN TRAN, ESQ.  
  
General Manager  
MICHAEL R. MARKUS, P.E., D.WRE

**ORANGE COUNTY WATER DISTRICT**  
ORANGE COUNTY'S GROUNDWATER AUTHORITY

**NOTICE OF VACANCY IN  
OFFICE OF DIRECTOR, DIVISION 7  
ORANGE COUNTY WATER DISTRICT**

NOTICE IS HEREBY GIVEN:

That effective November 22, 2023, a vacancy exists in the office of Director for Division 7 of the Orange County Water District (OCWD).

Pursuant to the Orange County Water District Act, Section 12, and Government Code Section 1780, the Board of Directors of OCWD has determined to fill the vacancy in the office of Division 7 by appointment. Any person interested in being considered for appointment to this office must submit a letter of interest and/or resume to the OCWD **no later than 5:00 p.m. on Wednesday, January 10, 2024, at the following address and/or email:**

**Orange County Water District  
PO Box 8300  
18700 Ward Street  
Attn: District Secretary  
Fountain Valley, CA 92728-0895  
(714) 378-3234, Email: [cfuller@ocwd.com](mailto:cfuller@ocwd.com)**

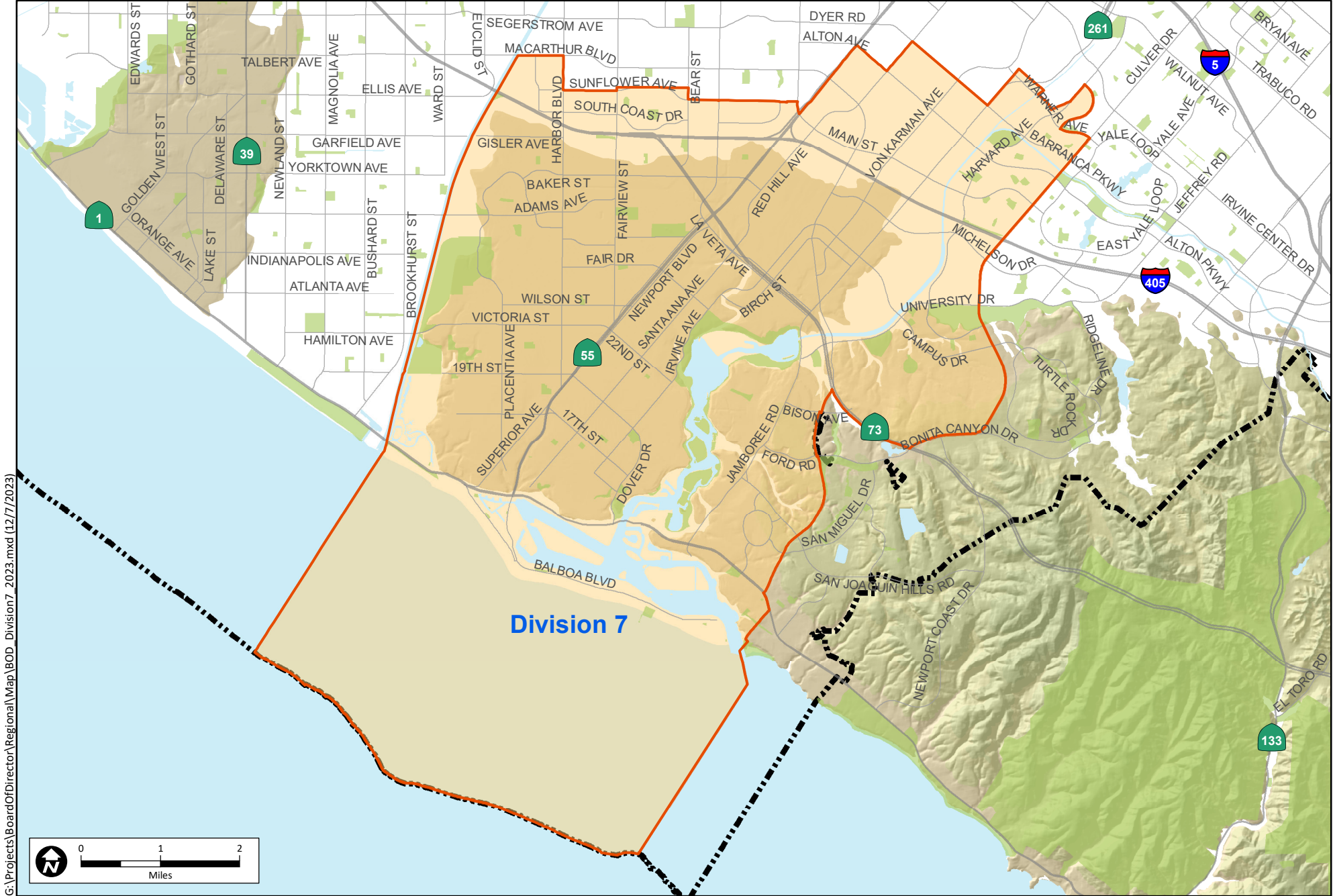
Early submissions are encouraged. The remaining members of the Board of Directors of the OCWD intend to consider applications, interview candidates as appropriate, and potentially make an appointment to fill said vacancy at a Board of Directors meeting to be held at 5:30 p.m. on January 17, 2024.

To be eligible to be an OCWD Director representing OCWD Division 7, a person must be a resident of, and a voter (within the meaning of Section 18 of the Elections Code), in Division 7 of OCWD. The Division 7 service area includes all or a portion of the cities of Costa Mesa, Irvine and Newport Beach and is depicted on the attached map. Information regarding the exact boundaries of Division 7 is also available on the OCWD Website at: <https://www.ocwd.com/about/service-area-board-of-directors/>

Any questions regarding this vacancy should be directed to Christina Fuller.

DATE POSTED: December 8, 2023

  
Christina Fuller, District Secretary



G:\Projects\BoardOfDirector\Regional\Map\BOD\_Division7\_2023.mxd (12/7/2023)



Orange County Water District  
 Board of Director Boundary  
 Division 7

## **Bruce Elieff Professional Biography**

Raised in the family SunCal business founded in the 1930s, developing residential and commercial properties throughout the greater Los Angeles area, Bruce Elieff began a lifetime career in real estate development and construction. His management of multiple projects provided a solid foundation of expertise. Soon he took over SunCal operations refocusing the company on large scale masterplanned communities.

As merchant home builders struggled to manage their balance sheets turning raw land into ready to build lots, Bruce saw an opportunity on which he capitalized. With the formation of SunCal, he set out to acquire, entitle large scale projects with award winning recreational amenities, constructing complex land improvements, and delivering “just in time” ready to build lots to a host of large-scale public and private production homebuilders.

To fuel SunCal’s operations Bruce connected with numerous institutional capital sources for debt and equity. With early success, a stable of capitol relationships such as Lehman Brothers, Colony Capital, Dune Capitol, and many more, Bruce leveraged his capital resources. Expanding operations nationally throughout California, Virginia, New York, Texas, Arizona, and Nevada, SunCal became the largest developer of masterplanned communities in the nation. Focusing on projects with challenging local, state, federal and environmental government approvals, great value was created, which delivered great returns for his investors, SunCal and the homebuilders who purchased ready to build lots in great volumes.

Always looking for the next best opportunity, Bruce has leveraged the SunCal brand into “SunCal Living” to capitalize on the evolving demand for new home rentals in well planned communities. “SunCal Living” provides new single family detached homes, townhomes, and apartments to meet the ever-growing housing demand.

Ms. Christina Fuller  
District Secretary  
Orange County Water District  
18700 Ward Street  
Fountain Valley, CA 92708

Re: Application to Fill Vacancy in Division Seven Seat

Dear Ms. Fuller:

With its 90<sup>th</sup> year of operation underway, the Orange County Water District demonstrates that with vision from its Board of Directors, hard work from its dedicated employees and professionalism from the district management, the District can and will continue to provide reliable and cost-effective potable water to its constituents. It is my honor to apply to be appointed by the Board of Directors to the Division Seven board seat.

I am seeking the appointment because I am very interested in public policy, particularly with an emphasis on California water supply. The District is a national and international leader in water supply innovation. I have read on Water Factory 21 and how that grew into the Groundwater Replenishment System (GWRS). It is my understanding that the OCWD groundwater District now provides 85 percent of the drinking water to constituents in the district boundaries, with the balance coming from imported water. Eighty five percent is an impressive number, and the District must continue to innovate to continue providing water at that important level. I believe that I can bring my successful career as one of the nation's largest masterplan developers to the water district for the benefit of Orange County residents.

My past business experience provides me with the skill set, experience and leadership to significantly contribute as a Director on the Board. As a developer of master planned communities, I have been heavily involved in the design and construction of major infrastructure including water sewer, storm drain and all the while navigating the laborious permitting process and then complying with numerous state and federal laws that allowed us to construct and operate these systems. As a private business we have always had to be very aware of costs while delivering a quality product to the customers. I bring a unique set of business skills, life experiences and perspective that will enable me to positively contribute to the great work of the District.

Thank you for the consideration of my application. I can provide references upon request.

Bruce Elieff

**James R. Fisler • 1700 Palau Place, Costa Mesa CA 92626**

December 20, 2023

**RE: Declaration of James R. Fisler Candidacy for Appointment to the Orange County Water District Board of Directors, Division 7**

Greetings Honorable Directors,

It has been my honor to serve on the Mesa Water District (Mesa Water®) Board of Directors since being unanimously appointed in September 2009. In 2010, I was elected (for the remainder of that term), and I was re-elected in 2012, 2016, and 2020. Throughout my Mesa Water service, I have enjoyed our history of collaborating with Orange County Water District (OCWD) on important water policy items and legal matters.

Over the years, I have gained knowledge of the issues that OCWD manages -- and the innovative solutions implemented by your district -- as reported to Mesa Water's Board by your General Manager Markus, as well as by our General Manager Shoenberger, who has Chaired the Groundwater Producers for many consecutive years. The magnitude and scope of OCWD's role is quite impressive, and my interest in serving at OCWD is strong. So much so that, in 2022, I ran for election to the Division 7 seat and, while the incumbent prevailed, I did quite well having received 45% of the vote.

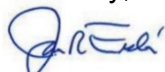
OCWD does an excellent job of managing and replenishing the local groundwater basin, preventing seawater intrusion, and protecting Orange County's rights to Santa Ana River water to reliably serve 85% of the water supply for nineteen cities and retail water districts in north and central Orange County. Moreover, your dedication to exceptional water quality and reliability, proactive infrastructure investment, prudent financial planning, stewardship of the environment, and safeguarding transparency is commendable. I am confident that my knowledge, experience, and commitment can positively contribute results as an effective Director at OCWD, working together to best serve the interests of over 2.5 million people in Orange County.

Additionally, since 2011, I have visited all 27 independent special districts in Orange County multiple times as an Orange County Local Agency Formation Commissioner, to ensure the economical, effective, and efficient delivery of government services to the public. In my multiple times attending OCWD meetings, whether to present an item, comment on an item, or watch the proceedings, I have been extremely impressed with your Board and the expertise of your staff. All special districts in Orange County do tremendous work, and certainly the most impactful work is done right here at OCWD, which is internationally known and respected.

Lastly, it is my belief that the person appointed to the vacant Division 7 seat should be able to defend the seat in the November 2024 election. Having run for this seat in 2022 as a non-incumbent, I have name recognition. Perhaps most importantly, all of Costa Mesa is covered by Division 7 and, having lived in Costa Mesa since 1969, I am well known in the community for my passion for public policy and public service, including as a City of Costa Mesa Planning Commissioner, Parks Commissioner, and on many other Boards, Commissions, and Committees.

For your review, included with this letter is my résumé submission for the OCWD Division 7 Board seat. I will also be contacting each of you to answer any questions you may have of me, and please feel free to call or text me any time at 714.423.4351 (cell) or email me at [Jim@JimFisler.com](mailto:Jim@JimFisler.com). Many thanks for your consideration of my potential to serve in this vital role.

Sincerely,



James R. Fisler

# James R. Fisler Résumé

**\* KNOWLEDGE \* EXPERIENCE \* COMMITMENT \* RESULTS \***

## **James R. Fisler – Mesa Water District Director**



- **Orange County Local Agency Formation Commission (OC LAFCO)** Special District Commissioner, 2019-present
- **OC LAFCO** Special District Alternate Commissioner, 2011-2019
- **Independent Special Districts of Orange County (ISDOC) Executive Committee** – Immediate Past President, 2018-2020; President, 2016-2018
- **Mesa Water District** Director, 2009-present; President, 2012-2014
- **Mesa Water District Improvement Corporation** President, 2010-2012 & 2017-2022; Engineering & Operations Committee Chairman; Legislative & Public Affairs Committee Vice Chairman
- **Association of California Water Agencies (ACWA)** Local Government Committee, 2016-2019, 2022-present
- **County of Orange Housing & Community Development Commission** – Vice Chair, 2019-2021; Commissioner 2017-2021 (appointed by the Orange County Board of Supervisors)
- **City of Costa Mesa**
  - Planning Commissioner & Vice Chairman, 2004-2009
  - Parks & Recreation Commissioner, 2002-2004
  - Finance Committee, 2014-2017; Finance Committee Chairman, 2016-2017; Finance & Pension Advisory Committee Chairman, 2017-2020
  - Residential Rehabilitation & Redevelopment Committee, 1999-2009
  - Citizen's Police Academy graduate; Neighbors for Neighbors volunteer
- **Costa Mesa Chamber of Commerce** Board Member, 2017-present
- **Costa Mesa Senior Center** Board Member
- **Friends of Costa Mesa Libraries** Board Member

With a passion for public policy and community service, James R. Fisler (Jim) is motivated by the prospect of positively contributing at the Orange County Water District (OCWD) Board level, with sound decision-making on policies for water supply, storage, treatment, and related issues.

Committed to promoting outstanding customer service and to the efficient delivery of government services, Director Fisler has been a strong leader and voice for water -- as well as for special districts -- in Orange County, and he is dedicated to representing the best interests of OCWD, its pumpers, and the more than 2.5 million people in OCWD's service area.

Director Fisler is a Broker/Associate with Torelli Realty in Costa Mesa and a Mortgage Loan Officer with CB Loans in Redondo Beach. Prior to that, he was a Southern California regional manager for Nordstrom for over 12 years.

## **RESOLUTION NO. 1585**

### **RESOLUTION OF THE MESA WATER DISTRICT BOARD OF DIRECTORS REQUESTING THE ORANGE COUNTY WATER DISTRICT BOARD OF DIRECTORS CONSIDER THE APPOINTMENT OF JAMES R. FISLER TO FILL ORANGE COUNTY WATER DISTRICT'S DIVISION SEVEN BOARD VACANCY**

WHEREAS, Mesa Water District (Mesa Water®) is a county water district organized and operating pursuant to the provisions of the laws of the State of California (State or California); and

WHEREAS, due to the unexpected passing of Orange County Water District (OCWD) Director Kelly Rowe of Division Seven, a vacancy exists on the OCWD Board of Directors (OCWD Board); and

WHEREAS, at its December 6, 2023, meeting, the OCWD Board voted to approve a process and schedule to appoint an individual to fill the Division Seven vacancy. If such an appointment is made, the person appointed shall fill the balance of the unexpired term of the Division seat; and

WHEREAS, Mr. James R. Fisler currently meets all of the requirements for appointment to the OCWD Board as he is over 18 years of age, a registered voter, resides within OCWD's Division Seven, and is not disqualified from holding civil office by the Constitution or any law of the State of California; and

WHEREAS, Mr. Fisler has extensive experience in the water industry and in his community, including engagement as Commissioner of the Orange County Local Agency Formation Commission, President of the Independent Special Districts of Orange County, Vice Chair of the Orange County Housing and Community Development Commission, Board Member of both the Costa Mesa Chamber of Commerce and the Friends of the Costa Mesa Libraries, and actively engaged with the City of Costa Mesa – including as Planning Commissioner, Parks Commissioner, Chair of the Finance and Pension Oversight Committee, and Senior Center Board Member; and

WHEREAS, Mr. Fisler has demonstrated his commitment to matters important to OCWD and its constituents. His recent close showing in the 2022 November Election for the OCWD Board demonstrates the public's confidence in Mr. Fisler's background, qualifications, and experience; and

WHEREAS, it is Mesa Water's Board of Directors' (Board) belief that Mr. Fisler is well suited and highly qualified to be considered for appointment to fill the current vacancy on the OCWD Board; and

WHEREAS, Mesa Water’s Board desires to express its full support for the consideration by the OCWD Board to appoint Mr. Fisler to fill the current OCWD Division Seven Board vacancy.

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE MESA WATER DISTRICT HEREBY RESOLVE, DETERMINE, AND ORDER AS FOLLOWS:

**Section 1. Recitals.** The foregoing recitals are true and correct and are incorporated herein by this reference.

**Section 2. Expression of Support and Request for Consideration.** The Board of Directors of Mesa Water District hereby expresses its full support for the appointment of Mr. James R. Fisler to fill OCWD’s Division Seven Board vacancy. The Board respectfully requests that the OCWD Board consider Mr. Fisler for appointment to fill the current vacancy in Division Seven.

**Section 3. Provision of Resolution.** The District Secretary is authorized and directed to promptly provide a copy of this Resolution to the Secretary and Board of Directors of the Orange County Water District.

**Section 4. Other Actions.** Mesa Water’s General Manager, other officers, staff, and consultants are hereby authorized and directed to take all necessary and appropriate actions as may be required or desirable to carry out the directives of this Resolution.

**Section 5. Effective Date.** This Resolution shall be effective immediately upon adoption by the Board.

ADOPTED, SIGNED, and APPROVED this 13th day of December 2023 by a roll call vote.

AYES: DIRECTORS: Atkinson, Bockmiller, Fisler, DePasquale, Dewane  
NOES: DIRECTORS:  
ABSTAIN: DIRECTORS:  
ABSENT: DIRECTORS:

DocuSigned by:  
*Denise Garcia*  
Denise Garcia  
District Secretary

DocuSigned by:  
*Shawn Dewane*  
Shawn Dewane  
President, Board of Directors





**MesaWater**  
DISTRICT®

*Dedicated to  
Satisfying our Community's  
Water Needs*

**BOARD OF DIRECTORS**

**Shawn Dewane**  
*President  
Division V*

**Marice H. DePasquale**  
*Vice President  
Division III*

**Jim Atkinson**  
*Director  
Division IV*

**Fred R. Bockmiller, P.E.**  
*Director  
Division I*

**James R. Fisler**  
*Director  
Division II*

**Paul E. Shoenberger, P.E.**  
*General Manager*

**Denise Garcia**  
*District Secretary*

**Marwan Khalifa, CPA, MBA**  
*District Treasurer*

**Atkinson, Andelson,  
Loya, Ruud & Romo**  
*Legal Counsel*

1965 Placentia Avenue  
Costa Mesa, CA 92627  
tel 949.631.1200  
fax 949.574.1036  
info@MesaWater.org  
**MesaWater.org**

December 20, 2023

The Honorable Cathy Green  
Board President  
Orange County Water District  
18700 Ward Street  
Fountain Valley, CA 92708

Dear Cathy,

Speaking on behalf of the Board and staff of Mesa Water District, we are sorry to hear of the passing of Director Rowe. Please pass our condolences to his family, and let them know we are grateful for his service to our community.

I write to endorse Director Jim Fisler to fill the vacancy. Jim is well qualified, thoughtful, and comes prepared. I am certain you will find his contribution to the deliberation of the Board of the Orange County Water District to be of value. Jim has the full support of the Board of Directors of Mesa Water District.

Jim Fisler has served Mesa Water for over 14 years, having first been appointed to the Board in 2009, and then resoundingly re-elected by his constituents four times since. Jim has extensive experience in the water industry and possesses unique knowledge as an Orange County Local Agency Formation Commissioner, representing Orange County's special districts since 2011.

Jim is solidly engaged in his community, demonstrating his commitment to public service as a current Costa Mesa Chamber of Commerce Board member, former Orange County Housing and Development Commissioner, and former City of Costa Mesa Planning Commissioner, Parks Commissioner, Finance and Pension Oversight Committee Chair, and Senior Center Board member.

In November 2022, the public showed their confidence in Jim's abilities to govern by giving him 45% of the vote for OCWD's Division Seven seat.

We respectfully request your Board's thoughtful consideration of Jim Fisler to fill the Division Seven vacancy as we believe him to be well suited for the role.

I am available to discuss this further if you wish at 949.233.9547, and I look forward to our ongoing collaboration in serving our shared constituents in 2024.

Sincerely,

Shawn Dewane  
Mesa Water District Board President

c: Orange County Water District Board of Directors  
Mesa Water District Board of Directors  
Michael R. Markus, Orange County Water District General Manager  
John Kennedy, Executive Director Engineering/Local Resources  
Paul E. Shoenberger, Mesa Water District General Manager

enc: Mesa Water District Resolution No. 1585

**Leslie (Daigle) Lindahl**  
1418 Sea Ridge Drive  
Newport Beach, CA 92660  
(949) 233-4869  
www.lesliedaigle.com

January 10, 2024

**VIA E-MAIL**

Christina Fuller  
District Secretary  
Orange County Water District  
18700 Ward Street  
Fountain Valley, CA 92708

Re: Board Appointment to Fill District 7 Vacancy; Letter of Interest

Dear Ms. Fuller:

I write to you to be considered for appointment to fill the vacancy of Division 7 on the Orange County Water District (OCWD) Board of Directors. I reside in District 7 and represented portions of the area while a Newport Beach City Council Member (2004-14). I believe I can contribute to OCWD's efforts to assure the District provides abundant, clean and affordable water to its member cities and agencies.

I am prepared to contribute as a OCWD Director to protect our groundwater supply and replenishment, reduce contaminants including PFOS, foster relationships with pumping agencies including the City of Newport Beach and all OCWD member agencies. Conservation is commendable, but a strategy based on scarcity won't meet our area's growing water needs. Board members should be a voice and force for new water sources.

During my ten years on the City Council, I was a non-partisan champion of successful, multi-agency projects to improve water quality in Upper Newport Bay, Newport Harbor and along our coast. My crowning achievement grew out of my determination to reduce urban runoff and improve the water quality of Newport's iconic bay and beaches. I was the Council's lead advocate for coordinated state and federal funding to complete the Upper Newport Bay Ecological Restoration Project (UNBERP) and dredging the main bay to significantly improve navigability and water quality. The UNBERP project continues to serve as an example of what sustainability looks like through a combination of enhanced water quality, wetland restoration, and environmental enhancement. I tackled difficult issues that required the cooperation and support from governmental agencies and elected officials of different parties at the local, state and federal level. In the end, she developed a federal/local partnership, identified funding, and helped

establish a partnership with the Port of Long Beach for the sustainable disposal of contaminated sediments.

I worked diligently to help develop and fund the renowned Back Bay Science Center and its state-of-the-art water quality testing lab, a partnership between the California Department of Fish & Wildlife, City of Newport Beach and Orange County. I graduated from the University of Denver where I studied Natural Sciences as I have a love for nature, and an appreciation for science and sustainability.

In addition, in my capacity as an elected official, I am experienced in a range of governance issues including review and adoption of budgets, cost studies, fee recovery, employee compensation, permitting, litigation, real property issues and capital projects including parks, streets, bridges, building and facility improvements. and large scale public works projects including the planning and construction of a \$140 million Civic Center.

I've chaired and served on multiple committees and regional agencies including San Joaquin Hills Transportation Corridor Agency Board of Directors, Orange County Vector & Mosquito Control Board of Trustees, Orange County Sanitation District (Alternate), and Southern California Association of Governments (SCAG) Regional Council. I currently serve on SCAG Emerging Technology Committee. I served on the Newport Beach Planning Commission in 2004. For more than 20 years, I've assisted clients on land use issues including strategic guidance and implementation of plans to navigate the complex process of zoning approvals and acceptance of new property improvement proposals.

On a personal note, my husband Dave Lindahl is the Executive Director of Engineering for Hydraflow in Fullerton. Hydraflow designs and manufactures fluid transfer solutions for the aerospace and defense industry. They are one of Fullerton's largest employers.

Thank you for your consideration of me to be on the OCWD Board of Directors representing member cities and agencies including City of Anaheim, City of Buena Park, East Orange County Water District, City of Fountain Valley, City of Fullerton, City of Garden Grove, Golden State Water Company, City of Huntington Beach, Irvine Ranch Water District, City of La Palma, Mesa Water District, City of Newport Beach, City of Orange, City of Santa Ana, City of Seal Beach, Serrano Water District, City of Tustin, City of Westminster, Yorba Linda Water District.

I may be reached at 949 233-4869 if you have any questions for me.

Sincerely,



Leslie Lindahl

Enclosure: Resume

cc: Michael Markus, P.E., General Manager

# Resume

## Leslie (Daigle) Lindahl

1418 Sea Ridge Drive  
Newport Beach, CA 92660

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### **City Council Service (2004 – 2014)**

Worked with Council colleagues and staff as her City achieved coveted AAA bond rating status, reworked its approach to service delivery, and imposed new priorities that improved productivity, kept libraries and senior centers open in a struggling economy, and maintained public safety response times. Leslie pushed for infrastructure improvements including roads, traffic signal synchronization and the installation of a privately run state-of-the-art parking meter system. She reviewed budgets, contracts and large scale public works projects including the planning and construction of a \$140 million Civic Center.

Leslie's crowning achievement grew out of her determination to reduce urban runoff and improve the water quality of Newport's iconic bays and beaches. She was the Council's lead advocate for coordinated state and federal funding to complete the Upper Newport Bay Ecological Restoration Project and dredging the main bay to significantly improve navigability and water quality. She demonstrated her ability to tackle difficult issues that require the cooperation and support from governmental agencies and elected officials from different parties at the local, state and federal level. She helped establish a partnership with the Port of Long Beach for the sustainable disposal of contaminated sediments.

### **Committees, Boards & Commission Service**

Served on regional entities including Southern California Association of Governments (SCAG) Regional Council, San Joaquin Hills Transportation Corridor Agency Board of Directors, Orange County Sanitation District (Alternate), Airport Land Use Commission. Served on Newport Beach Planning Commission. Chaired City Council Committees including Finance Committee and Affordable Housing Task Force.

### **Work Experience**

Began professional career as member of Newport Beach city planning staff (five years).

Small Business Owner/Consultant since 1998. Assist clients on land use issues including strategic guidance and implementation of plans to navigate the complex process of zoning approvals and acceptance of new property improvement proposals. Clients have included Verizon, Google, Mobilitie, National CORE and Comprehensive Housing Services (CHS) who I assisted in the administering of the City of Anaheim Emergency Rental Assistance Program (ERAP) state and federal funds during Covid-19.

### **Education**

Bachelor of Arts degree from the University of Denver. Completed the Woman & Power: Leadership for a New Generation program at Harvard's Kennedy School of Government. Certificate in General Studies from the Denmark International Study Program at the University of Copenhagen.

### **Personal**

Married to Dave Lindahl, Executive Engineering Director, Hydraflow, Fullerton. Hydraflow designs and manufactures Fluid Transfer Systems for Aerospace and Defense Industries. One of Fullerton's largest employers.

Palisades Tennis Club, Newport Beach, 2023 Club doubles champion, Ladies 4.0.

January 5, 2024

The Honorable Cathy Green, President  
Board of Directors  
Orange County Water District  
18700 Ward Street  
Fountain Valley, CA 92708

Dear President Green and the Board of Directors:

It's with great pleasure and excitement I submit to you my letter of interest and resume for your appointment consideration to fill the vacancy of the office of Director for Division 7 of the Orange County Water District (OCWD) Board of Directors. I believe my experience in the wastewater/water profession and serving on governing bodies makes me an ideal candidate to assist the Board and staff on achieving its mission of providing reliable, high quality water supply in a cost-effective and environmentally responsible manner.

I am a Registered Profession Civil Engineer with emphasis on planning, design, construction, operation and maintenance of wastewater and water systems. I retired from the Orange County Sanitation District (OC San), after 25 years of service, as the Director of Operations & Maintenance for two treatment plants and the regional 400-mile collection system. I believe my extensive engineering background in facilitating capital improvement and rehabilitation projects can provide the Board with another level of oversight on financial management policies.

I have a great understanding of the Groundwater Replenishment System (GWRS) because I served on the initial development team where I was responsible for conducting the feasibility study, and I was on the team that selected the planning and design of the GWRS project. I also served on the joint GWRS steering committee that consisted of members from both OCWD and OC San that oversaw the design and construction of GWRS Phase 1.

I believe my experience collaborating on governing bodies promoting good governance would make me an asset on OCWD Board as for the past seventeen years I have served on the Costa Mesa Sanitary District Board of Directors where I am responsible for adopting policies for the betterment of the organization and the community. I have the full support of CMSD Board of Directors to serve on OCWD (see attached resolution). In addition, I am currently serving on OC San Board of Directors, and I am an alternate to the Santa Ana River Flood Protection Agency Executive Committee.

Thank you for considering my appointment to fill the office of Director for Division 7 and I look forward to discussing my qualifications further with you.

Sincerely,

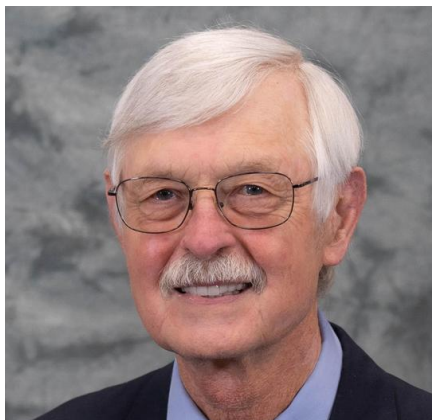
*Robert Ooten*

Robert (Bob) Ooten  
Costa Mesa Resident

Attachments: Resume  
CMSD Resolution No. 2023- 988

# ROBERT "BOB" OOTEN, PE

Community Leader



📍 Costa Mesa, California

📞 714-338-9896

✉️ bobbyooten@aol.com

## SUMMARY

Over 40 years of experience planning, designing, constructing, operating and maintaining wastewater and water systems. Over 17 years experience serving on governing bodies by adopting policies and procedures for the betterment of the organization and the community.

## WORK EXPERIENCE

2006 - Present Board Member

Costa Mesa Sanitary District

Key Achievements:

- Past President (2011-12 & 2021-22)
- First public agency in Southern California to adopt curbside organics recycling program using anaerobic digestion technology
- Adopted (3) five year strategic plans.

1981 - 2005

Director of Operations & Maintenance

Orange County Sanitation District

Key Achievements:

- Conducted feasibility study to provide high quality and reclaimable wastewater to the GWRS system.
- Served on OC San/OCWD Steering Committee during the planning, design, construction, operation and expansion of the GWRS.
- Developed an asset management system at OC San that reduced capital improvement costs for one project by \$44 million.

1977 - 1981

Project Manager

Tetra Tech

Key Achievements:-:

- Designed sewage, water and storm drain facilities in Iran.

## SKILLS



Leadership

Successfully lead governing bodies and departments



Strategic Thinker

Developed and implemented strategic plans



Collaborative

Successfully collaborate with fellow board members to enact good governance



Team Player

Work well with others to achieve common goals

## EDUCATION

1968

Masters - Environmental/Sanitary Engineering

Kansas University

1964

Bachelor of Science - Civil Engineering

Iowa State University

## SIGNIFICANT ACHIEVEMENTS

2005

Public Service Leadership Award

California Governor's Office & U.S. House of Representatives

Publicly recognized by Governor Arnold Schwarzenegger and Congresswoman Loretta Sanchez for years of public service

2000 - 2001

President

California Water Environment Association

Elected President of a 7,000+ professional organization

2006 - Present

Volunteer

Friends of the Costa Mesa Libraries

**RESOLUTION NO. 2023-988**

**A RESOLUTION OF THE BOARD OF DIRECTORS OF THE COSTA MESA SANITARY DISTRICT REQUESTING THE ORANGE COUNTY WATER DISTRICT (OCWD) BOARD OF DIRECTORS CONSIDER THE APPOINTMENT OF ROBERT “BOB” OOTEN TO FILL THE VACANCY IN THE OFFICE OF DIRECTOR FOR DIVISION 7.**

**WHEREAS**, the Orange County Water District (OCWD) was formed in 1933 to manage and replenish the region’s groundwater basin as well as ensuring water reliability and quality, preventing seawater intrusion, and protecting Orange County’s rights to Santa Ana River water; and

**WHEREAS**, OCWD is governed by ten board of directors who are responsible for implementing policies that foster sound management of the region’s groundwater basin to support the advancement of OCWD’s mission to provide an adequate, reliable, high quality water supply; and

**WHEREAS**, a vacancy exists in the office of Director for Division 7 of OCWD; and

**WHEREAS**, the Board of Directors of OCWD has decided to fill the vacancy in the office of Director for Division 7 by appointment; and

**WHEREAS**, the Costa Mesa Sanitary District (CMSD) Board of Directors believe Vice Secretary Robert “Bob” Ooten is qualified and experienced to serve on OCWD Board of Directors, as described below:


- Registered professional engineer with an emphasis on planning, designing, and constructing wastewater/water systems.
- Retired from Orange County Sanitation District (OC San) after 25 years of service.
- Part of the initial OC San/OCWD team that studied the feasibility of developing a dependable water supply from wastewater.
- Served on the evaluation team for hiring planning and design consultants for phase one of the Groundwater Replenishment System (GWRS).
- Served on the OC San/OCWD steering committee during the planning, design, construction, operation, and expansion of the GWRS.
- Developed an asset management system at OC San that reduced capital improvement costs for one project by \$44 million dollars.

- Past President of the 7000-member California Water Environment Association (CWEA).
- Past leadership positions for the Water Environment Federation (WEF).
- Recognized by Governor Arnold Schwarzenegger and Congresswoman Loretta Sanchez for 25 years of public service.
- Eighteen years of experience adopting policies as an elected official while serving on CMSD Board of Directors.
- Currently serving as Active Director of OC San Board of Directors. Served as Alternate Director of OC San Board of Directors for fourteen years.
- Alternate Executive Committee Member of the Santa Ana River Flood Protection Agency (SARFPA).

**NOW, THEREFORE, BE IT RESOLVED:**

1. The governing body of the Costa Mesa Sanitary District supports Vice Secretary Robert "Bob" Ooten applying to Orange County Water District to fill the vacancy in the office of Director for Division 7.
2. The governing body of the Costa Mesa Sanitary District encourages the Board of Directors of the Orange County Water District to consider the appointment of Robert "Bob" Ooten to fill the vacancy in the office of Director for Division 7.

**PASSED** and **ADOPTED** on this 18<sup>th</sup> day of December 2023.

  
\_\_\_\_\_  
Secretary, Costa Mesa Sanitary District  
Board of Directors

  
\_\_\_\_\_  
President, Costa Mesa Sanitary District  
Board of Directors



STATE OF CALIFORNIA)  
COUNTY OF ORANGE ) SS  
CITY OF COSTA MESA )

I, Noelani Middenway, District Clerk of the Costa Mesa Sanitary District, hereby certify that the above and foregoing Resolution No. 2023-988, was duly and regularly passed and adopted by said Board of Directors at a regular meeting thereof held on the 18<sup>th</sup> day of December 2023, by the following vote:

AYES: Scheafer, Schafer, Perry, Ooten, Eckles

NOES: None

ABSENT: None

ABSTAIN: None

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of the Costa Mesa Sanitary District, this 18<sup>th</sup> day of December 2023.

  
Clerk of the Costa Mesa Sanitary District



THE HENRY SAMUELI SCHOOL OF ENGINEERING  
DEPARTMENT OF CIVIL & ENVIRONMENTAL ENGINEERING

IRVINE, CALIFORNIA 92697-2175  
949/824-4327 Phone; 949/824-3672 Fax  
bsanders@uci.edu

Orange County Water District  
P.O. Box 8300  
18700 Ward Street  
Fountain Valley, CA 92728-0895  
Attn: District Secretary

January 2, 2024

Dear Members of the OCWD Board of Directors,

I'm writing for consideration to fill the position of Director for Division 7 of the Orange County Water District. I am eligible given that I have been a voter and resident living at 5 Twain in Irvine, California, for many years. I also believe that my technical background, professional experience, and leadership record would position me to be a strong contributor to the work of the Board of Directors.

My CV is attached for full review of my professional accomplishments. Highlights relevant to this position include:

Professional Expertise/Interests: Urban flooding and coastal erosion risks, multi-benefit infrastructure adaptation, sediment management, in-stream and coastal water quality, habitat restoration, dam operations and safety, computer modeling of shallow flows and transport.

Leadership Experience: Chair of the UCI Department of Civil and Environmental Engineering for 7 years, Interim Associate Dean for Student Affairs of the UCI Samueli School of Engineering (one-year), leader of numerous interdisciplinary research projects, member of the Science Advisory Panel for the California Coastal Commission, Member of the Research Network for the Water Policy Center at the Public Policy Institute of California (PPIC), Chair of Supervisor Katrina Foley's Climate Resiliency Task Force.

Public Partnerships: My research activities have afforded me the opportunity to interact and collaborate with representatives of local, state, and federal government; public utilities; and non-governmental organizations. Collaboration is key to successful projects, and my network of collaborators is broad. I currently lead major research projects funded by the National Science Foundation (NSF), the National Oceanic and Atmospheric Administration (NOAA) and the National Aeronautics and Space Administration (NASA), and each of these projects involves a team of public agency partners who contribute to the quality and impact of the work. One of my projects is based in Miami, one based in Los Angeles, one is based in Orange County, and one is based in Riverside County.

Public Outreach: Public awareness and support is the foundation of effective resource management. I have become one of California's most trusted authorities on resource and risk management issues who has been featured in dozens print and television media, has authored several OpEd pieces in the *Los Angeles Times* on beach loss and coastal hazards, has been featured in two documentary films about beach loss, and who was selected by the *Orange County Register* as one of the *125 Most Influential People of 2023*. Recently, my research revealed flood risks in Los Angeles at least ten times greater than suggested by federal flood maps, due to undersized main stem flood channels and insufficient consideration of urban flooding from intense rainfall over hardened landscapes. Our work also showed that Black, Hispanic and Disadvantaged populations are disproportionately at risk. These findings made headlines nationwide, with coverage in the *Los Angeles Times*, *New York Times*, and *Wall Street Journal* among many news outlets. Importantly, within a month of the publication of our study, the Los Angeles County Board of Supervisors passed a motion directing its public works department to immediately develop a plan to reduce flood risk and inequities and build greater water security through stormwater capture and related measures.

Innovation: The Orange County Water District is world-renowned for its innovation in water reuse and groundwater replenishment, and innovation is a trait that I admire and embrace. Research in the field of engineering is all about innovation, and in my case, I have focused on advancing computer simulation technology that allows communities to improve understanding of flood and erosion risks, and develop plans to cost-effectively and fairly manage risks. I was recognized by the *Orange County Business Journal* as an *Innovator of the Year* nominee in 2022, and I received the *Innovator of the Year Award* from the Henry Samueli School of Engineering in 2023. My innovation efforts now extend beyond the university too. I recently created a start-up business, Zeppelin Floods LLC, which provides cloud-based flood risk data services to clients seeking to understand and respond to changing flood risks and improve emergency response during extreme events. My business activity has been reviewed and approved by UCI in accordance with its conflict-of-interest policies.

I would be delighted to meet you all and answer any questions you might have. Please note that as a member of the UCI Faculty, I am allowed a maximum of one day per week of "outside professional activities" over the course of a year, and I believe that the time commitment of the Director position is in alignment with this policy.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Brett Sanders", with a long horizontal line extending to the right from the end of the signature.

Brett F. Sanders, Ph.D  
Professor of Civil and Environmental Engineering, Urban Planning and Public Policy  
Head, UCI Flood Lab



---

## **Brett F. Sanders**

Department of Civil and Environmental Engineering  
Department of Urban Planning and Public Policy (wos)  
University of California, Irvine

949.824.4327  
bsanders@uci.edu  
<http://floodlab.eng.uci.edu>

## **Expertise and Interests**

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I am interested in advancing knowledge and models of environmental dynamics in the context of (contentious) interactions between the built environment, the natural environment, and human activities.

My core training is in fluid mechanics, open channel hydraulics, and computational methods, and my core interests center around “long” water wave dynamics, notably floods and tidal dynamics along coasts. I also dabble in water quality modeling (including sediment transport), remote sensing, parallel computing, planning and policy.

A focal point of my recent work has been advancing simulation tools for understanding and adapting to changing risks. With more intense storms and rising sea levels, the impacts of flooding are rapidly increasing and concentrated in urban areas. This presents both a challenge and an opportunity - to rebuild infrastructure systems in ways that are sustainable, equitable and deliver multi-benefits including more liveable cities and healthier ecosystems. Participation is key to multi-benefit outcomes, and our work on simulation tools is aimed at realizing interactive and fast-response simulation capabilities at the regional scale that can be embedded within participatory adaptation processes.

## **Key Words**

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Climate, Sea Level Rise, Beaches, Flood Risk, Multi-Benefit Infrastructure Design, Community Engagement, Equitable Adaptation, Environmental Modeling, High Performance Computing, Remote Sensing, Flood Inundation Forecasting

## **Education**

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### **University of Michigan**

Doctor of Philosophy, Civil Engineering

1997, ANN ARBOR, MI

Dissertation: Active control of flood waves using the adjoint equation solution

Advisor: Nikolaos D. Katopodes

### **University of Michigan**

Master of Science, Civil Engineering

1994, ANN ARBOR, MI

### **University of California, Berkeley**

Bachelor of Science (*Cum Laude*), Civil Engineering

1993, BERKELEY, CA

## Professional Positions

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**University of California, Irvine / Professor**  
Department of Civil and Environmental Engineering  
2009-PRESENT

**University of California, Irvine / Professor (wos)**  
Department of Urban Planning and Public Policy  
2015-PRESENT

**University of California, Irvine / Associate Dean for Undergraduate Student Affairs (Interim)**  
Samueli School of Engineering  
2020-2021

**University of California, Irvine / Department Chair**  
Department of Civil and Environmental Engineering  
2010-2017

**University of California, Irvine / Associate Professor**  
Department of Civil and Environmental Engineering  
2003-2009

**University of California, Irvine / Assistant Professor**  
Department of Civil and Environmental Engineering  
1997-2003

## Honors and Awards

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**G.V. Loganathan Distinguished Lecture**  
Department of Civil and Environmental Engineering, Virginia Tech University  
2023

**Fellow**  
Environmental and Water Resources Institute, American Society of Civil Engineers  
2023

**Innovator of the Year Award**  
Samueli School of Engineering  
2023

**125 Most Influential People of Orange County**  
Orange County Register  
2023

**Fellow**  
Engineering Mechanics Institute, American Society of Civil Engineers  
2021

**Fellow**  
UCI Faculty Academy for Teaching Excellence (FATE)  
2022

**Outstanding Post-Secondary STEM Educator**  
OC STEM Initiative  
2022

**Innovator of the Year Nominee**  
Orange County Business Journal  
2022

**Best Professor of the Year Award**

Engineering Student Council, Samueli School of Engineering  
2021

**Distinguished Engineering Educator Award**

Orange County Branch, American Society of Civil Engineers  
2012

**Outstanding Reviewer Award**

Journal of Hydraulic Engineering, American Society of Civil Engineers  
2011

**Teaching Excellence Award**

Division of Undergraduate Education, University of California, Irvine  
2004

**Fariborz Maseeh Best Teacher Award**

Samueli School of Engineering, University of California, Irvine  
2004

**Outstanding Student Chapter Award (Faculty Advisor)**

American Society of Civil Engineers  
2002

**CAREER Award**

National Science Foundation  
2000

**Outstanding Paper Award**

International Conference on Hydrosience and Engineering  
1998

**Victor L. Streeter Fellow**

Department of Civil and Environmental Engineering, University of Michigan  
1993-1998

**Professional  
Memberships**

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American Association for the Advancement of Science (AAAS)

American Geophysical Union (AGU)

American Society of Civil Engineers (ASCE)

Chi Epsilon Honor Society (XE)

International Association of Hydraulic Research (IAHR)

Coastal Education and Research Foundation (CERF)

**Professional  
Service**

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Associate Editor

ASCE OPEN  
2023-PRESENT

Editorial Board

Advances in Water Resources  
2009-PRESENT

**Associate Editor**

Journal of Engineering Mechanics (ASCE)

2006-2010

**Editorial Board**

Water

2018-2020

**Associate Editor**

WIRES-Water

2012-2013

**Fluids Committee Control Member**

Engineering Mechanics Institute

2005-PRESENT

**Fluids Committee Chair**

Engineering Mechanics Institute

2006-2008

**Fluids Committee Vice-Chair**

Engineering Mechanics Institute

2005-2006; 2008-2009

**Science Advisory Panel**

California Coastal Commission

2010-PRESENT

**Water Policy Center Research Network**

Public Policy Institute of California

2014-PRESENT

**Science Definition Team**

NASA SWOT Mission

2013-2015

**Education Committee Member**

Crystal Cove Conservancy

2016-PRESENT

**Workshop Organizer**

UCI Coastal Solutions Workshop co-convened by Assemblywoman Cottie

Petris-Norris

December 20, 2022

**Conference Session Organizer**

Engineering Mechanics Institute Annual Meetings, AGU Fall Meeting,

International Conference on Computational Methods in Water Resources,

Headwaters to Ocean Conference, California Coastal Resilience: Communities in

Action

Various Dates

**Reviewer/Panelist for Funding Agencies**

NSF, NOAA, NASA, USEPA, California Sea Grant, Wisconsin Sea Grant, Maryland

Sea Grant, UC Office of the President, UK Research Council, German Research

Foundation, Austrian Research Fund

Various Dates

**Reviewer for Journals**

Various

## Courses

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**Samueli Interdisciplinary Research in Pods (SIRiPods)**  
(Research Gateway Program for Undergraduate Students)

SUMMER

**Introduction to Fluid Mechanics**

ENGRCEE 170

FALL QUARTER

**Beach Dynamics**

ENGRCEE 269

SPRING QUARTER

**Flood Risk & Modeling**

ENGRCEE 270

WINTER QUARTER

*Previously Taught Courses*

**Introduction to Computational Problem-Solving in Matlab**

ENGRCEE 20

**Water Resources Engineering**

ENGRCEE 171

**Flow in Open Channels**

ENGRCEE 178/278

**Fundamentals of Hydrologic Transport**

ENGRCEE 277

**Computational Methods for Hydrologic Modeling**

ENGRCEE 279

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## Postdoctoral Scholar Supervision

**Michael Piasecki**

Associate Professor, Civil Engineering, City College of New York.

1998

**Feleke Arega**

Division of Water Quality, South Carolina Department of Environmental Affairs

2001-2003

**Jochen Schubert**

Associate Research Specialist, Civil and Environmental Engineering, UCI

2009-PRESENT

**Byunghyun Kim**

Assistant Professor, Kyungpook National University, Daegu, South Korea

2010-2015

**Hamed Moftakhari**

Assistant Professor, Civil and Environmental Engineering, University of Alabama



2014-2018 (Secondary Advisor Role. Lead: A. AghaKouchak, CEE, UCI)

**Leicheng Guo**

Researcher, State Key Lab of Estuarine and Coastal Research, Shanghai, China

2017-2018

**Napoleon Elizondo Gudiño**

Research Professor, Autonomous University of Baja California, Ensenada

2018-2020

**Omar Perez-Figueroa**

Assistant Professor, Department of Urban and Regional Planning, University of Illinois at Urbana-Champaign

2022-2023

**Efrain Mendez**

Postdoctoral Scholar, Civil and Environmental Engineering, UCI

2023-Present

**Doctoral Student  
Supervision**

---

**David Jaffe**

Senior Associate, David Evans and Associates

PHD 2002

**Lorenzo Begnudelli**

Engineering Specialist, FM Global

PHD 2007 (University of Ferrara, Italy)

**Jochen Schubert**

Research Specialist, Civil and Environmental Engineering, UCI

PHD 2009 (University of Nottingham, UK)

**John (Matt) Thomas**

Project Engineer, Geosyntec Consultants

PHD 2009

**Daniel Howes**

Professor, Bioresource and Agricultural Engineering, Cal Poly SLO

PHD 2010

**Humberto Gallegos**

Associate Professor and Chair, Engineering and Technologies Department, East Los Angeles College

PHD 2011

**Timu Gallien**

Associate Professor, Civil and Environmental Engineering, UCLA

PHD 2012

**Robert Stein**

Assistant City Engineer, City of Newport Beach

PHD 2015

**Morteza Shakeri**

Senior Hydraulic Engineer, US Army Corps of Engineers, Los Angeles

PHD 2016

**Adam Luke**

Senior Data Scientist, Equifax

PHD 2018

**Kristen Goodrich**

Coastal Training Coordinator, Tijuana River National Estuarine Research Reserve

PHD 2019 (Secondary Advisor Role, Lead: R. Matthew, Social Ecology, UCI)

**Matthew Brand**

Assistant Professor, Civil and Environmental Engineering, Louisiana State

University

PHD 2021

**Ai-Ling Jiang**

Postdoctoral Scholar, UCI

PHD 2022 (Secondary Advisor Role, Lead: K. Hsu, CEE, UCI)

**Ariane Jong**

Postdoctoral Fellow, Chapman University

PHD 2023

**Daniel Kahl**

PhD Candidate, Environmental Engineering, UCI

2019-PRESENT

**External PhD  
Examiner or  
Opponent**

---

**Sara Lindersson**

Department of Earth Sciences, Uppsala University

2023

**Masters Thesis  
Supervision**

---

**Carrie Green**

1998

**Allyson Chu**

2001

**Julio Fernandez**

2005

**Robert Mrse**

2006

**Adam Luke**

2015

**Eva-Marie Hamill**

2023-Present

1. **Sanders, B. F.**, Katopodes, N. D., Boyd, J. P. (1998). Spectral Modeling of Nonlinear Dispersive Waves. *ASCE Journal of Hydraulic Engineering*, 124(1), 2-12.
2. Katopodes, N. D., **Sanders, B. F.**, Boyd, J. P. (1998). Short Wave Behavior of Long Wave Equations. *ASCE Journal of Waterway, Port, Coastal and Ocean Engineering*, 124(5), 238-247.
3. **Sanders, B. F.**, Katopodes, N. D. (1999). Control of Canal Flow by Adjoint Sensitivity Method. *ASCE Journal of Irrigation and Drainage Engineering*, 125(5), 287-297.
4. **Sanders, B. F.**, Katopodes, N. D. (1999). Active Flood Hazard Mitigation. Part 1: Bidirectional Wave Control. *ASCE Journal of Hydraulic Engineering*, 125(10), 1057-1070.
5. **Sanders, B. F.**, Katopodes, N. D. (1999). Active Flood Hazard Mitigation. Part 2: Omnidirectional Wave Control. *ASCE Journal of Hydraulic Engineering*, 125(10), 1071-1083.
6. **Sanders, B. F.**, Katopodes, N. D. (2000). Sensitivity Analysis of Shallow-Water Wave Control. *ASCE Journal of Engineering Mechanics*, 126(9), 909-919.
7. **Sanders, B. F.** (2001). High-Resolution and Non-Oscillatory Solution of the St. Venant Equations in Non-Rectangular and Non-prismatic Channels. *Journal of Hydraulic Research*, 39(3), 321-330.
8. Jaffe, D. A., **Sanders, B. F.** (2001). Engineered Levee Breaches for Flood Mitigation. *ASCE Journal of Hydraulic Engineering*, 127(6), 471-477.
9. **Sanders, B. F.**, Green, C. L., Chu, A. K., Grant, S. B. (2001). Modeling Tidal Transport of Urban Runoff in Channels Using the Finite Volume Method. *ASCE Journal of Hydraulic Engineering*, 127(10), 795-804.
10. Grant, S. B., **Sanders, B. F.**, Boehm, A. B., Redman, J. A., Kim, J. H., Mre, R. D., Chu, A. K., Gouldin, M., McGee, C. D., Gardiner, N. A., Jones, B. H., Svejkovsky, J., Leipzig, G. V., Brown, A. (2001). Generation of Enterococci Bacteria in a Coastal Saltwater Marsh and Its Impact on Surf Zone Water Quality. *Environmental Science and Technology*, 35(12), 2401-2406.
11. **Sanders, B. F.**, Piasecki, M. (2002). Mitigation of Salinity Intrusion in Well-Mixed Estuaries by Optimization of Freshwater Diversion Rates. *ASCE Journal of Hydraulic Engineering*, 128(1), 64-77.
12. Piasecki, M., **Sanders, B. F.** (2002). Optimization of Multiple Freshwater Diversions in Well-Mixed Estuaries. *ASCE Journal of Water Resources Planning and Management*, 128(1), 74-84.
13. **Sanders, B. F.** (2002). Non-Reflecting Boundary Flux Function for Finite Volume Shallow-Water Models. *Advances in Water Resources*, 25(2), 195-202.
14. **Sanders, B. F.**, Bradford, S. F. (2002). High-Resolution, Monotone Solution of the Adjoint Shallow-Water Equations. *International Journal of Numerical Methods in Fluids*, 38(2), 139-161.

15. Bradford, S. F., **Sanders, B. F.** (2002). Finite-Volume Model for Shallow-Water Flooding of Arbitrary Topography. *ASCE Journal of Hydraulic Engineering*, 128(3), 289-298.
16. Boehm, A. B., **Sanders, B. F.**, Winant, C. D. (2002). Cross-Shelf Transport at Huntington Beach. Implications for the Fate of Sewage Discharged through an Offshore Ocean Outfall. *Environmental Science and Technology*, 36, 1899-1906.
17. Bradford, S. F., **Sanders, B. F.** (2002). Finite-Volume Models for Unidirectional, Nonlinear, Dispersive Waves. *ASCE Journal of Waterway, Port, Coastal, and Ocean Engineering*, 128(4), 173-182.
18. Chu, A. K., **Sanders, B. F.** (2003). Data Requirements for Load Estimation in Well-Mixed Tidal Channels. *ASCE Journal of Environmental Engineering*, 129(8), 765-773.
19. **Sanders, B. F.**, Jaffe, D. A., Chu, A. K. (2003). Discretization of Integral Equations Describing Flow in Non-Prismatic Channels with Uneven Beds. *ASCE Journal of Hydraulic Engineering*, 129(3), 235-244.
20. Arega, F., **Sanders, B. F.** (2004). Dispersion Model for Tidal Wetlands. *ASCE Journal of Hydraulic Engineering*, 130(8), 739-754.
21. Reeves, R. L., Grant, S. B., Mrse, R. D., Copil-Oancea, C. M., **Sanders, B. F.**, Boehm, A. B. (2004). Scaling and Management of Fecal Indicator Bacteria in Runoff from a Coastal Urban Watershed in Southern California. *Environmental Science and Technology*, 38(9), 2637-2648.
22. Kim, J. H., Grant, S. B., McGee, C. D., **Sanders, B. F.**, Largier, J. L. (2004). Locating Sources of Surf Zone Pollution: A Mass Budget Analysis of Fecal Indicator Bacteria at Huntington Beach, California. *Environmental Science and Technology*, 38(9), 2626 - 2636.
23. **Sanders, B. F.**, Chrysikopoulos, C. V. (2004). Longitudinal Interpolation of Parameters Characterizing Channel Geometry by Piece-wise Polynomial and Universal Kriging Methods: Effect on Flow Modeling. *Advances in Water Resources*, 27, 1061-1073.
24. **Sanders, B. F.**, Arega, F., Sutula, M. (2005). Modeling the dry-weather tidal cycling of fecal indicator bacteria in surface waters of an intertidal wetland. *Water Research*, 39, 3394-3408.
25. Bradford, S. F., **Sanders, B. F.** (2005). Performance of High-Resolution, Non-Level Bed, Shallow-Water Models. *ASCE Journal of Engineering Mechanics*, 131(10), 1073-1081.
26. **Sanders, B. F.**, Bradford, S. F. (2006). Impact of Limiters on Accuracy of High-Resolution Flow and Transport Models. *ASCE Journal of Engineering Mechanics*, 132(1), 87-98.
27. Begnudelli, L., **Sanders, B. F.** (2006). Unstructured Grid Finite Volume Algorithm for Shallow-water Flow and Transport with Wetting and Drying. *ASCE Journal of Hydraulic Engineering*, 132(4), 371-384.

28. Pau, J. C., **Sanders, B. F.** (2006). Performance of Parallel Implementations of an Explicit Finite-Volume Shallow-Water Model. *ASCE Journal of Computing in Civil Engineering*, 20(2), 99-110.
29. **Sanders, B. F.**, Pau, J., Jaffe, D. A. (2006). Passive and active control of diversions to an off-line reservoir for flood stage reduction. *Advances in Water Resources*, 29(6), 861-871.
30. Begnudelli, L., **Sanders, B. F.** (2007). Conservative Wetting and Drying Methodology for Quadrilateral Grid Finite Volume Models. *ASCE Journal of Hydraulic Engineering*, 133(3), 312-322.
31. Jeong, Y., **Sanders, B. F.**, Grant, S. B. (2006). The information content of high frequency environmental monitoring data signals pollution events in the coastal ocean. *Environmental Science and Technology*, 40(20), 6215-6220.
32. **Sanders, B. F.** (2007). Evaluation of on-line DEMs for flood inundation modeling. *Advances in Water Resources*, 30(8), 1831-1843.
33. Begnudelli, L., **Sanders, B. F.** (2007). Simulation of the St. Francis Dam-Break Flood. *ASCE Journal of Engineering Mechanics*, 133(11), 1200-1212.
34. Begnudelli, L., **Sanders, B. F.**, Bradford, S. F. (2008). An adaptive Godunov-based model for flood simulation. *ASCE Journal of Hydraulic Engineering*, 134(6), 714-725.
35. Jeong, Y., **Sanders, B. F.**, McLaughlin, K., Grant, S. B. (2008). Treatment of dry weather urban runoff in tidal saltwater marshes: A longitudinal study of the Talbert Marsh in southern California. *Environmental Science and Technology*, 42(10), 3609-3614.
36. **Sanders, B. F.** (2008). Integration of a shallow-water model with a local time step. *Journal of Hydraulic Research*, 46(4), 466-475.
37. Schubert, J. E., **Sanders, B. F.**, Smith, M. J., Wright, N. G. (2008). Unstructured mesh generation and landcover-based resistance for hydrodynamic modeling of urban flooding. *Advances in Water Resources*, 31, 1603-1621.
38. **Sanders, B. F.**, Schubert, J. E., Gallegos, H. A. (2008). Integral formulation of shallow-water equations with anisotropic porosity for urban flood modeling. *Journal of Hydrology*, 362, 19-38.
39. Gallegos, H. A., Schubert, J. E., **Sanders, B. F.** (2009). Two-dimensional, high-resolution modeling of urban dam-break flooding: a case study of Baldwin Hills, California. *Advances in Water Resources*, 32, 1323-1335.
40. Begnudelli, L., Valiani, A., **Sanders, B. F.** (2010). A balanced treatment of secondary currents, turbulence and dispersion in a depth-integrated hydrodynamic and bed deformation model for channel bends. *Advances in Water Resources*, 33, 17-33.
41. Howes, D. J., Burt, C. M., **Sanders, B. F.** (2010). Subcritical contraction for improved open-channel flow measurement accuracy with an upward-looking ADVN. *ASCE Journal of Irrigation and Drainage Engineering*, 136(9), 617-626.

42. **Sanders, B. F.**, Schubert, J. E., Detwiler, R. L. (2010). ParBreZo: A parallel, unstructured grid, Godunov-type, shallow-water code for high-resolution flood inundation modeling at the regional scale. *Advances in Water Resources*, 33, 1456-1467.
43. Grant, S. B., **Sanders, B. F.** (2010). Beach boundary layer: a framework for addressing recreational water quality impairment at enclosed beaches. *Environmental Science and Technology*, 44, 8804-8813.
44. **Sanders, B. F.**, Bradford, S. F. (2011). A network implementation of the two-component pressure approach for transient flow in storm sewers. *ASCE Journal of Hydraulic Engineering*, 137(2), 158-172.
45. Gallien, T. W., Schubert, J. E., **Sanders, B. F.** (2011). Predicting Tidal Flooding of Urbanized Embayments: A Modeling Framework and Data Requirements. *Coastal Engineering*, 58(6), 567-577.
46. Shin, H. M., Vieira, V. M., Ryan, B. P., Detwiler, R., **Sanders, B. F.**, Steenland, K., Bartell, S. M. (2011). Environmental Fate and Transport Modeling for Perfluorooctanoic Acid Emitted from the Washington Works Facility in West Virginia. *Environmental Science and Technology*, 45, 1435-144.
47. Howes, D. J., **Sanders, B. F.** (2011). Velocity Contour Weighting Method. I: Algorithm Development and Laboratory Testing. *ASCE Journal of Hydraulic Engineering*, 137(11), 1359-1367.
48. Howes, D. J., **Sanders, B. F.** (2011). Velocity Contour Weighting Method. II: Evaluation in Trapezoidal Channels and Roughness Sensitivity. *ASCE Journal of Hydraulic Engineering*, 137(11), 1368-1374.
49. Wu, W. M., Altinakar, M. S., Al-Riffai, M., Bergman, N., Bradford, S. F., Cao, Z. X., Chen, Q. J., Constantinescu, S. G., Duan, J. G., Gee, D. M., Greimann, B., Hanson, G., He, Z. G., Hegedus, P., van Hoestenbergh, T., Huddleston, D., Hughes, S. A., Imran, J., Jia, Y. F., Jorgeson, J. D., Kahawita, R., Klumpp, C. C., Lai, Y., Langendoen, E. J., Liu, S., Moreda, F., Morris, M., Morvan, H., Orendorff, B., Pak, J., Peeters, P., Reed, S., **Sanders, B. F.**, Scott, S. H., Soares-Fraza, Song, C. R., Sutherland, J., Teal, M. J., Tsubaki, R., Wahl, T. L., Weston, D. M., Williams, D. T., Zech, Y., Zhang, L. M. (2011). Earthen Embankment Breaching. *ASCE Journal of Hydraulic Engineering*, 137(12), 1549-1564.
50. Schubert, J. E., **Sanders, B. F.** (2012). Building treatments for urban flood inundation models and implications for predictive skill and modeling efficiency. *Advances in Water Resources*, 41, 49-64.
51. Gallegos, H. A., Schubert, J. E., **Sanders, B. F.** (2012). Structural damage prediction in a high-velocity urban dam-break flood: a field-scale assessment of predictive skill. *ASCE Journal of Engineering Mechanics*, 138(10), 1249-1262.
52. Grant, S. B., Saphores, J. D., Feldman, D. L., Hamilton, A. J., Cool, P., Stewardson, M., **Sanders, B. F.**, Levin, L. A., Ambrose, R. F., Deletic, A., Brown, R., Jiang, S. C., Rosso, D., Cooper, W. J., Marusic, I. (2012). Taking the "Waste" Out of "Wastewater" for Human Water Security and Ecosystem Sustainability. *Science*, 337(6095), 681-686.

53. Kim, B. H., **Sanders, B. F.**, Han, K. Y., Kim, Y. J., Famiglietti, J. S. (2013). Calibration of stormwater management model using flood extent data. *Proceedings of the Institution of Civil Engineers - Water Management*, 167(1), 17-29.
54. Gallien, T. W., Barnard, P. L., van Ormondt, M., Foxgrover, A., **Sanders, B. F.** (2013). A parcel-scale coastal flood forecasting prototype for a southern California urbanized embayment. *Journal of Coastal Research*, 29(3), 642-656.
55. Majd, M. S., **Sanders, B. F.** (2014). The LHLLC scheme for Two-Layer and Two-Phase transcritical flows over a mobile bed with avalanching, wetting and drying. *Advances in Water Resources*, 67, 16-31.
56. Aghakouchak, A., Feldman, D. L., Stewardson, M. J., Saphores, J. D., Grant, S. B., **Sanders, B. F.** (2014). Australia's Drought: Lessons for California. *Science*, 343(6178), 1430-1431.
57. Kim, B., **Sanders, B. F.**, Schubert, J. E., Famiglietti, J. S. (2014). Mesh type tradeoffs in 2D hydrodynamic modeling of flooding with a Godunov-based flow solver. *Advances in Water Resources*, 68, 42-61.
58. Gallien, T. W., **Sanders, B. F.**, Flick, R. L. (2014). Urban coastal flood prediction: Integrating wave overtopping, flood defenses and drainage. *Coastal Engineering*, 91(3), 18-28.
59. Rippy, M. A., Stein, R., **Sanders, B. F.**, Davis, K., McLaughlin, K., Skinner, J. F., Kappeler, J., Grant, S. B. (2014). Small drains, big problems: the impact of dry weather runoff on shoreline water quality at enclosed beaches. *Environmental Science and Technology*, 48(24), 14168-14177.
60. Schubert, J. E., Gallien, T. W., Majd, M. S., **Sanders, B. F.** (2014). Terrestrial Laser Scanning of Anthropogenic Beach Berm Erosion and Overtopping. *Journal of Coastal Research*, 31(1), 47-60.
61. Yavari-Ramshe, S., Ataie-Ashtiani, B., **Sanders, B. F.** (2015). A robust finite volume model to simulate granular flows. *Computers and Geotechnics*, 66, 96-112.
62. Kim, B. H., **Sanders, B. F.**, Famiglietti, J. S., Guinot, V. (2015). Urban flood modeling with porous shallow-water equations: a case study of model errors in the presence of anisotropic porosity. *Journal of Hydrology*, 523, 680-692.
63. Burns, M. J., Schubert, J. E., Fletcher, T. J., **Sanders, B. F.** (2015). Testing the impact of at-source stormwater management on urban flooding through a coupling of network and overland flow models. *WIRES-Water*, 2, 291-300.
64. Luke, A., Kaplan, B., Neal, J., Lant, J., **Sanders, B. F.**, Bates, P., Alsdorf, D. (2015). Hydraulic modeling of the 2011 New Madrid Floodway activation: a case study on floodway activation controls. *Natural Hazards*, 77, 1863-1887.
65. Askarizadeh, A., Rippy, M. A., Fletcher, T. D., Feldman, D. L., Peng, J., Bowler, P. A., Mehring, A. S., Winfrey, B. K., Vrugt, J. A., Aghakouchak, A., **Sanders, B. F.**, others (2015). From rain tanks to catchments: Use of low-impact development to address hydrologic symptoms of the urban stream syndrome. *Environmental Science & Technology*, 49(19), 11264-11280.

66. Nguyen, P., Thorstensen, A., Sorooshian, S., Hsu, K.-I., Aghakouchak, A., **Sanders, B. F.**, Koren, V., Cui, Z., Smith, M. (2015). A high resolution coupled hydrologic-hydraulic model (HiResFlood-UCI) for flash flood modeling. *Journal of Hydrology*, 541, 401-420.
67. Moftakhari, H. R., Aghakouchak, A., **Sanders, B. F.**, Feldman, D. L., Sweet, W., Matthew, R. A., Luke, A. (2015). Increased nuisance flooding along the coasts of the United States due to sea level rise: Past and future. *Geophysical Research Letters*, 42(22), 9846-9852
68. Schubert, J. E., Mosen, W. W., **Sanders, B. F.** (2015). Metric-Resolution 2D River Modeling at the Macroscale: Computational Methods and Applications in a Braided River. *Frontiers in Earth Science*, 3, 74.
69. Kim, B., **Sanders, B. F.** (2016). Dam-Break Flood Model Uncertainty Assessment: Case Study of Extreme Flooding with Multiple Dam Failures in Gangneung, South Korea. *Journal of Hydraulic Engineering*, 142(5), 05016002.
70. Feldman, D. L., Contreras, S., Karlin, B., Basolo, V., Matthew, R. A., **Sanders, B. F.**, Houston, D., Cheung, W., Goodrich, K., Reyes, A., Serrano, K., Schubert, J. E., Luke, A. (2016). Communicating flood risk: Looking back and forward at traditional and social media outlets. *International Journal of Disaster Risk Reduction*, 15, 43-51.
71. Durand, M., Gleason, C., Garambois, P., Bjerklie, D., Smith, L., Roux, H., Rodriguez, E., Bates, P., Pavelsky, T., Monnier, J., **Sanders, B. F.**, Schubert, J. E., others (2016). An intercomparison of remote sensing river discharge estimation algorithms from measurements of river height, width, and slope. *Water Resources Research*, 52, 4527-4549.
72. Cheung, W., Houston, D., Schubert, J. E., Basolo, V., Feldman, D. L., Matthew, R. A., **Sanders, B. F.**, Karlin, B., Goodrich, K. A., Contreras, S. L., Luke, A. (2016). Integrating resident digital sketch maps with expert knowledge to assess spatial knowledge of flood risk: A case study of participatory mapping in Newport Beach, California. *Applied Geography*, 74, 56-64.
73. Vandenberg-Rodes, A., Moftakhari, H. R., Aghakouchak, A., Shahbaba, B., **Sanders, B. F.**, Matthew, R. A. (2016). Projecting nuisance flooding in a warming climate using generalized linear models and Gaussian processes. *Journal of Geophysical Research - Oceans*, 121(11), 8008-8020.
74. Moftakhari, H. R., Aghakouchak, A., **Sanders, B. F.**, Matthew, R. A. (2017). Cumulative hazard: The case of nuisance flooding. *Earth's Future*, 5(2), 214-223.
75. Guinot, V., **Sanders, B. F.**, Schubert, J. E. (2017). Dual integral porosity shallow water model for urban flood modelling. *Advances in Water Resources*, 103, 16-31.
76. Luke, A., Vrugt, J. A., Aghakouchak, A., Matthew, R. A., **Sanders, B. F.** (2017). Predicting nonstationary flood frequencies: Evidence supports an updated stationarity thesis in the United States. *Water Resources Research*, 53(7), 5469-5494.
77. Moftakhari, H. R., Salvadori, G., Aghakouchak, A., Matthew, R. A., **Sanders, B. F.** (2017). Compounding effects of sea level rise and fluvial flooding. *Proceedings of the National Academy of Sciences*, 114(37), 9785-9790.



78. Schubert, J. E., Burns, M. J., Fletcher, T. D., **Sanders, B. F.** (2017). A framework for the case-specific assessment of Green Infrastructure in mitigating urban flood hazards. *Advances in Water Resources*, 108, 55-68.
79. Moftakhari, H., Aghakouchak, A., **Sanders, B. F.**, Matthew, R. A., Mazdidasni, O. (2017). Translating uncertain sea level rise projections into infrastructure impacts using a Bayesian framework. *Geophysical Research Letters*, 44(23), 11,914-11,921.
80. Luke, A., **Sanders, B. F.**, Goodrich, K., Feldman, D. L., Boudreau, D., Eguiarte, A., Serrano, K., Reyes, A., Schubert, J. E., Aghakouchak, A., Basolo, M. V., Matthew, R. A. (2018). Going beyond the Flood Insurance Rate Map: Insights from hazard map co-production. *Natural Hazards and Earth System Science*, 18(4), 1097-1120.
81. Sadegh, M., Moftakhari, H., Gupta, H.V., Ragno, E., Mazdidasni, O., **Sanders, B.**, Matthew, R. and AghaKouchak, A., (2018). Multihazard scenarios for analysis of compound extreme events. *Geophysical Research Letters*, 45(11), pp.5470-5480.
82. Moftakhari, H. R., AghaKouchak, A., **Sanders, B. F.**, Allaire, M., & Matthew, R. A. (2018). What is nuisance flooding? Defining and monitoring an emerging challenge. *Water Resources Research*, 54(7), 4218-4227.
83. Guo, L., Brand, M., **Sanders, B. F.**, Fofoula-Georgiou, E., & Stein, E. D. (2018). Tidal asymmetry and residual sediment transport in a short tidal basin under sea level rise. *Advances in Water Resources*, 121, 1-8.
84. **Sanders, B. F.** and Schubert, J. E. (2019) PRIMo: Parallel Raster Inundation Model. *Advances in Water Resources*, 126, 79-95.
85. Moftakhari, H., Schubert, J. E., Aghakouchak, A., Matthew, R.A. and **Sanders, B.F.** (2019) Linking statistical and hydrodynamic modeling for compound flood hazard assessment in tidal channels and estuaries. *Advances in Water Resources*, 128, 28-38.
86. Houston, D., Cheung, W., Basolo, V., Feldman, D., Matthew, R., **Sanders, B.F.**, Karlin, B., Schubert, J.E., Goodrich, K.A., Contreras, S. and Luke, A., (2019) The Influence of Hazard Maps and Trust of Flood Controls on Coastal Flood Spatial Awareness and Risk Perception. *Environment and Behavior*, 51(4), pp.347-375.
87. **Sanders, B. F.**, Schubert, J. E., Goodrich, K. A., Houston, D., Feldman, D. L., Basolo, V., Luke, A., Boudreau, D., Karlin, D., Cheung, W., Contreras, S., Reyes, A., Eguiarte, A., Serrano, K., Allaire, M. Moftakhari, A., AghaKouchak, A., Matthew, R.A. (2020). Collaborative modeling with fine-resolution data enhances flood awareness, minimizes differences in flood perception, and produces actionable flood maps. *Earth's Future*, 8(1), e2019EF001391.
88. **Sanders, B.F.** & Grant, S. B. (2020). Re-envisioning stormwater infrastructure for ultrahazardous flooding. *Wiley Interdisciplinary Reviews: Water*, 7(2), e1414
89. Goodrich, K.A., Basolo, V., Feldman, D.L., Matthew, R.A., Schubert, J.E., Luke, A., Eguiarte, A., Boudreau, D., Serrano, K., Reyes, A.S., Contreras, S., Houston, D., Cheung, W., AghaKouchak, A., **Sanders, B.F.** (2020) Addressing Pluvial Flash Flooding through Community-Based Collaborative Research in Tijuana, Mexico. *Water*, 12, 1257.

90. Ulibarri, N., Goodrich, K.A., Wagle, P., Brand, M., Matthew, R., Stein, E.D., and **Sanders, B.F.** (2020) Barriers and Opportunities for Beneficial Reuse of Sediment to Support Coastal Resilience. *Ocean & Coastal Management*, 195, 105287. <https://doi.org/10.1016/j.ocecoaman.2020.105287>
91. Brand, M.W. Gudino-Elizondo, N., Allaire, M., Wright, S., Matson, W., Saksa, P., and **Sanders, B.F.** (2020), Stochastic hydro-financial modeling for environmental impact bonds. *Water Resources Research*, 56, e2020WR027328. <https://doi.org/10.1029/2020WR027328>  
*Paper selected for [Editor's Highlight](#) published in EOS (top 2% of journal articles)*
92. Moftakhari, H., Shao, W., Moradkhani, H., AghaKouchak, A., **Sanders, B.**, Matthew, R., ... & Orbinski, J. (2020). Enabling incremental adaptation in disadvantaged communities: polycentric governance with a focus on non-financial capital. *Climate Policy*, 1-10.
93. Brand, M. W., Guo, L., Stein, E. D., & **Sanders, B. F.** (2021). Multi-decadal simulation of estuarine sedimentation under sea level rise with a response-surface surrogate model. *Advances in Water Resources*, 150, 103876.
94. Jiang, A.L., Lee, M.C., Zhou, G., Zhong, D., Hawaria, D., Kibret, S., Yewhalaw, D., **Sanders, B.F.**, Yan, G. and Hsu, K. (2021). Predicting distribution of malaria vector larval habitats in Ethiopia by integrating distributed hydrologic modeling with remotely sensed data. *Scientific Reports*, 11(1), pp.1-14.
95. Brand, M.W. et al. (2021) Environmental Impact Bonds: a common framework and looking ahead *Environmental Research: Infrastructure and Sustainability*. 1(2), 023001.
96. Ivanov, V. Y., Xu, D., Dwelle, M. C., Sargsyan, K., Wright, D. B., Katopodes, N., Kim, J., Tran, V.N., Warnock, A., Fatichi, S., Burlando, P., Caporali, E., Restrepo, P., **Sanders, B.F.**, Chaney, M.M, Dunes, A.M.B., Nardi, F., Vivoni, E.R., Istanbuluoglu, E., Bisht, G., Bras, R. L. (2021). Breaking Down the Computational Barriers to Real-Time Urban Flood Forecasting. *Geophysical Research Letters*, e2021GL093585.
97. Gudino-Elizondo, N., Brand, M. W., Biggs, T. W., Hinojosa-Corona, A., Gómez-Gutiérrez, Á., Langendoen, E., ... & **Sanders, B. F.** (2022). Rapid assessment of abrupt urban mega-gully and landslide events with structure-from-motion photogrammetric techniques validates link to water resources infrastructure failures in an urban periphery. *Natural Hazards and Earth System Sciences*, 22(2), 523-538.
98. Jong-Levinger, A., Banerjee, T., Houston, D., and **Sanders, B.F.** (2022). Compound post-fire flood hazards considering infrastructure sedimentation. *Earth's Future*, 10(8), <https://doi.org/10.1029/2022EF002670>.  
*Paper selected for [Editor's Highlight](#) published in Nature Climate Change.*
99. Kahl, D.T., Schubert J.E., Jong-Levinger, A. and **Sanders, B. F.** (2022) Grid edge classification method to enhance levee resolution in dual-grid flood inundation models. *Advances in Water Resources*, 168, 104287.

100. Brand, M.W., Buffington, K., Rogers, J.B., Thorne, K., Stein, E.D., and **Sanders, B. F.** (2022). Multi-decadal simulation of marsh topography under sea level rise and episodic sediment loads. *Journal of Geophysical Research: Earth Surface*, 127(9), e2021JF006526.
101. Schubert, J.E., Luke, A., AghaKouchak, A. and **Sanders, B.F.** (2022) A framework for mechanistic flood inundation forecasting at the metropolitan scale. *Water Resources Research*, 58(9). <https://doi.org/10.1029/2021WR031279>
102. **Sanders, B.F.**, Schubert, J.E., Kahl, D.T., Mach, K.A., Brady, D., AghaKouchak, A., Forman, F., Matthew, R.A., Ulibarri, N., and Davis S.J. (2023). Large and inequitable flood risk in Los Angeles, California. *Nature Sustainability*, 6(1), 47-57. <https://doi.org/10.1038/s41893-022-00977-7>  
*Paper selected for [News & Views Article](#) published in Nature Sustainability*
103. Ulibarri, N., Valencia-Uribe, C., **Sanders, B.F.**, Schubert, J.E., Matthew, R., Forman, F., Allaire, M. and Brady, D. (2023) Framing the problem of flood risk and flood management in metropolitan Los Angeles. *Weather, Climate and Society*, 15, 45-58, <https://doi.org/10.1175/WCAS-D-22-0013.1>
104. Goodrich, K.A., Ullibarri, N., Matthew, R., Stein, E.D., Brand, M. and **Sanders, B.F.** (2023) Toward improved sediment management and coastal resilience through efficient permitting in California, *Environmental Management*, 72, 558–567. <https://doi.org/10.1007/s00267-023-01804-1>
105. Jiang, A.L., Hsu, K., **Sanders, B.F.** and Sorooshian, S. (2023) Topographic hydro-conditioning to resolve surface depression storage and ponding in a fully distributed hydrologic model. *Advances in Water Resources*, 104449. <https://doi.org/10.1016/j.advwatres.2023.104449>
106. Seeteram, N., Ash, K., **Sanders, B.F.**, Schubert, J.S. and Mach, K.J. (2023) Modes of climate mobility under sea level rise. *Environmental Research Letters*, 18, 114015 <https://doi.org/10.1088/1748-9326/acfe22>

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**Chapters of  
Books or  
Collections**

1. **Sanders, B. F.** (2017). Hydrodynamic Modeling of Urban Flood Flows and Disaster Risk Reduction, *Oxford Research Encyclopedia of Natural Hazards Science*, Oxford University Press. <https://doi.org/10.1093/acrefore/9780199389407.013.127>
2. **Sanders, B. F.**, Matthew, R., Luke, A., Goodrich, K.A., Basolo, V., Eguiarte, A., Boudreau, D., and Feldman, D.L.. (2021). A Paradigm of Actionable and Accessible Local Flood Hazard Information (Eds.), *Routledge Handbook of Environmental Security*, Routledge, 215-224. <https://www.taylorfrancis.com/chapters/edit/10.4324/9781315107592-21/>
3. Mach, K.J., Hino, M., Siders, A.R., Koller, S.F., Kraan, C.M., Niemann, J. and **Sanders, B.F.** (2022). From Flood Risk Management to Flood Risk Adaptation: Current Practices and Emerging Innovations, *Oxford Encyclopedia of Water Resources Management and Policy*, Oxford University Press. <https://doi.org/10.1093/acrefore/9780199389414.013.819>

## OpEds

1. OpEd: Southern California Beaches are Running Out of Sand, *Los Angeles Times*, September 28, 2021. (Sole Author)  
<https://www.latimes.com/opinion/story/2021-09-28/southern-californias-beaches-are-running-out-of-sand>
2. Opinion: Catastrophic floods and breached levees reveal a problem California too often neglects, *Los Angeles Times*, April 7, 2023. (Co-Authored with Jeffrey Mount)  
<https://www.latimes.com/opinion/story/2023-04-07/flood-control-drought-levees-california>
3. Opinion: Disasters like the Rolling Hills landslide are foreseeable. The warnings are all around us. *Los Angeles Times*, July 11, 2023. (Sole Author)  
<https://www.latimes.com/opinion/story/2023-07-11/rolling-hills-landslide-climate-change-geology>

## Conference Papers

1. **Sanders, B. F.**, Katopodes, N. D. (1997). Control of Multi-Dimensional Wave Motion in Shallow-Water. In Spaulding, M. L., Blumberg, A. F. (Eds.), *Proceedings of the 5th International Conference on Estuarine and Coastal Modeling*, Alexandria Virginia (pp. 267-278).
2. **Sanders, B. F.**, Katopodes, N. D. (1997). Optimal Control of Sudden Water Release from a Reservoir. In Holly, F. M., Alsaffar, A. (Eds.), *Proceedings of the XXVII Congress of the International Association for Hydraulic Research*, Theme A (pp. 314-319).
3. **Sanders, B. F.**, Katopodes, N. D. (1998). Adaptive Control of Shallow-Water Waves. In, *Proceedings of the 3rd International Conference on Hydroscience and Engineering*, Cottbus, Germany. (Award Winning Paper).
4. Katopodes, N. D., **Sanders, B. F.** (1999). Control of Shallow-Water Flow and Transport. In, *Proceedings of the International Meeting on Numerical Simulation of Hydrodynamic Systems*. Zaragoza, Spain: Applied Mathematics to Industrial Flow Problems program, European Community Science Foundation.
5. **Sanders, B. F.**, Jaffe, D. (1999). Mitigation of Extreme Flooding Events by Tactical Depression Wave Control. In, *Proceedings of the 1999 ASCE International Water Resources Engineering Conference*, Seattle, Washington (pp. 476).
6. Piasecki, M., **Sanders, B. F.** (1999). Control of Estuarine Salinity using the Adjoint Method. In, *Proceedings of the 6th International Conference on Estuarine and Coastal Modeling*, New Orleans, Louisiana.
7. **Sanders, B. F.**, Bradford, S. F. (2000). Computation of Tidal Co-Oscillation in Wetlands by Finite Volume Method. In, *Proceedings of the 14th Engineering Mechanics Conference*, ASCE, Austin. EM2000.
8. Jaffe, D. A., **Sanders, B. F.** (2001). Tactical Levee Breaching for Flood Mitigation. In, *Proceedings of the 3rd International Symposium on Environmental Hydraulics*, Tempe, Arizona.

9. Bradford, S. F., **Sanders, B. F.** (2001). Modeling Flows with Moving Boundaries Due to Flooding, Recession, and Wave Run-up. In, *Proceedings of the 7th International Conference on Estuarine and Coastal Modeling*, St. Petes Beach, Florida.
10. **Sanders, B. F.**, Pau, J. C. (2003). Parallel Implementation of an Explicit Finite-Volume Shallow-Water Model . In, *Proceedings of the 16th Engineering Mechanics Conference*, ASCE, Seattle. EM2003.
11. Arega, F., **Sanders, B. F.** (2003). Modeling Circulation and Mixing in Tidal Wetlands of the Santa Ana River. In, *Proceedings of the 8th International Conference on Estuarine and Coastal Modeling*, Monterey, California.
12. Argall, R., **Sanders, B. F.**, Poon, Y. K. (2003). Random-Walk Suspended Sediment Entrainment, Transport and Settling Model. In, *Proceedings of the 8th International Conference on Estuarine and Coastal Modeling*, Monterey, California.
13. **Sanders, B. F.** (2004). Dissipation and Anti-Dissipation of High-Resolution Schemes for Modeling Flow and Transport. In, *Proceedings of the 17th Engineering Mechanics Conference*, ASCE, Newark, Delaware. EM2004.
14. Begnudelli, L., Sanders, B. F. (2005). Wetting and Drying of Triangular Computational Cells. In, *Proceedings of the Joint ASCE/ASME/SES Conference on Mechanics and Materials*, Baton Rouge, LA. McMat 2005.
15. Morvan, H. P., **Sanders, B. F.** (2005). Modelling Open Channel Flow with Recirculation Zones: Comparison of 2D and 3D Models and Turbulent Closure Schemes. In, *Proceedings of the Joint ASCE/ASME/SES Conference on Mechanics and Materials*, Baton Rouge, LA. McMat 2005.
16. Begnudelli, L., **Sanders, B. F.** (2007). Simulation of the St. Francis Dam-Break Flood. In, *Proceedings of the 32nd Congress of IAHR*, Venice, Italy.
17. Sanders, B. F., Mrse, R. D. (2007). Resistance to Flooding by Mega Roughness. In, *Proceedings of the 32nd Congress of IAHR*, Venice, Italy.
18. Howes, D. J., Burt, C. M., **Sanders, B. F.** (2009). Flow Conditioner Design for Improving Open Channel Flow Measurement Accuracy from a SonTek Argonaut-SW. In, *Proceedings of the USCID Fifth International Conference on Irrigation and Drainage*, Salt Lake City, Utah.
19. Gallegos, H. A., Schubert, J. E., **Sanders, B. F.** (2009). Urban Dam-Break Flood Inundation Modeling with LiDAR Terrain Data: Validation at Baldwin Hills, California. In, *Proceedings of the 33rd IAHR Congress: Water Engineering for a Sustainable Environment*, Vancouver, CA.
20. Gallien, T. W., Schubert, J. E., **Sanders, B. F.** (2009). High-Resolution, Unstructured Grid Modeling of Coastal Flood Inundation at Newport Harbor, CA. In, *Proceedings of the 33rd IAHR Congress: Water Engineering for a Sustainable Environment*, Vancouver, CA.

21. Gallien, T. W., Schubert, J. E., Poon, Y. K., **Sanders, B. F.** (2011). The Effects of Increased Water Levels in the Eastern Pacific: Development and Validation of a Wave and Tidal Urban Inundation Model [Conference]. In, *Proceedings of the 34rd IAHR Congress: Balance and Uncertainty – Water in a Changing World*, Brisbane, Australia.
22. Poon, Y., **Sanders, B. F.**, Mason, R., Stein, R. (2011). Sea Level Rise Impact Assessment and Mitigation Alternatives Development for Balboa Island and Little Balboa Island, City of Newport Beach, California. In, *Coastal Engineering Practice*. 2011 Conference on Coastal Engineering Practice. ASCE.
23. Poon, Y., **Sanders, B. F.**, Mason, R., Stein, R. (2012). Sea Level Rise Impact Assessment and Mitigation Alternatives for Balboa Islands, City of Newport Beach, California. In, *Coastal Engineering Proceedings*. International Conference on Coastal Engineering 2012.
24. **Sanders, B. F.**, Luke, A., Schubert, J., Goodrich, K. ... (2018). Tapping the power of shallow-water models for flood hazard mapping. *EPiC Series in Engineering*, Volume 3: HIC 2018. 13th International Conference on Hydroinformatics, 1851-1858.
25. **Sanders, B. F.**, Vargas D., Schubert, J.E., Gunino-Elizondo, N, AghaKouchak, A., Allaire, M., Matthew, R.A., Orbinski, J., and Burt, M. (2019). The Case for Collaborative Flood Modeling in Paraguay [Conference]. *Proceedings of the 38rd IAHR Congress: Water – Connecting the World*, Panama City, Panama.

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**Oral Presentations at Technical Meetings, Workshops and Conferences**

1. "Optimal Control of Sudden Water Release from a Reservoir", The 27th Congress of the International Association for Hydraulic Research, San Francisco, California. (August 11, 1997).
2. "Control of Multi-dimensional Wave Motion in Shallow-Water", Sanders, B.F. Fifth International Conference on Estuarine and Coastal Modeling, Alexandria, Virginia. (October 22, 1997).
3. "Adaptive Control of Shallow Water Waves", 3rd International Conference on Hydrosience and Engineering, Cottbus, Germany. (September 2, 1998). Plenary Presentation.
4. "Mitigation of Extreme Flooding Events by Tactical Depression Wave Control", ASCE International Water Resources Engineering Conference, Seattle, Washington. (August 12, 1999).
5. "UCI Coastal Runoff Impact Study, Progress Report: the Sun, the Moon, and Bacterial Pollution at Huntington Beach", National Water Research Institute Research Advisory Board Meeting, Costa Mesa, Ca. (April 29, 2000).
6. "Computation of Tidal Co-Oscillation in Wetlands by Finite Volume Method", EM2000, the 14th Engineering Mechanics Conference, ASCE, Austin. (May 24, 2000).

7. "Advances in the Computation of Long Waves by Godunov-type Finite Volume Method", Hydraulics and Hydrology Technical Group, Orange County Branch, Los Angeles Section, ASCE. (June 8, 2000). Invited Presentation.
8. "Flushing Properties of the Talbert Channel Network", Presentation to Blue Ribbon Panel called by the National Water Research Institute to investigate causes of near-shore bacterial pollution at Huntington Beach, Costa Mesa, California. (June 22, 2000).
9. "Cross Shelf Transport by Internal Tides: Implications for the fate of sewage discharged through an offshore ocean outfall", Eastern Pacific Ocean Conference, Fallen Leaf Lake, California. (September 2001).
10. "Dynamics of Off-Line Diversions for Flood Stage Reduction", San Francisquito Watershed Council. (January 15, 2003).
11. "Parallel Implementation of an Explicit Finite-Volume Shallow-Water Model", 16th Engineering Mechanics Conference, ASCE, Seattle. (2003).
12. "Hydrodynamic modeling of fecal indicator bacteria in Talbert Marsh based on loads from urban runoff, bird feces, and resuspended sediments", Annual Meeting of the Southern California Academy of Sciences, Long Beach, California. (May 2004).
13. "Dissipation and Anti-Dissipation of High-Resolution Schemes for Modeling Flow and Transport", 17th Engineering Mechanics Conference, ASCE, Newark, Delaware. (2004).
14. "Advances in shallow-water modeling with Godunov-type finite volume schemes and applications in Southern California", Exponent, Irvine. (July 14, 2005).
15. "Recent Advances in Hydrodynamic Modeling of Flood Inundation", Los Angeles District, US Army Corps of Engineers. (March 2006).
16. "Simulation of the St. Francis Dam Break Flood and Impact of Resolved Topographic Roughness on Model Predictions of Flow Resistance", 15th U.S. National Congress of Theoretical and Applied Mechanics, Boulder, Colorado. (June 2006).
17. "High-resolution hydrodynamic modeling of flood inundation", ARUP, London. (November 14, 2006).
18. "Evaluation of on-line DEMS for flood inundation modeling", 18th Engineering Mechanics Division Conference, ASCE, Blacksburg, VA. (June 4, 2007).
19. "Resistance to flooding by mega-roughness", 32nd Congress of IAHR, Venice, Italy. (July 2, 2007).
20. "Advances in flood inundation modeling and integration of GIS", Los Angeles County, Department of Regional Planning. (August 15, 2007).
21. "Advances in flood inundation modeling and opportunities for high resolution geospatial data resources", Los Angeles Region Imagery Acquisition Consortium (LAR-IAC). (August 30, 2007).

22. "Advances and opportunities in flood inundation modeling using high resolution geospatial data", Los Angeles County Department of Public Works. (September 18, 2007).
23. "Advances in flood inundation and the role of GIS", City of Los Angeles, Department of Public Works, Bureau of Engineering GIS Meeting. (September 4, 2008).
24. "High resolution modeling of urban dam-break flooding: A case study of Baldwin Hills, California", Los Angeles County Department of Public Works. (June 16, 2009).
25. "High resolution modeling of flood inundation", Noblis, Falls Church, VA. (June 23, 2009).
26. "Improved Flood Inundation Modeling with LAR-IAC LiDAR Data and Orthoimagery", Los Angeles Region Imagery Acquisition Consortium (LAR-IAC). (July 30, 2009).
27. "Unstructured Grid Modeling of Coastal Flood Inundation at Newport Harbor", 33rd Congress of IAHR, Vancouver, Canada. (August 11, 2009).
28. "Urban Dam-Break Flood Inundation Modeling with LiDAR Terrain Data: Validation at Baldwin Hills, California", 33rd Congress of IAHR, Vancouver, Canada. (August 11, 2009).
29. "Modeling coastal flooding in urbanized lowlands: a multi-dimensional high-resolution approach", Sea Level Rise Workshop, Scripps Forum, La Jolla, CA. (May 18, 2010). (Invited)
30. "ParBreZo: A parallel, unstructured grid, Godunov-type, shallow-water model for high-resolution flood simulation at the regional scale", Engineering Mechanics Institute 2010, Los Angeles. (August 8, 2010 - August 11, 2010).
31. "Modeling the Spatiotemporal Distribution of Dam-Break Inundation in a Developed Area: Topographic and Hydrodynamic Controls", AGU Fall Meeting, San Francisco. (December 13, 2010 - December 17, 2010).
32. "High Resolution Modeling of Urban Dam-Break Flooding", SIAM Conference on Mathematical and Computational Issues in the Geosciences, Long Beach, Ca. (March 23, 2011). (Invited)
33. "Two-Dimensional Hydraulic Modeling of Urban Flood Inundation: Strategies for Accuracy and Efficiency", National Hydrologic Warning Council Conference and Exhibition, San Diego, Ca. (May 5, 2011).
34. "Godunov-based model of swash zone dynamics to advance coastal flood prediction", AGU Fall Meeting, San Francisco. (December 2012).
35. "Urban Coastal Flood Prediction: Implications of Modeling Methodology, Mitigation Strategies and Sea Level Rise", Headwaters to Ocean 2013, San Diego, California. (May 29, 2013).
36. "Terrestrial laser scanning of anthropogenic beach berms for urban flood defense", AGU Fall Meeting, San Francisco. (December 10, 2013).



37. "Coastal Flooding and Climate Change", Sanders, B.F. 2014 Annual Public Meeting, Interagency Steering Committee on Multimedia Environmental Modeling (ISCMEM), Washington, DC. (February 25, 2014). (Invited)
38. "Flood hazard mapping in the coastal zone: accounting for multiple drivers of flood risk", IAHR Congress, IAHR, The Hague, The Netherlands. (June 30, 2015).
39. "Can fine resolution urban flood models increase spatial awareness of flood risk? Results of a household survey in Newport Beach, California", IAHR Congress, IAHR, The Hague, The Netherlands. (June 30, 2015).
40. "Communicating flood risk with street level data", Who Cares? Workshop on the Economies, Technologies and Ethics of Aid, Irvine, California. (October 1, 2015).
41. "Communicating flood risk with street level data", ASCE Orange County EWRI Meeting, ASCE, Irvine, California. (October 8, 2015). (Invited)
42. "Communicating flood risk with street level data", AGU Fall Meeting, San Francisco. (December 14, 2015).
43. "Co-development of coastal flood models: making the leap from expert analysis to decision-support", IAHR European Congress, IAHR, Liege, Belgium. (Plenary Presentation). (July 27, 2016). (Invited)
44. "Development of Context-Sensitive Hydraulic Flood Models to Meet End-User Needs for Disaster Risk Reduction", Flood Hazard Modeling Workshop, USGS Pacific Coastal and Marine Science Center, Santa Cruz, CA. (January 24, 2017).(Invited)
45. "SedRISE: Coastal Sediment Management for Resilient Infrastructure and Sustainable Environments", Management and Technical Advisory Group Annual Meeting, NOAA Ecological Effects of Sea Level Rise Program, Carlsbad, California. (June 28, 2017). (Invited)
46. "Advancing Disaster Risk Reduction with Community-Based Flood Modeling", Headwaters to Ocean 2017, Irvine, CA. (May 24, 2017).
47. "Collaborative Flood Modeling in Southern and Baja California - Meeting End User Needs for Decision-Making", AGU Fall Meeting, New Orleans, LA. (2017). (Invited)
48. "Collaborative Flood Modeling at the US/Mexico Border", Cerrito 2018, Fundacion Paraguaya, Asuncion, Paraguay. (May 23, 2018). (Invited)
49. "Tapping the Power of Shallow-Water Models for Flood Hazard Mapping", Sanders, B.F. 13th International Hydroinformatics Conference HIC 2018, Palermo, Italy. (July 2, 2018).
50. "Collaborative Flood Modeling to Meet End-User Needs for Decision-Making", Sanders, B.F. 1st International Environmental Peacebuilding Conference, Beckman Center for the National Academies of Sciences. (October 23, 2019.) (Invited)

51. "Collaborative Flood Modeling for Peacebuilding", Sanders, B.F. 1st International Environmental Peacebuilding Conference, Beckman Center for the National Academies of Sciences. (October 24, 2019.) (Invited)
52. "Regional Forecasting of Street-Scale Flood Inundation with a Variable-Fidelity Model: Accuracies and Runtimes for Hurricane Harvey," AGU Fall Meeting, Virtual (2020).
53. "Metropolitan-Wide Distribution of Parcel-Scale Exposure to Flooding by Geography, Population and Hazard Driver for Examination of Equity and Prioritizing Action", AGU Frontiers in Hydrology Meeting, Puerto Rico. (June 20, 2022)
54. "Flood Risk Adaptation", Workshop on Flood and Earthquake Modeling of Dams and Levees in a Changing Climate, Engineering Research and Development Center, US Army Corps of Engineers, Vicksburg, MS (February 16, 2023) (Invited)
55. "An inclusive, data-driven approach to re-building flood infrastructure for sustainability, resilience and environmental justice." EWRI/ASCE World Environmental & Water Resources Congress 2023, Henderson, NV (May 23, 2023)
56. "Who Floods?" Adaptation to Climate Extremes Workshop. EWRI/ASCE World Environmental & Water Resources Congress 2023, Henderson, NV (May 25, 2023) (Invited)
57. "Fine-Resolution Inundation Modeling in Southern California." Innovative Methods for Detecting and Monitoring Roadway Flooding (Virtual Workshop). US DOT Volpe National Transportation Systems Center. (May 30, 2023) (Invited)
58. "Los Angeles Flood Risk Study" DoD Climate Resilience Workshop, St. Louis, MO (July 11, 2023) (Invited)
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**Seminar  
Presentations**

1. "Control of Shallow-Water Waves Using the Adjoint Sensitivity Method", Department of Civil and Coastal Engineering Seminar Series, University of Florida. (February, 1997).
2. "Control of Shallow-Water Waves Using the Adjoint Sensitivity Method", Department of Civil and Environmental Engineering Seminar Series, Lafayette College. (February, 1997).
3. "Control of Shallow-Water Waves Using the Adjoint Sensitivity Method", Department of Civil and Environmental Engineering Seminar Series, University of California, Irvine. (March, 1997).
4. "Control of Shallow-Water Waves Using the Adjoint Sensitivity Method", Department of Civil and Environmental Engineering Seminar Series, University of California, Davis. (March 3, 1998).

5. "Control of Shallow-Water Waves Using the Adjoint Sensitivity Method", Environmental Engineering Seminar Series, University of California, Berkeley. (April 24, 1998).
6. "Modeling Circulation and Dispersion in Southern California Tidal Wetlands", Environmental Fluid Mechanics Seminar Series, Department of Civil and Environmental Engineering, Stanford University. (February 24, 2003).
7. "Advances in shallow-water modeling with Godunov-type finite volume schemes and applications in Southern California", Selected Topics in Environmental and Water Resources Engineering, Department of Civil and Environmental Engineering, UCLA. (April 26, 2005).
8. "Evaluation of on-line DEMS for flood inundation modeling", Department of Engineering, University of Ferrara, Ferrara Italy. (October 26, 2006).
9. "A Stable, Conservative and Monotone Scheme to Modeling Wetting and Drying in a Godunov-type Finite-Volume Shallow-Water Code", CFD@Nottingham Seminar Series, University of Nottingham, Nottingham UK. (November 15, 2006).
10. "Hydrodynamic modeling of flood inundation", Sanders, B.F. School of Geographical Sciences, University of Bristol, Bristol UK. (January 16, 2007).
11. "Numerical Methods for Flood Modeling", Mathematical Sciences Unit, Health and Safety Laboratory, Buxton UK. (January 18, 2007).
12. "Simulation of the St. Francis Dam Break Flood with a Godunov-type Shallow-Water Model", UNESCO-IHE Institute for Water Education, Delft, The Netherlands. (January 26, 2007).
13. "Simulation of the St. Francis Dam Break Flood with a Godunov-type Shallow-Water Model", Department of Computing and Mathematics, Manchester Metropolitan University, Manchester UK. (February 21, 2007).
14. "Simulation of the St. Francis Dam Break Flood with a Godunov-type Shallow-Water Model", Sanders, B.F.. School of Computing, University of Leeds, Leeds UK. (March 2, 2007).
15. "Simulation of the St. Francis Dam Break Flood with a Godunov-type Shallow-Water Model", Sanders, B.F. Área de Mecánica de Fluidos del Centro Politécnico Superior (CPS) de la Universidad de Zaragoza, Zaragoza Spain. (April 26, 2007).
16. "Advances in flood modeling with Godunov-type methods", HR Wallingford, Wallingford, UK. (July 18, 2007).
17. "Modeling and Mechanics of the St. Francis Dam-Break Flood", Department of Civil Engineering, University of Birmingham, Birmingham UK. (July 19, 2007).

18. "Hydrodynamic modeling of flood inundation", Los Alamos National Laboratory. (November 6, 2007).
19. "Hydrodynamic routing of flood inundation over urban landscapes: Effective utilization of geospatial data and efforts to improve run-time efficiency", Fluid Mechanics and Hydrology Seminar Series, Department of Civil and Environmental Engineering, University of California, Berkeley. (November 7, 2008).
20. "The Rise and Fall of the Ocean: A Story of Tides, Waves and Long Term Trends", Fall Quarterly Meeting, CEE Affiliates, Irvine, CA. (November 9, 2012).
21. "A Recipe for Accurate Coastal Flood Mapping in Urbanized Lowlands", Sanders, B.F. Fall Quarterly Meeting, CEE Affiliates, Irvine, CA. (November 9, 2012).
22. "Towards improved prediction and mitigation of beach overwash: Terrestrial LiDAR observation of dynamic beach berm erosion", AGU Fall Meeting, San Francisco. (December 2012).
23. "Urban Coastal Flood Prediction: Implications of Modeling Methodology, Mitigation Strategies and Sea Level Rise", Headwaters to Ocean 2013, San Diego, California.. (May 29, 2013).
24. "Terrestrial laser scanning of anthropogenic beach berms for urban flood defense", AGU Fall Meeting, San Francisco. (December 10, 2013).
25. "Coastal Flooding and Climate Change", Annual Public Meeting, Interagency Steering Committee on Multimedia Environmental Modeling (ISCMEM), Washington, DC. (February 25, 2014).
26. "Can fine resolution urban flood models increase spatial awareness of flood risk? Results of a household survey in Newport Beach, California", IAHR Congress, The Hague, The Netherlands.(June 30, 2015).
27. "Communicating flood risk with street level data", Who Cares? Workshop on the Economies, Technologies and Ethics of Aid, Irvine, California. (October 1, 2015). Invited Presentation.
28. "Communicating flood risk with street level data", ASCE Orange County EWRI Meeting, ASCE, Irvine, California. (October 8, 2015). Invited Presentation.
29. "Communicating flood risk with street level data", AGU Fall Meeting, AGU, San Francisco. Peer Reviewed. (December 14, 2015). Invited Presentation.
30. "Development of context-sensitive hydraulic flood models to meet end-user needs for disaster risk reduction", Department of Civil and Environmental Engineering, Utah State University, Logan, Utah. (September 21, 2016).

31. "Collaborative Flood Modeling to Meet End-User Needs for Decision-Making", Chair of Hydrology and River Basin Management, Technical University of Munich, Munich, Germany. (June 26, 2019).
32. "Regional, Fine-Resolution Modeling of Coastal Flood Hazards—A Strategy", Chair of Hydrology and River Basin Management, Technical University of Munich, Munich, Germany. (June 28, 2019).
33. "Collaborative Flood Modeling—A pathway for building trust and integrating equity into flood management", Urban Flood Resilience Cyberseminar Series, CUAHSI. (September 29, 2021).
34. "Understanding and Addressing Flood Risk with Simulation Models" National Academy of Sciences Distinctive Voices Seminar Series, Beckman Center for the National Academies of Sciences, Irvine, CA (November 16, 2022).
35. "A Digital Platform for Understanding and Addressing Megacity Flood Risk and Inequities" Winter Seminar Series, Department of Civil and Environmental Engineering, UCLA. Los Angeles, CA (January 25, 2023).
36. "A Digital Platform for Understanding and Addressing Megacity Flood Risk and Inequities" Guest Lecture, *Flood Risk Management* (course), Department of Civil and Environmental Engineering, UC Berkeley. Berkeley CA (February 8, 2023).
37. "A Digital Platform for Understanding and Addressing Megacity Flood Risk and Inequities" Guest Lecture, *Digital Terrain Modeling* (Course), Department of Civil and Environmental Engineering, University of Houston. Houston, TX (April 19, 2023).
38. "Estimating urban flood exposure at metropolitan scales: Case study Los Angeles" *G.V. Loganathan Distinguished Lecture*, Department of Civil and Environmental Engineering, Virginia Tech, Blacksburg, VA (November 3,, 2023)

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**Invited  
Presentations  
for Public  
Outreach and  
Research  
Engagement**

1. "Trade-offs Between Beach Water Quality and Restoring Coastal Wetlands", Water and Southern California's Environment: The Next Utility Crisis?, UCIThink Community Forum Series, Beckman Center, Irvine. (March 14, 2001).
2. "Flood Risk Management in Urban Areas with High Resolution Models and Geospatial Data", Santa Ana Watershed Project Authority, Riverside, Ca. (March 4, 2011).
3. "Engineering Responses to Sea Level Rise and Coastal Flooding", Aquatic Academic Course on Sea Level Rise, Aquarium of the Pacific, Long Beach, Ca. (May 17, 2011).

4. "Water Research at UC Irvine", The State of the State of California's Natural Resources, Toward a Sustainable 21st Century Conference Series, University of California at Irvine, Arnold & Mabel Beckman Center of the National Academy of Sciences and Engineering, Irvine, California. (November 8, 2012).
5. "The Rise and Fall of the Ocean: A Story of Tides, Waves and Long Term Trends", Fall Quarterly Meeting, CEE Affiliates, Irvine, CA. (November 9, 2012).
6. "A Recipe for Accurate Coastal Flood Mapping in Urbanized Lowlands", Fall Quarterly Meeting, CEE Affiliates, Irvine, CA. (November 9, 2012).
7. "Coastal Flooding: A Story of Rainfall, Tides, Waves and Sea Level Rise", Laguna Greenbelt Annual Meeting, Laguna Beach, California. (February 21, 2013).
8. "CEE@UCI", Sanders, B.F. Building Partnerships for Ocean Health in Southern California, Irvine, California. (May 8, 2015).
9. "Communicating flood risk with street level data", Fostering Climate Resilient Coastal Communities, Irvine, California. (July 22, 2015).
10. "Water.CEE@UCI", Samueli School External Advisory Board Meeting, Irvine, California. (May 10, 2016).
11. "Mapping and Communicating Flood Risk at the Local Level", California Coastal Resilience - Communities in Action, Irvine, California. (July 21, 2016).
12. "CEE@UCI", ASCE Orange County Report Card Symposium, ASCE, Irvine, California. (July 21, 2016).
13. "Flood Risk Visualizations for Newport Beach", Coastal Resilience in the face of sea level rise and stronger storms, UC Irvine and Environmental Nature Center, Newport Beach, California. (November 17, 2016).
14. "FloodRISE: Is Long Beach in Peril?", Rotary Club of Long Beach, California, Long Beach, California. (August 9, 2017).
15. "FloodRISE: Visualizing Coastal Flooding", Orange County Community Foundation, Newport Beach, California. (August 23, 2017).
16. "Enabling Solutions to Sea Level Rise", Sea Level Rise: How Will It Affect You?, Speak Up Newport - The Community Forum of Newport Beach, Newport Beach, California. (2018).
17. "Coastal Change", Bridges OC 2019, Building Connections for a Sustainable Future. School of Social Ecology, UCI. May 3, 2019.
18. "Beach Erosion Trends in the OC", Board of Directors Meeting, Orange County Council of Governments, Irvine, California, (September 26, 2019.)
19. "Visualizing Flooding", Faculty Slam Interdisciplinary Research Showcase and Workshop. UCI. (October 25, 2019).
20. "Regional, Fine-Resolution Modeling of Compound Flooding," AECOM *Chew on This* Virtual Seminar Series, April 13, 2020.

21. "Climate Change Town Hall with Assemblywoman Cottie Petrie-Norris". Facebook Live Virtual Meeting discussion climate change and coastal challenges (September 15, 2020).
22. "A Strategy to Address Orange County Beach Loss," UCI Civil and Environmental Affiliates Fall Mixer at Crystal Cove, October 28, 2021.
23. "South Florida FloodBridge Flood Hazard Mapping," Miami-Dade County Department of Public Works, June 15, 2021.
24. "FloodBridge Flood Hazard Mapping," Southern California Association of Governments Climate Adaptation Working Group, June 24, 2021.
25. "FloodBridge Flood Hazard Mapping," Santa Cruz Flood Control District, June 26, 2021.
26. "Integrating Flood Risk into Southern California Greenprint," Southern California Association of Governments, July 21, 2021.
27. "FloodBridge Flood Hazard Mapping," Joint Meeting of Los Angeles and Orange County Flood Control Districts", July 21, 2021.
28. "South Florida FloodBridge Flood Hazard Mapping," South Florida Water Management District", September 29, 2021.
29. "Large and Equitable Flood Risk in Los Angeles, California," Los Angeles County Department of Public Works, October 26, 2022.
30. "A Digital Platform for Community-Engaged, Science-Informed Solutions to Coastal Erosion and Beach Loss in California," Assemblywoman Cottie Petrie-Norris Coastal Solutions Workshop, University of California Irvine, December 20, 2022.
31. "Engineering Research Solutions for Water Events: The Recent California Floods," NSF Engineering Research Visioning Alliance (ERVA), Virtual, January 30, 2023. <https://vimeo.com/794306015/c1a0702aa6>
32. "A Platform for Effective and Equitable Flood Risk Adaptation", California Department of Water Resources, Floodplain Management Branch (February 6, 2023)
33. "A Platform for Effective and Equitable Flood Risk Adaptation", Flood and Water Infrastructure Committee, County Engineers Association of California (March 8, 2023)
34. "Slip Sliding Away: Tracking Every Grain of Sand to Preserve Beaches", Democratic Women of South Orange County, San Juan Capistrano (May 1, 2023).
35. Expert Panel Member for World Premier of Documentary Film "Running out of Time, A Race to Save San Clemente Beaches", San Juan Capistrano (June 1, 2023)
- 36.

**Poster  
Presentations**

1. **Sanders, B. F.**, Katopodes, N. D. and Boyd J.P. (1994) A Spectral Approach to Modeling Solitary Water Waves with the KdV Equation. *Laboratory for Scientific Computation Poster Conference*, University of Michigan College of Engineering. October 13, 1994.
2. **Sanders, B. F.**, Katopodes, N. D. (1996) Control of Transient Open Channel Flow Using the Adjoint Equation Solution. *Laboratory for Scientific Computation Poster Conference*, University of Michigan College of Engineering. October 10, 1996.
3. **Sanders, B.F.**, Arega, F. and Sutula, M. (2005) Modeling of Fecal Indicator Bacteria in a Tidal Wetland in Response to Urban Runoff, Bird Droppings, and Resuspended Sediments, *9th International Conference on Estuarine and Coastal Modeling*, Charleston, South Carolina. October 31, 2005.
4. Begnudelli, L. and Sanders, B.F. (2005) Unstructured Grid Finite Volume Algorithm for Shallow-Water Flow and Transport with Wetting and Drying, *9th International Conference on Estuarine and Coastal Modeling*, Charleston, South Carolina. October 31, 2005.
5. Gallien, T. Schubert, J., Poon, Y. and **Sanders B.F.** (2010) Mapping developed coastal flood zones for climate change adaptation planning: Accounting for tides, waves, sea level rise, and flood defense structures. *AGU Fall Meeting*. San Francisco, California. December 13, 2010.
6. **Sanders. B.F.**, Gallien, T.W., and Schubert, J.E. (2011) Adapting to Sea Level Rise: Development and Validation of an Urban Inundation Model. *NSF CMMI Research and Innovation Conference*, Atlanta, GA. January 4, 2011.
7. Schubert, J.E. and **Sanders, B.F.** (2011) Flood Inundation Modeling Method and Terrain Characterization Effects on Predictions of Coastal Flooding. *ESRI International User Conference*, San Diego, CA. July 23, 2011.
8. **Sanders B.F.**, Gallegos, H., Schubert J.E. (2011) Dam-Break Flooding and Structural Damage in a Residential Neighborhood: Performance of a coupled hydrodynamic-damage model. *AGU Fall Meeting*. San Francisco, California. December 11, 2011.
9. Schubert, J.E., and **Sanders B.F.**.(2011) Unstructured meshing and parameter estimation for urban dam-break flood modeling: building treatments and implications for accuracy and efficiency. *AGU Fall Meeting*. San Francisco, California. December 11, 2011.
10. Kim, B. **Sanders, B.F.**, Kim, H. and Famiglietti, J.S..(2011) Performance of a mixed-mesh Godunov-based flood inundation model. *AGU Fall Meeting*. San Francisco, California. December 11, 2011.
11. Kim, H, Kim, B., Lu,Z., Yamakazi, D., **Sanders, B.F.**, Oki, T., Famiglietti, J.S...(2011) Boundary Condition Transfer from Global Atmospheric Model to Local Flood Inundation Model. *EGU General Assembly*. Vienna, Austria. April 2, 2012.
12. Kim, B. **Sanders, B.F.**, Kim, H., Han, K. and Famiglietti, J.S..(2012) Methodology for Establishment of Integrated Flood Analysis System. *AGU Fall Meeting*. San Francisco, California. December, 2012.



13. **Sanders, B.F.**, Kim, B., Schubert J.E. and Famiglietti, J.S..(2012) A study of effective mesh type for 2D flood inundation simulation. *AGU Fall Meeting*. San Francisco, California. December, 2012.
14. Schubert J.E, Gallien, T., Shakeri Majd, M., and **Sanders, B.F.** (2012) Towards improved prediction and mitigation of beach overwash: Terrestrial LiDAR observation of dynamic beach berm erosion. *AGU Fall Meeting*. San Francisco, California. December, 2012.
15. Shakeri Majd, M., and **Sanders, B.F.** (2012) Godunov-Based Model of Swash Zone Dynamics to Advance Coastal Flood Prediction. *AGU Fall Meeting*. San Francisco, California. December, 2012.
16. Kim, B., David, C.H., Druffel-Rodriguez, R., **Sanders, B.F.**, and Famiglietti, J.S..(2013) Modeling framework to link climate, hydrology and flood hazards: An application to Sacramento, California. *AGU Fall Meeting*. San Francisco, California. December, 2013.
17. Shakeri Majd, M., and **Sanders, B.F.** (2013) One dimensional modeling of anthropogenic beach berm erosion. *AGU Fall Meeting*. San Francisco, California. December, 2013.
18. Schubert J.E, **Sanders, B.F.** and Andreadis, K. (2013) Spatial Structure of a Braided River: Metric Resolution Hydrodynamic Modeling Reveals What SWOT Might See. *AGU Fall Meeting*. San Francisco, California. December, 2013.
19. Paiva, R.C., Durand, M.T.,Schubert J.E, **Sanders, B.F.** and Andreadis, K. (2013) Discharge estimates on a small braided river based on synthetic SWOT measurements. *AGU Fall Meeting*. San Francisco, California. December, 2013.
20. Shakeri Majd, M., Schubert, J.E., Gallien, T. W. and **Sanders, B.F.** (2014) Two-Dimensional Numerical Modeling of Anthropogenic Beach Berm Erosion. *AGU Fall Meeting*. San Francisco, California. December, 2014.
21. Luke, A.,Schubert, J.E.,Cheng, L., AghaKouchak, A. and **Sanders, B.F.** (2014) Predicting Flood Hazards in Systems with Multiple Flooding Mechanisms. *AGU Fall Meeting*. San Francisco, California. December, 2014.
22. Begnudelli, L, Kaheil, Y., and **Sanders, B.F.** (2014) A computationally efficient 2D hydraulic approach for global flood hazard modeling. *AGU Fall Meeting*. San Francisco, California. December, 2014.
23. **Sanders, B.F.** and Schubert J.E, (2014) Large-scale, Two-Dimensional Hydraulic Modeling of a Braided River Using Multi-Resolution Topographic Data. *AGU Fall Meeting*. San Francisco, California. December, 2014.
24. Schubert, J., Cheung, W.H., Luke, A., Gallien, T., AghaKouchak A., Feldman, D., Mathew, R. and **Sanders, B.F.** (2015) Making Coastal Flood Hazard Maps to Support Decision-Making-What End Users Want. *AGU Fall Meeting*. San Francisco, California. December, 2015.
25. Moftakhari, H., AghaKouchak A., **Sanders, B.F.**, Feldman, D., Sweet, W., Matthew, R., and Luke, A. (2015) Sea-level Rise Increases the Frequency of Nuisance Flooding in Coastal Regions. *AGU Fall Meeting*. San Francisco, California. December, 2015.

26. Luke, A., **Sanders, B.F.**, AghaKouchak A., Vrugt, J.A., and Matthew, R. (2015) Flood Risk Analysis Using Non-Stationary Models: Application to 1500 Records and Assessment of Predictive Ability. *AGU Fall Meeting*. San Francisco, California. December, 2015.
27. Cheung, W.H., Houston, D., Schubert, J., Basolo, V., Feldman, R., Matthew, **Sanders, B.F.** and 6 others (2015) Coproduction of flood hazard assessment with public participation geographic information system. *AGU Fall Meeting*. San Francisco, California. December, 2015.
28. Schubert, J., Burns, M., **Sanders, B.F.**, Fletcher, T.D. (2016) To what extent can green infrastructure mitigate downstream flooding in a peri-urban catchment. *AGU Fall Meeting*. San Francisco, California. December, 2016.
29. Moftakhari, H., Salvatori, G., AghaKouchak A., Matthew, R.A., **Sanders, B.F.** (2016) Estimating flood risk along the coasts of United States considering compounding effects of multiple flood drivers. *AGU Fall Meeting*. San Francisco, California. December, 2016.
30. Moftakhari, H., Schubert, J.E., AghaKouchak A. Luke, A., Matthew, R.A., **Sanders, B.F.** (2017) Modeling Compound Flood Hazards in Coastal Embayments. *AGU Fall Meeting*. New Orleans, LA. December, 2017.
31. Jiang, A.-L., **Sanders, B.F.**, Nguyen, P., Hsu, K.L. (2018) What is the role of rainfall and flooding on motor vehicle accidents in Los Angeles? *AGU Fall Meeting*. Washington, D.C.. December, 2018.
32. **Sanders, B.F.**, Moftakhari, H., Schubert, J.E., AghaKouchak A., Matthew, R.A., (2019) Linking Statistical and Hydrodynamic Modeling to Map and Communicate Compound Coastal Flood Hazards. *AGU Fall Meeting*. San Francisco, California. December, 2019.
33. Jiang, A.-L., Hsu, K.L., Lee, M.C., Yan, G., **Sanders, B.F.**, Nguyen, P., Sorooshian, S. (2019) Integration of Hydrological Modeling and Remote Sensing to Identify Potential Malaria Mosquito Breeding Sites. *AGU Fall Meeting*. San Francisco, CA. December, 2019.
34. Brand, M.W., Gudino, N., **Sanders, B.F.** (2019) Stochastic Watershed Modeling for an Environmental Impact Bond-Addressing Excessive Sedimentation at the US/Mexico Border. *AGU Fall Meeting*. San Francisco, CA. December, 2019.
35. Gudino-Elizondo, N., Brand, M.W., Biggs, T.W. and **Sanders, B.F.** (2019) The Contribution of Infrastructure Failure Towards Sediment Generation in a Rapidly Urbanizing Watershed. *AGU Fall Meeting*. San Francisco, CA. December, 2019.
36. Balaian, S., Abdolhosseini Qomi, M.J., **Sanders, B.F.** (2019) The Impact of Urban Form on Urban Flood Hazards. *AGU Fall Meeting*. San Francisco, CA. December, 2019.
37. Jiang, A.L., K Hsu, K., **Sanders, B.F.**, Sorooshian, S. (2020) Downscaling Surface Water Depth to Simulate Small-Scale Ponding: A Case Study in the Prairie Pothole Region of North America. *AGU Fall Meeting*. Virtual. December, 2020.

38. Kahl, D., Gudino, N, Schubert J.E. and, **Sanders, B.F.** (2020) Remote sensing of beaches: using satellite and airborne platforms to characterize a century of change in Orange County, California. *AGU Fall Meeting*. Virtual. December, 2020.
39. Jong, A., Schubert, J.E., Banerjee, T. and, **Sanders, B.F.** (2020) Multi-decadal prediction of habitat suitability for salt-marsh obligate birds under sea level rise and watershed inputs of sediment. *AGU Fall Meeting*. Virtual. December, 2020.
40. Jong, A., Banerjee, T. and, **Sanders, B.F.** (2021) Modeling the Under-Protection of Human Development From Post-Fire Floods and Debris Flows. *AGU Fall Meeting*. New Orleans, LA. December, 2021.
41. Jiang, A.L., K Hsu, K., **Sanders, B.F.**, Sorooshian, S. (2021) A New Topographic Conditioning Method to Integrate Surface Depressions in Physically Based Hydrologic Modeling. *AGU Fall Meeting*. New Orleans, LA. December, 2021.
42. Jiang, A.L., et al. (2021) Prediction of Malaria Vector Larval Habitat Distribution and Transmission in Ethiopia by Integrating Distributed Hydrologic Modeling with Remotely Sensed Data. *AGU Fall Meeting*. New Orleans, LA. December, 2021.
43. Kahl, D., Schubert, J.E. and, **Sanders, B.F.** (2021) Improved representation of urban flood management infrastructure in a regional flood hazard model. *AGU Fall Meeting*. New Orleans, LA. December, 2021.
44. Esteerem, N. , Anderson, E., Grove, K., **Sanders, B.F.**, Schubert, J.E. Mach, K.J. (2021) Fish in the Street and Rivers in the Concrete: Resident Perspectives on Climate Mobility in Miami-Dade County, FL, USA. *AGU Fall Meeting*. New Orleans, LA. December, 2021.
45. **Sanders, B.F.**, et al. (2022) Metropolitan-wide modeling of urban flood risk in Los Angeles, California. *AGU Fall Meeting*. Chicago, IL. December, 2022.
46. Jong-Levinger, A. and **Sanders, B.F.** (2022). Estimating compound post-fire Flood hazards using a stochastic simulation framework. *AGU Fall Meeting*. Chicago, IL. December, 2022.
47. Kahl, D., Vulis. L., Schubert, J., Fofoula-Georgiou, E., Milillo, P. and **Sanders, B.F.** (2022). Space-time variabilities of metropolitan beaches based on satellite imagery. *AGU Fall Meeting*. Chicago, IL. December, 2022.
48. Balaian, S., **Sanders, B.F.**, and Abdolhosseini Qomo, M.J., (2022) The impact of urban texture on flood inundation. *AGU Fall Meeting*. Chicago, IL. December, 2022.
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**Briefings for  
Elected  
Officials and  
their Staff**

1. "High Resolution Flood Inundation Modeling" Briefing to Congresswoman Grace Napolitano, University of California, Irvine. (April 6, 2010).
2. "Enabling Solutions to Sea Level Rise", Briefing of Santa Ana Mayor Pro Tem Michele Martinez, Blum Center for Poverty Alleviation, Irvine. (2018).

3. "Enabling Solutions to Sea Level Rise", Briefing to Assemblywoman Cottie Petrie-Norris. Department of Civil and Environmental Engineering, UCI. (May 3, 2019.)
4. "A Digital Platform for Community-Engaged, Science-Informed Solutions to Coastal Erosion and Beach Loss in California", Briefing for staff of Representative Katie Porter. Interdisciplinary Science and Engineering Building, UCI. (January 13, 2023.)
5. "A Digital Platform for Community-Engaged, Science-Informed Solutions to Coastal Erosion and Beach Loss in California", Briefing to Assemblywoman Laura Davies. 74th District Office. San Juan Capistrano, (January 27, 2023.)
6. "A Digital Platform for Community-Engaged, Science-Informed Solutions to Coastal Erosion and Beach Loss in California", Briefing for staff of Representative Mike Levin. Interdisciplinary Science and Engineering Building, UCI. (February 6, 2023.)
7. "A Platform for Effective and Equitable Flood Risk Adaptation", Briefing for staff of Senator Diane Feinstein. Interdisciplinary Science and Engineering Building, UCI. (March 1, 2023.)
8. "A Platform for Effective and Equitable Flood Risk Adaptation", Briefing for staff of Representative Young Kim. Interdisciplinary Science and Engineering Building, UCI. (March 27, 2023.)
9. Coastal erosion challenges (untitled). Briefing to federal, state and local elected officials and agency representatives at the invitation of Congressman Mike Levin, Solana Beach, California, April 13, 2023.
10. Coastal erosion challenges (untitled). Briefing to federal, state and local elected officials and agency representatives at the invitation of Congressman Mike Levin, San Clemente, California, April 13, 2023.
11. "Orange County Beach Update" Investigative Hearing on Climate Resiliency in Orange County; hosted by Orange County Supervisor Foley and Orange County Supervisor Sarmiento (August 30, 2023)
12. Coastal erosion challenges (untitled). Briefing to the *California Problem Solving Caucus* of the California State Assembly and California State Senate, hosted by Assemblywoman Laurie Davies, Dana Point, CA (November 6, 2023)

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## Features

1. Hall, J. (2020) Environmental impact bonds incentivize watershed restoration, EOS, 21 September. Editor's Highlight of Brand et al. (2020) <https://eos.org/editor-highlights/environmental-impact-bonds-incentivize-water-shed-restoration>
2. *Coastal Crisis, California's Vanishing Beaches*. Documentary Film Produced by OCWorld. Released February 2022. Award Winning Documentary Film featuring B.F. Sanders. <https://www.youtube.com/watch?v=pJZsXZeA1F4>

3. Franke, J. (2022) Combined force of fire and water. *Nature Climate Change*. Editor's Highlight of Jong-Levinger et al. (2022)  
<https://www.nature.com/articles/s41558-022-01472-9>
4. Bates, P. (2023) Uneven burden of urban flooding. *Nature Sustainability*, 6, 9–10. News & Views article of Sanders et al. (2023).  
<https://www.nature.com/articles/s41893-022-01000-9>
5. *Engineering Research Solutions for Water Events: The Recent California Floods*. NSF Engineering Research Visioning Alliance. January 30, 2023.  
<https://www.ervacommunity.org/news/erva-town-hall-engineering-research-solutions-for-water-events-the-recent-california-floods/>
6. *How to harness stormwater and the concerning 100-year flood assessment*, ABC7 Eyewitness Newsmakers, April 16, 2023.  
<https://abc7.com/eyewitness-newsmakers-abc7-stormwater-flood-assessment-2023/13137392/>
7. *Running out of Time, The Race to Save San Clemente Beaches*, Documentary Film for *Bring Back Our Beaches*, a community initiative to save California beaches.  
<https://bringbackourbeaches.com>
- 8.

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**Contracts,  
Grants and  
Gifts**

1. Grant. "Pseudo-Spectral Numerical Solution of Omnidirectional Nonlinear Dispersive Water-Wave Models," University of California Irvine, \$3,000.00. September 1, 1999 - December 31, 1999. (PI)
2. Gift. Fluor Foundation. \$16,150. February 1, 2000.
3. Grant. Mitigation of Extreme Flooding Events by Optimal Control of Flood Plain Storage Using the Adjoint Sensitivity Method, U.C. Water Research Center, \$50,700.00. July 1, 1998 - June 30, 2000. (PI)
4. Grant. "Coastal Runoff Impact Study (CRIS), Phase I: Causes of Surfzone Pollution in Huntington Beach, California," National Water Research Institute, \$147,438.00. November 1, 1999 - October 30, 2000. (Co-PI; P.I.=S.B. Grant)
5. Grant. "Hydrodynamic Design in Coastal Wetland Restoration: Topography Optimization and Stability Assessment by Adjoint Sensitivity Method," U.C. Water Research Center, \$56,000.00. July 1, 2000 - June 30, 2002. (PI)
6. Grant. "Identification and Control of Non-Point Sources of Microbial Pollution in a Coastal Watershed," NSF/EPA/USDA Science and Technology to Achieve Results (STAR) Water and Watersheds Program, \$895,234.00. August 1, 2000 - January 30, 2005. (PI)

7. Grant. "Coastal Runoff Impact Study (CRIS), Phase II: Sources and Dynamics of Microbial Pollution in the Lower Santa Ana River Watershed," National Water Research Institute, \$510,890.00. September 1, 2000 - August 30, 2001. (Co-PI; P.I.=Stanley Grant)
8. Grant. "Coastal Water Quality: The Role of Wetlands in Mitigating the Effect of Urban and Rural Runoff," UC Office of the President, Coastal and Environmental Quality Initiative, \$611,146.00. June 1, 2002 - May 31, 2004. (Co-PI; P.I.=S.B. Grant)
9. Grant. "Network for Environmental Observation of the Coastal Ocean," UC Santa Cruz, \$34,316.00. July 1, 2003 - June 30, 2004. (PI)
10. Grant. "CAREER: Mitigation of Pollution Hazards in Ephemeral Streams and Estuaries--A Plan for Research and Education in Environmental Hydraulics," NSF, \$260,000.00. July 1, 2000 - June 30, 2005. (PI)
11. Contract. "Newport Bay Fecal Coliform Source Identification and Management Plan," State Water Resources Control Board and County of Orange, \$764,000.00. July 1, 2004 - January 31, 2006. (Co-PI; PI=S.B. Grant)
12. Grant. "Dynamics of Point and Non-Point Source Fecal Pollution from an Urban Watershed in Southern California," National Water Research Institute and United States Geologic Survey, \$459,045.00. September 1, 2003 - August 31, 2006. (Co-PI; PI=S.B. Grant)
13. Grant. "A System Approach to Flooding Disaster Planning and Response," Univ of Buffalo, \$75,000.00. October 1, 2006 - September 30, 2007. (PI)
14. Grant. "Development of an Expert Decision Support System for Flood Delineation and Risk Management," Government of United Kingdom, \$13,877.00. April 1, 2008 - August 31, 2008. (PI)
15. Grant. "High-Resolution Modeling of Flood Inundation," UC Center for Water Resources, \$60,000.00. July 1, 2007 - June 30, 2009. (P.I.)
16. Grant. "Using IT to Compress Perceived Time and Space in How People Think About Global Change: A Step Towards Behavioral Change," UC Irvine Environment Institute, \$60,000.00. July 1, 2009 - June 30, 2010. (Co-PI; PI=W. Tomlinson)
17. Grant. "Velocity Contour Weighting Method for Increased Accuracy of Upward Looking ADVN in Irrigation Channels," UC Water Resources Center (Prosser Trust), \$60,000.00. July 1, 2009 - June 30, 2011. (PI)
18. Grant. "Data Integration and Model Development to Mitigate Urban Flooding Hazards Linked to Sea Level Rise," NSF, \$290,000.00. August 1, 2008 - July 30, 2011. (PI)

19. Grant. "Graduate Research Supplement to Broaden Participation of Under-represented Groups, Data Integration and Model Development to Mitigate Urban Flooding Hazards Linked to Sea Level Rise," NSF, \$82,003.00. August 1, 2008 - July 30, 2011. (PI)
20. Grant. "Flood Prediction in an Urbanized Embayment: Accounting for Extreme High Tides, Waves, Flood Control Infrastructure and Higher Sea Levels," State of California, Department of Boating and Waterways, \$34,000.00. October 1, 2011 - September 30, 2012. (PI)
21. Grant. "Prediction and Mitigation of Beach Overwash and Resultant Urban Flooding in Coastal California," NSF, \$302,960.00. September 1, 2011 - August 30, 2014. (PI)
22. Grant. "Modeling Channel and Floodplain Hydrodynamics in Support of the SWOT Mission," NASA, \$230,269.00. January 1, 2013 - December 31, 2015. (PI)
23. Grant. "PIRE: Low Energy Options for Making Water from Wastewater," NSF, \$4,858,314.00. September 15, 2012 - September 15, 2017. (Co-PI; PI=S.B. Grant)
24. Contract. "Methodology to Link Storm Drain Discharges to Loads in Dominguez Channel Estuary and Greater Los Angeles and Long Beach Harbor," State of California, State Water Board, \$100,000.00. July 1, 2013 - March 31, 2015. (PI)
25. Grant. "Hazards SEES Type 2: Preventing Flood Hazards from Becoming Disasters through Two-way Communication of Parcel-level Flood Risk," NSF, \$2,819,380.00. September 15, 2013 - September 14, 2017. (PI)
26. Contract. "LSPC Model for Harbor TMDL," State of California, State Water Board, \$243,454. June 15, 2015 - June 14, 2017. (PI)
27. Cooperative Agreement. "Co-development of modeling tools to manage sediment for sustainable and resilient coastal lowland habitat in Southern California," NOAA, \$1,150,000. September 1, 2016 - August 30, 2020. (PI)
28. Contract. "Improving Waste Load Allocations using the WRAP model," State of California, State Water Board, \$20,000. March 22, 2018 - January 31, 2020. (PI)
29. Grant. "Product Market Fit of Flood Hazard Data in the Facilities Maintenance Industry," University of California (Applied Innovation), \$80,000. August 1, 2019 - January 31, 2020. (PI)
30. Grant. "CoPE EAGER: Modeling the Social Ecology of Coastal Flooding" National Science Foundation. \$299,872. September 1, 2019-August 30, 2021. (Co-PI, ~\$120k under my supervision).
31. Contract. "Beach Topography Survey Program - Doheny and San Clemente State Beach," State of California, California Department of Parks and Recreation, \$99,732. April 1, 2020 - March 31, 2022. (PI)

32. Contract. "Framework for monitoring marine debris extent and vegetation impacts," 4 Walls International Incorporated (EPA Funding), \$41,337. Jan 1, 2020 - June 30, 2021. (PI)
33. Grant. "Dynamics and Perceptions of Ultrahazardous Flooding across the Wildland Urban Interface," National Science Foundation. \$670,000. August 1, 2021-July 30, 2024. (PI).
34. Grant. "New observing strategies for beach and dune topography and implications for coastal flood risk," NASA. \$650,000. August 1, 2022-July 30, 2025. (Institutional PI, ~\$350K under my supervision).
35. Grant "SCC-IRG Track 2: Equitable-access flood modeling for timely and just adaptation in the near and long term", NSF, \$1,500,000. August 1, 2023-July 30, 2026. (Institutional PI, ~\$600K under my supervision).
36. Cooperative Agreement. "Multi-Objective Assessment of Flood Adaptation Options in Los Angeles County," NOAA, \$500,000. September 1, 2023 - August 30, 2025. (PI)
37. Contract. "Capistrano Bight Shoreline Dynamics Investigation," City of Dana Point. \$88,000. August 1, 2023 - April 30, 2024. (PI)
38. Grant. "Fostering Systems Thinking in High School Environmental Engineering through Engagement of Coastal Communities," NSF, \$1,687,043. September 9, 2023-August 31, 2027. (Senior Personnel, ~\$300K under my supervision).

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**Consulting  
Activity**

Beach Water Quality Study, Orange County Sanitation District, 2000-2002.

Harbor Circulation and Water Quality Study, City of Avalon, 2001-2002.

TMDL Review, State Water Quality Control Board, 2002.

Channel Islands Harbor Circulation and Water Quality Study, Everest International Consultants, 2002-2003.

Expert Witness, Orange County District Attorney, 2003-2006

Sewer Exfiltration Study, Orange County Sanitation District, 2003-2005.

Flood Vulnerability Study, City of Newport Beach, 2002-2004.

Water Quality Modeling, Port of Los Angeles, 2004-2006.

Saltmarsh Restoration Expert Panel, Anchor QEA, 2019.

Independent Design and Safety Review Panel, Syphon Reservoir Improvement Project, Irvine Ranch Water District, 2021-Present.



Expert Witness, Joens & Joens, Irvine, CA 2022-2023.

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**University  
Service**

**Member**

University of California Marine Council  
2001-2005

**Board of Advisors**

UC Water Resources Center  
2002-2006

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**Campus  
Service**

**Faculty Advisor**

Undecided/Undeclared Student Program  
1998-1999

**Member**

Student Recreation Center Advisory Board  
1999

**Member**

Ad Hoc Committee on the Council of Research, Computing and Library  
Resources  
2018-2020

**Member**

Environment Institute Faculty Search Committee  
2008-2009

**Member**

Graduate Council  
2008-2010

**Member**

Task Force for New Graduate Programs  
2010

**Chair**

Ad-Hoc Personnel Committee for Vice-Provost of Academic Personnel  
2010

**Member**

Advisor Committee for Water-UCI  
2014-PRESENT

**Member**

5-Year Review Committee for Dean Gregory Washington  
2015-2016

**Member**

Naturescape Committee  
2019-2021

**Member**

Samueli School Dean Search Committee  
2020-2021

**Member**

**School  
Service**

**Secretary**

School of Engineering Executive Committee

2002-2003

**Director**

Graduate Concentration in Environmental Engineering

2002-2006

**Chair**

Undergraduate Student Affairs Committee

2005-2006

**Member**

Undergraduate Student Affairs Committee (Environmental Engineering Representative)

1999-2008

**Member**

ABET Committee (Environmental Engineering Representative)

2004-2008

**Member**

Strategic Planning Committee

2008-2009

**Member**

Strategic Planning Committee

2016-2017

**Member**

Academic Personnel and Advancement Committee (APAC)

2018-PRESENT

**Associate Dean for Undergraduate Student Affairs (Interim)**

Samueli School of Engineering

2020-2021

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**Department  
Service**

**Member**

Graduate Affairs Committee

1997-1999; 2008-2010

**Faculty Advisor**

Student Chapter of ASCE

1997-2002

**Faculty Advisor**

Environmental Engineering Undergraduate Degree

1999-2006

**Member**

Undergraduate Affairs Committee

1999-2010

**Member**

Department Chair Search Committee

2000-2001

**Member**

Department Manager Search Committee

2002-2003

**Chair**

Faculty Search Committee (Environmental)

2003-2005

**Member**

Faculty Search Committee (Structures)

2004-2006

**ABET Lead**

Environmental Engineering Program

2004-2008

**Chair**

Faculty Search Committee (Hydrometeorology)

2008-2009

**Faculty Advisor**

Chi Epsilon Honor Society

2010-2015

**Chair**

Honors Committee

2018-PRESENT

**Chair**

Faculty Search Committee (Environmental)

2019-2020

**Chair**

Environmental Engineering Degree Re-Boot Committee

2021-2023

**Chair**

Faculty Search Committee (Infrastructure Equity)

2022-2023

**Chair and Member**

Ad-Hoc Personnel Committees

Various Dates (several cases per year)

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# Erik K. Weigand

(949) 836-4845 • eweigand@gmail.com

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## EXPERIENCE

### City of Newport Beach

December 2022 – Current

#### *City Councilmember*

- One of seven elected members of the City Council, representing District #3
- Provides direct oversight and key public policy decisions as it pertains to the city's budget, finances, land use and general governance
- Works on complex constituent matters to assist residents, community leaders and businesses throughout the city
- Assigned to several regional boards and associations to ensure Newport Beach receives its fair share of resources

### California State Senator, Patricia Bates

December 2014 – February 2023

#### *Policy Analyst/District Director*

- Manager and director of all district operations and personnel related to hiring, firing and supervising employees. Directly oversaw the district office budget, while coordinating expenses and inventory to remain economically feasible
- Reviewed and advised the Senator on policy matters pertaining to the surrounding community, which included municipalities, special districts and the County of Orange
- Acted as the Senator's representative by attending and contributing to meetings of local government, private interest groups, non-profit organizations, corporate and small businesses, as well as Chambers of Commerce
- Supervised all tasks requested by the Senator, including the promotion of the Senator's activities, reviewing important correspondence and coordinating with the Capitol office
- Facilitated the response to significantly complex constituent inquires and problems pertaining to a population nearing one million residents

### City of Newport Beach

July 2015 – December 2022

#### *Planning Commissioner*

- One of seven appointed members who planned for the physical development of the city, which included Zoning Code Amendments, General Plan Amendments, Coastal Land Use Amendments and Conditional Use Permits
- Provided recommendations to the City Council regarding the adoption, amendment or repeal of the city's Master Plan, including areas concerning proposed public works, as well as the clearance and rebuilding of blighted or substandard areas

### Orange County Supervisor, Patricia Bates

May 2013 – December 2014

#### *Deputy Chief of Staff*

- Advised the Board of Supervisors on issues pertaining to Public Safety (Sheriff, District Attorney, Probation, Public Defender, Office of Independent Review and the Grand Jury), OC Parks, OC Public Works and Planning, John Wayne Airport, Dana Point Harbor, the Registrar of Voters and the Orange County Fire Authority
- Analyzed staff reports, data, requests for proposals, contracts and legislation, to make informative decisions and recommendations which directly affected the course of County policy
- Wrote weekly updates and talking points to inform a wide variety of entities of the County's activities
- Presented briefings, updates, awards and certificates of recognition on behalf of the Supervisor at various community events
- Assisted constituents and stakeholders to navigate County departments and regional agencies to provide solutions

**California State Assemblyman, Jim Silva**

December 2006 – January 2013

*District Director*

- Managed and directed all district operations and personnel related to hiring, firing and supervising employees. Directly oversaw the office budget and coordinated the expenses and inventory to remain economically feasible
- Acted as the Assemblyman's representative by attending and contributing to meetings of local government, private interest groups, non-profit organizations, corporate and small business interests. Handled all communications and correspondence with the press and media
- Supervised all tasks requested by the Assemblyman, including the promotion of the Assemblyman's activities, reviewing important correspondence and coordinating with the Capitol office
- Coordinated the response to significant and complex constituent inquires and problems pertaining to a population nearing 500,000 residents

**EDUCATION**

**Chapman University**

Orange, California

*BA in Criminal Justice*

- Related Coursework: Supervision and Leadership, Ethics, Social and Political Theory, Law, Constitutional Rights, Social Organizations and Institutions

**Orange Coast College**

Costa Mesa, California

*AA in General Studies*

- Related Coursework: Communications, Science, Mathematics, Sociology, Psychology, Political Science, History, Business

**AWARDS**

- 2012 Legislative Staffer of the Year – “The Donald Award”

**SKILLS/INTERESTS**

- Extremely motivated, self-starter with excellent leadership abilities, systems knowledge and expansive contacts
- Travel, sports, Peloton, wine, gardening, history, body surfing and oceanography

**References Available Upon Request**

# THE WILLE GROUP, INC.

2317 Santa Ana Avenue  
Costa Mesa, California 92627

January 8, 2024

The Honorable Cathy Green, President  
Board of Directors  
Orange County Water District  
18700 Ward Street  
Fountain Valley, CA 92708

## Division 7 OCWD Director Application

Dear President Green and the Board of Directors:

I am seeking an appointment as Division 7 OCWD Director. Attached is a brief bio. I am a resident of Costa Mesa California.

Over the years I have served on numerous boards including, Orange County Boy Scouts, various church boards, the CalCPA Auditing and Accounting Committee (since 1990 & former Chair) and the County of Orange's Audit Oversight Committee (since 2012 & former chair) to name a few. I teach CPAs accounting and auditing continuing education instructing over 1000 CPAs annually and have been a peer reviewer of CPA firms.

My skills on this board would come from the financial side as well as the logic side. CPAs sniff stuff out issues because they don't make since. So, my particular skill on boards is to ask questions and make certain the decision is effective and efficient for the stated goal.

As Chair of the County of Orange, Audit Oversight Committee, we oversights:

- The external auditor
- The internal audit department
- The performance auditor
- The Auditor-Controller and Treasurer

You can imagine the sensitivity of dealing with these groups while the County Chair, Vice chair and CEO are also on the committee.

The budget for the county is approximately \$8 billion, so we dealt with complex questions in the governmental area. Additionally, thrice during my terms I assisted in rewriting the By-Laws of the committee that were eventually approved by the County Supervisors, making major changes to the committee structure and assuring proper governance.

I would be honored to serve on the OCWD. Its strong reputation as a leader in Groundwater Replenishment and the management of the Orange County groundwater basin has been outstanding.

Thank you for your consideration of my application.

Sincerely;

A handwritten signature in blue ink that reads "M F Wille". The letters are cursive and connected.

Mark F Wille

Mark F. Wille earned his CPA in 1977 while employed by Arthur Andersen & Co. as an audit and tax accountant. He later joined one of the largest Southern California commercial real estate brokerage firms as vice president of finance.

In the mid 80's, Mr. Wille started a private practice specializing in small business and real estate, providing professional services in financial, accounting and tax-related areas. He also worked on large public company purchases of small businesses.

Mr. Wille is a CPA firm peer reviewer for the American Institute of CPAs. He is former chair of the California State Accounting Principles and Auditing Standards Committee and a current member. He is former chair of the Audit Oversight Committee for the County of Orange, the sixth largest county in the United States. Mr. Wille teaches continuing education courses for CPA's.

His Newport Beach practice consists mainly of small business clients where he provides substantial strategic planning and financial coaching. Mark consults with CPAs regarding various accounting and auditing matters, provides practice management, peer review, and performs peer review inspections. He assists CPAs in the sale of their practices.





# WATER RESOURCES SUMMARY

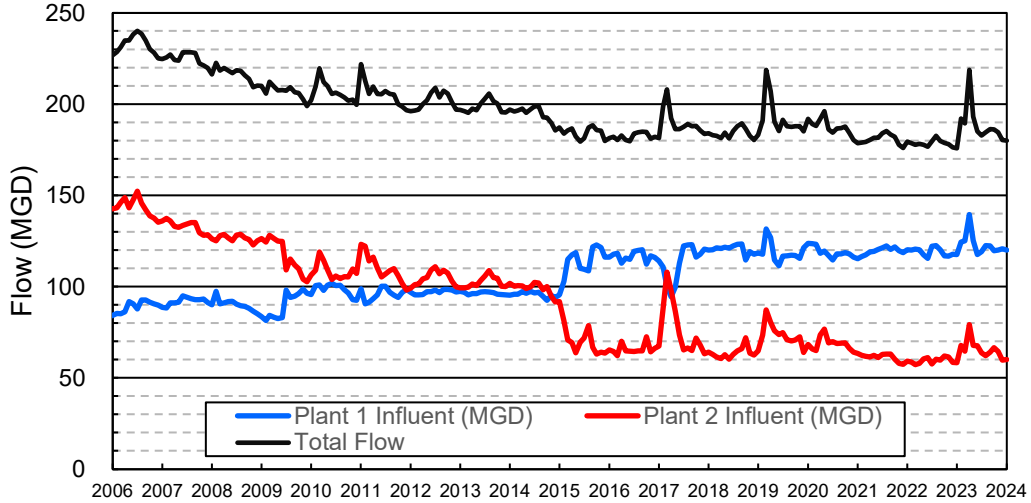
December 2023

INFLOWS & OUTFLOWS (acre-feet)	Total for Month	Year to Date - This Year    Last Year	
<b>BASIN SUPPLIES</b>			
Water Purchases from MWD (excludes In Lieu)	0	0	16,864
Water into MWD Storage Account (excludes In Lieu)	0	0	0
SAR & Santiago Creek Flows (accounts for storage to/from recharge facilities)	12,074	76,045	45,345
GWRS Water to Forebay	8,838	46,052	34,002
GWRS Water to Mid-Basin Injection Wells	583	3,766	3,931
GWRS Water to Talbert Barrier	1,414	10,041	11,825
OC-44 and F. Valley Water to Talbert Barrier	1	7	17
Alamitos Barrier Water	180	1,046	1,432
Incidental Recharge (estimated)	2,500	9,700	11,100
Evaporation from Recharge Basins	(217)	(2,025)	(1,332)
River Flow Lost to Ocean	(313)	(714)	(394)
Total Groundwater Recharge	25,061	143,916	122,790
<b>WATER PRODUCTION</b>			
Groundwater Production	21,112	147,720	127,954
MWD Storage Program Withdrawals	<u>0</u>	<u>0</u>	<u>0</u>
Total Groundwater Production	21,112	147,720	127,954
<b>BASIN BALANCE</b>			
Change in Groundwater Storage	3,949	(3,804)	(5,165)
Change in Groundwater Storage excluding MWD Stored Water	3,949	(3,804)	(5,165)
Accumulated Overdraft	-----	192,807	263,167
Accumulated Overdraft excluding MWD Storage	-----	192,806	263,167
<b>IN LIEU WATER</b>			
OCWD In Lieu Purchases (MWD Cyclic Storage)	0	0	0
MWD In Lieu Storage	<u>0</u>	<u>0</u>	<u>0</u>
Total In Lieu	0	0	0
<b>OTHER KEY INFORMATION</b>			
1. MWD Water Deliveries to Producers	4,809	35,713	58,894
2. Basin Production Percentage	81.4%	80.5%	68.5%
3. Total Water Demand	27,641	194,495	197,539
4. Total GWRS Production	10,839	59,891	49,802
5. Green Acres Project Water	117	1,893	2,124
6. SAR Water Quality			
- Total Dissolved Solids (TDS) of SAR below Prado Dam (ppm)	648	-----	248
- Total Nitrogen of SAR below Prado Dam (ppm)	9.4	-----	2.0
7. Month-End Water Storage Behind Prado Dam	20	-----	681
8. Month-End Water Storage in Recharge Facilities	14,517	-----	13,767
9. Water Storage Change in Recharge Facilities	1,465	(6,733)	2,891
10. Total Artificial Recharge	22,561	134,216	111,690
11. Monthly Mean Temperature at Santa Ana Fire Station (°F)	61.8	-----	58.1
12. Rainfall at FHQ (inches)	1.30	4.10	5.48

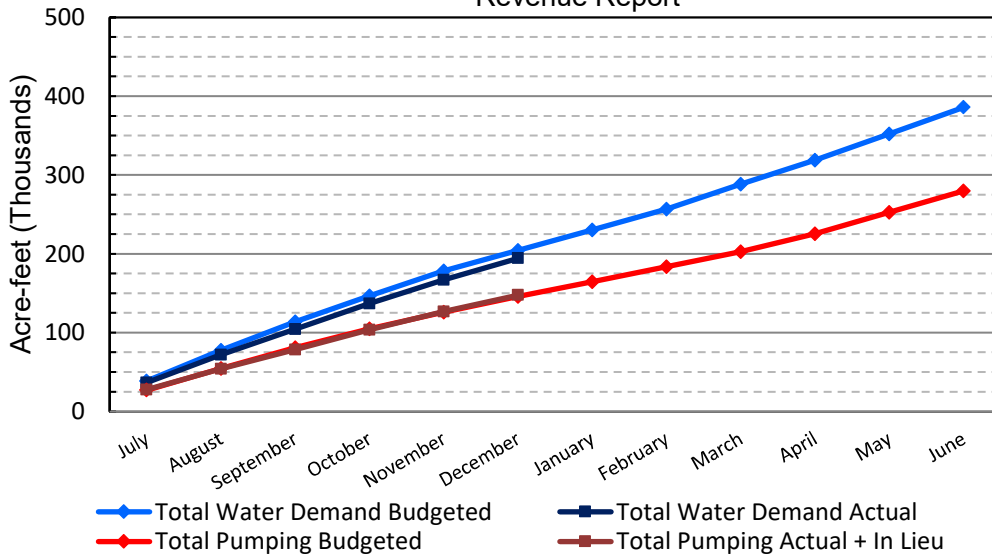
\*\*\* Note: Data are preliminary, subject to change

1/11/2024

### Orange County Sanitation District Influent Flows Report

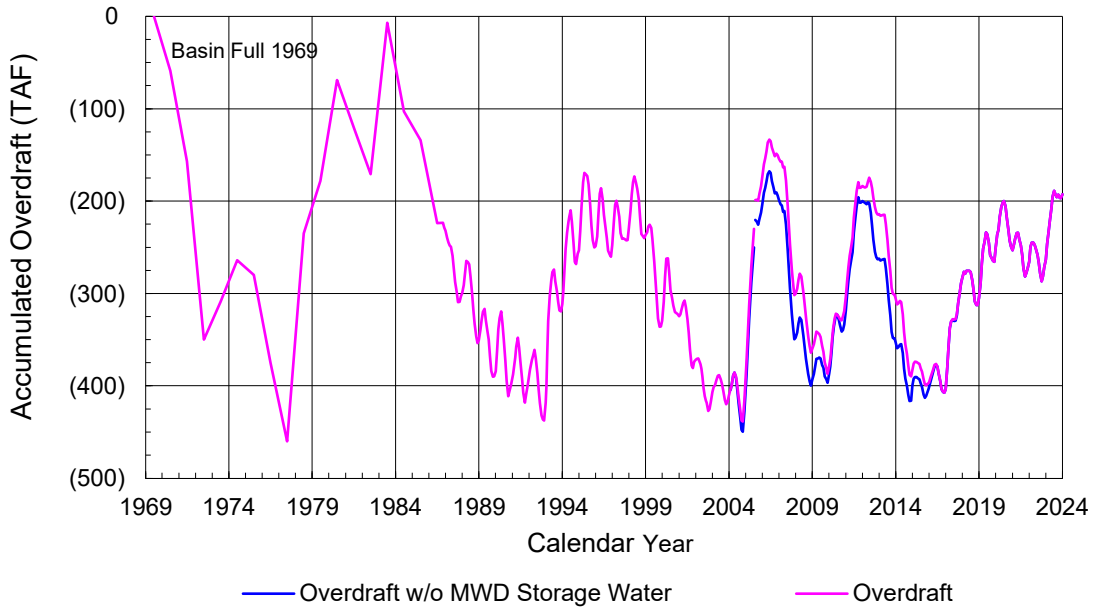


### 2023-24 Water Demands/Groundwater Pumping + In Lieu/RA Revenue Report

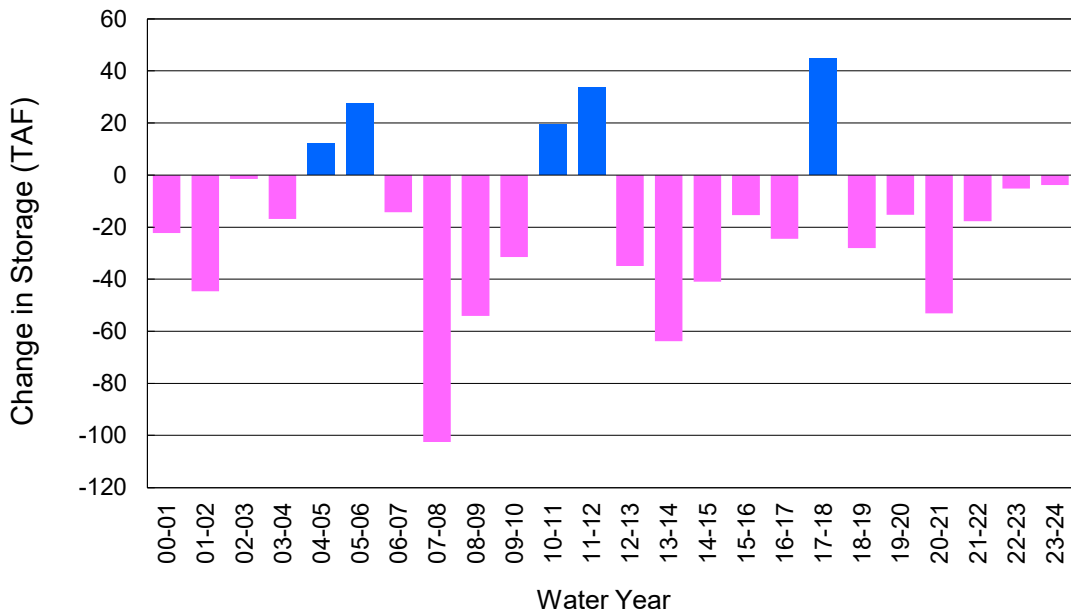


	Monthly		Accumulated Total for the Year			
	Budget	Actual	Budget	Actual	Difference	Percent
Total Water Demand	26,300	27,641	204,400	194,495	-9,905	95.15%
Total Pumping + In Lieu	20,000	21,112	145,800	147,720	1,920	101.32%
RA Revenue	\$9,240,000	\$9,753,812	\$67,359,600	\$68,246,832	\$887,232	101.32%

### Accumulated Overdraft



### YTD Change in Groundwater Storage in OCWD



## PRODUCERS WATER USAGE SUMMARY

**December 2023**

(AF except BPP)

WATER AGENCY	Ground-water (1)	In Lieu	Reclaimed Water	Total Import (2)	Total Demand	2023-24 YTD Demand	2022-23 YTD Demand	YTD % Diff Demand	DEC 2023 BPP	2023-24 YTD BPP	2022-23 YTD BPP
Anaheim	2,217	0	0	1,824	4,041	28,448	29,747	96%	54.9%	49.5%	26.1%
Buena Park	881	0	0	0	881	6,545	6,688	98%	100.0%	90.2%	82.9%
East Orange County	0	0	0	57	57	444	431	103%	0.5%	0.4%	0.2%
Fountain Valley	698	0	61	0	759	5,100	4,969	103%	100.0%	100.0%	100.0%
Fullerton	1,236	0	0	276	1,512	11,463	11,866	97%	81.7%	75.2%	75.5%
Garden Grove	1,625	0	0	0	1,625	11,196	10,878	103%	100.0%	100.0%	61.7%
Golden State	1,082	0	0	546	1,628	11,410	11,304	101%	66.5%	61.0%	58.5%
West OC System	782	-	-	209	991	6,950	6,837	102%	na	na	na
East OC System	300	-	-	337	637	4,460	4,467	100%	na	na	na
Huntington Beach	1,647	0	0	156	1,803	12,810	13,047	98%	91.4%	84.2%	57.6%
Irvine Ranch	3,552	0	1,602	0	5,154	33,300	32,456	103%	100.0%	99.8%	99.5%
DRWF Clear	2,195	-	-	-	2,195	15,570	14,491	107%	na	na	na
DRWF Color	702	-	-	-	702	4,244	4,235	100%	na	na	na
Laguna Beach	0	0	0	230	230	1,639	1,690	na	0.0%	0.0%	8.1%
La Palma	124	0	0	0	124	895	894	100%	100.0%	100.0%	99.6%
Mesa Water (MW)	1,134	0	34	0	1,168	8,557	8,615	99%	100.0%	100.0%	99.9%
MW Clear	1,010	-	-	-	1,010	7,215	5,931	122%	na	na	na
MW Amber	124	-	-	-	124	886	2,190	40%	na	na	na
Newport Beach	557	0	12	347	916	7,001	7,553	93%	61.6%	83.4%	88.6%
Orange	1,626	0	0	120	1,746	12,895	12,983	99%	93.1%	85.6%	68.9%
OCWD (GAP)	109	0	0	0	109	923	754	122%	100.0%	100.0%	100.0%
Santa Ana	1,682	0	9	751	2,442	16,509	16,615	99%	69.1%	87.2%	63.1%
Seal Beach	232	0	0	0	233	1,599	1,554	103%	99.8%	99.7%	55.6%
Serrano	29	0	0	134	162	1,377	1,591	87%	17.6%	46.9%	77.0%
Tustin	592	0	0	163	755	5,442	5,442	100%	78.4%	67.2%	46.2%
Westminster	788	0	0	0	788	5,260	5,292	99%	100.0%	100.0%	95.2%
Yorba Linda	<u>1,051</u>	<u>0</u>	<u>0</u>	<u>199</u>	<u>1,250</u>	<u>9,891</u>	<u>9,848</u>	<u>100%</u>	<u>84.1%</u>	<u>83.6%</u>	<u>81.4%</u>
SUBTOTAL:	20,863	0	1,718	4,802	27,383	192,704	194,216	99%	81.4%	80.5%	68.1%
Other Producers (Est ~3% of Subtotal)	<u>249</u>	<u>0</u>	<u>0</u>	<u>6</u>	<u>256</u>	<u>1,791</u>	<u>3,322</u>	<u>54%</u>			
<b>TOTAL:</b>	<b>21,112</b>	<b>0</b>	<b>1,718</b>	<b>4,809</b>	<b>27,639</b>	<b>194,495</b>	<b>197,539</b>		<b>81.4%</b>	<b>80.5%</b>	<b>68.1%</b>
OCWD (Talbert Barrier)	0		1,414	0	1,414	10,048	10,387				
OCSA (GAP)	na		0	na	0	532	385				

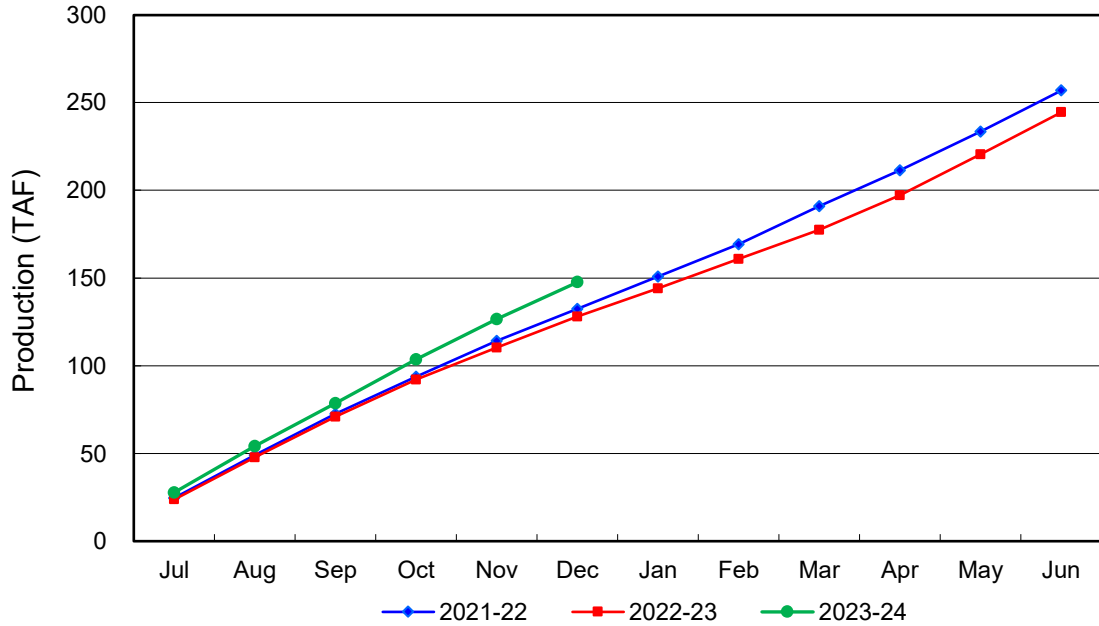
Estimated

(1) Excludes MWD CUP Withdrawals

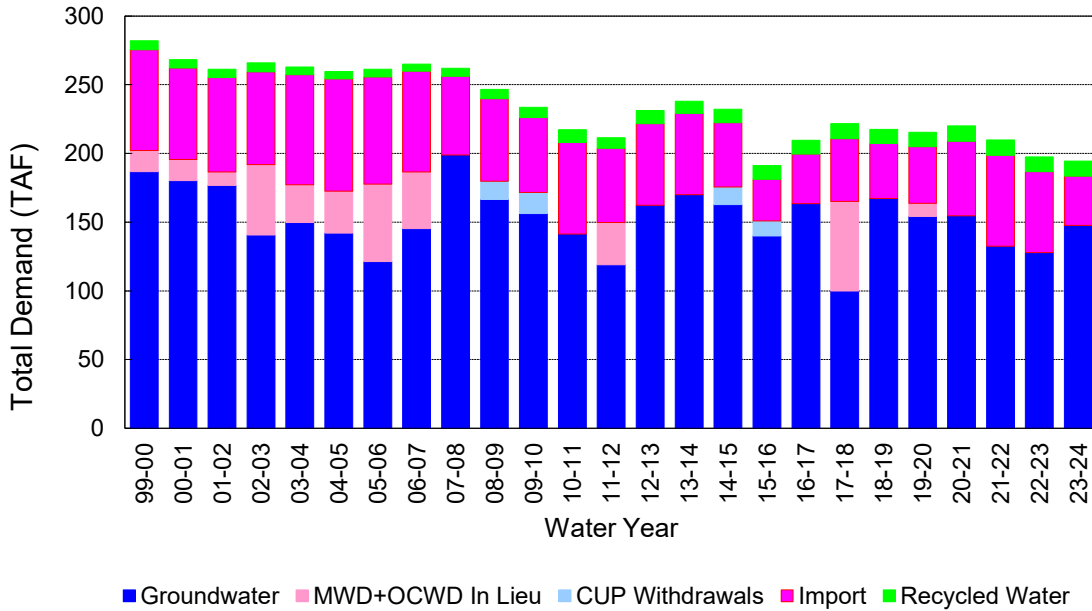
(2) Includes MWD CUP Withdrawals & In Lieu Water

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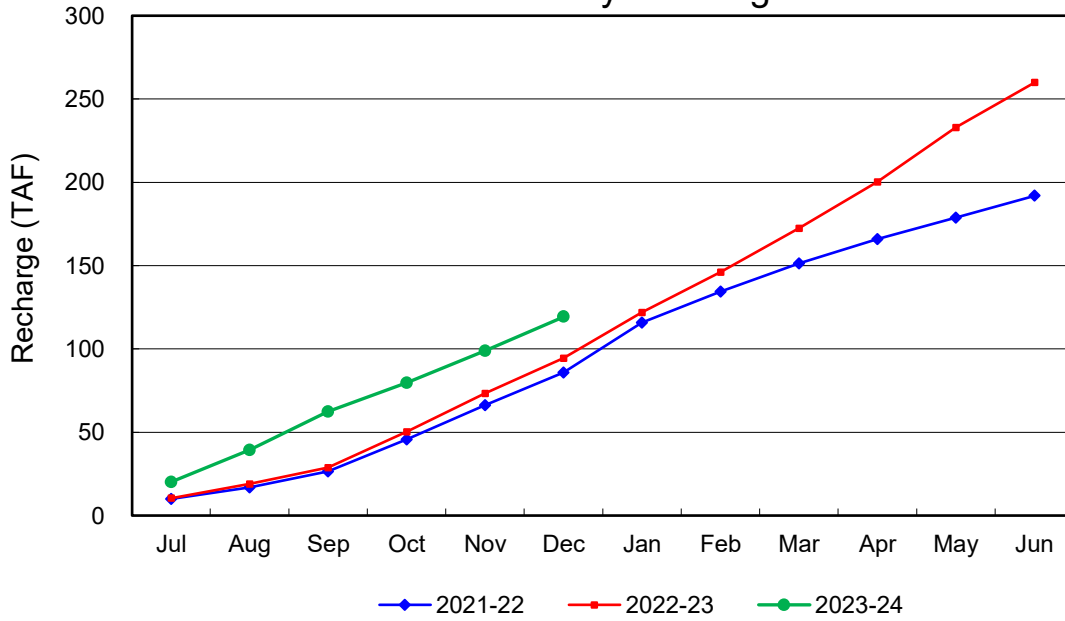
### Annual Groundwater Production



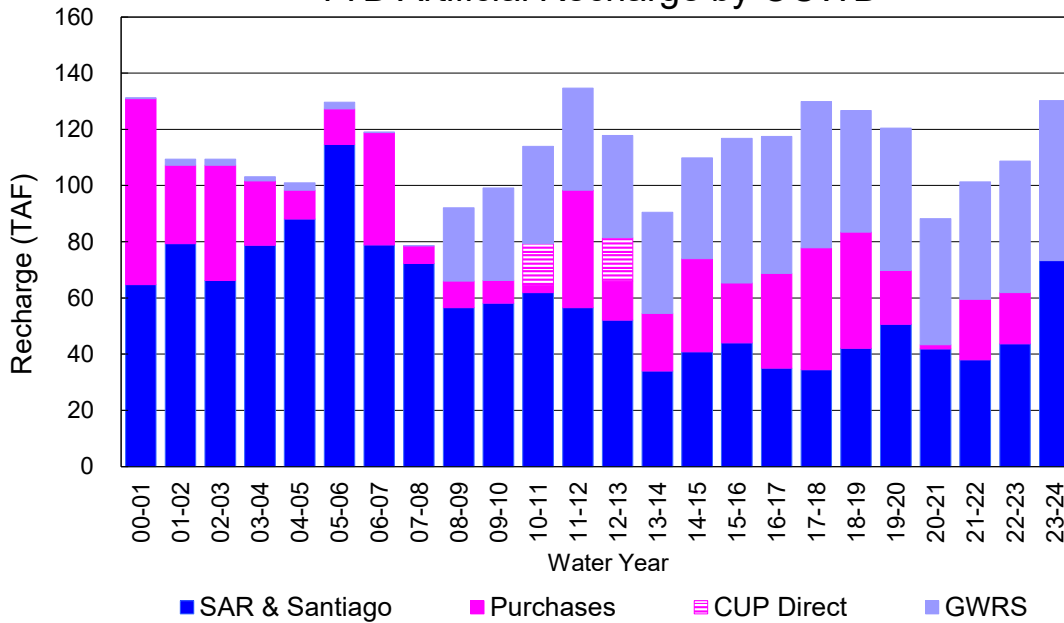
### YTD Total Demand in OCWD



### Annual Forebay Recharge



### YTD Artificial Recharge by OCWD



## RECHARGE AREAS REPORT

December 2023

	Percolation (AF)	Remarks
RIVER SYSTEM	4,877	79 cfs per day average perc
DESILTING SYSTEM	na	SAR
OFF-RIVER SYSTEM	1,327	SAR
WARNER SYSTEM	1,058	SAR
OLIVE BASIN	na	Passive System
ANAHEIM LAKE	926	SAR
MINI-ANA LAKE	na	
MILLER BASIN	444	SAR
KRAEMER BASIN	na	
LA PALMA BASIN	5,639	GWRS
MIRALOMA BASIN	3,225	GWRS
LA JOLLA BASIN	121	SAR
PLACENTIA BASIN	na	
RAYMOND BASIN	na	
FIVE COVES BASIN	na	SAR
BURRIS BASIN	704	SAR
RIVER VIEW BASIN	109	SAR, Burris Pumping
FLETCHER BASIN	27	Local Runoff
SANTIAGO BASINS	1,774	SAR, Burris Pumping, Local Runoff
SANTIAGO CREEK	156	SAR, Burris Pumping, Local Runoff
<b>TOTALS</b>	<b>20,387</b>	
<b>5-YR AVERAGE</b>	<b>19,533</b>	

FLOWS TO RECHARGE AREAS (AF)	
Imperial Headgates (estimated)	12,499
GWRS	8,842
OC-28 (MWD)	0
OC-28a (MWD)	0
OC-59	0
Est'd local Forebay inflow below Imperial	419
Est'd local Santiago inflow (estimated)	536
Irvine lake releases (OC-13 MWD)	0
Villa Park Dam releases (estimated)	0
Precip at Warner Basin (inches)	1.30
Precip direct to open water surfaces	86
<b>TOTAL INFLOW</b>	<b>22,382</b>

LOSSES FROM RECHARGE AREAS (AF)	
Est'd SAR flow past Chapman Ave.	269
Est'd Santiago Cr. flow to SAR	44
Est'd flows past Raymond Basin	0
Calc'd evap (inches) Estimated	3.29
Est'd evaporative losses	217
<b>TOTAL LOSSES</b>	<b>530</b>

STORAGE CHANGES (AF)			
Facility	Begin	End	Net
Deep basins	5,031	6,413	1,381
Santiago Pits	8,020	8,104	84
River			
Off-river			
Irvine Lake			
<b>TOTAL</b>	<b>13,051</b>	<b>14,517</b>	<b>1,465</b>

SUMMARY (AF)	
TOTAL INFLOW	22,382
TOTAL LOSSES	530
STORAGE CHANGE	1,465
CALC'D PERCOLATION	20,387



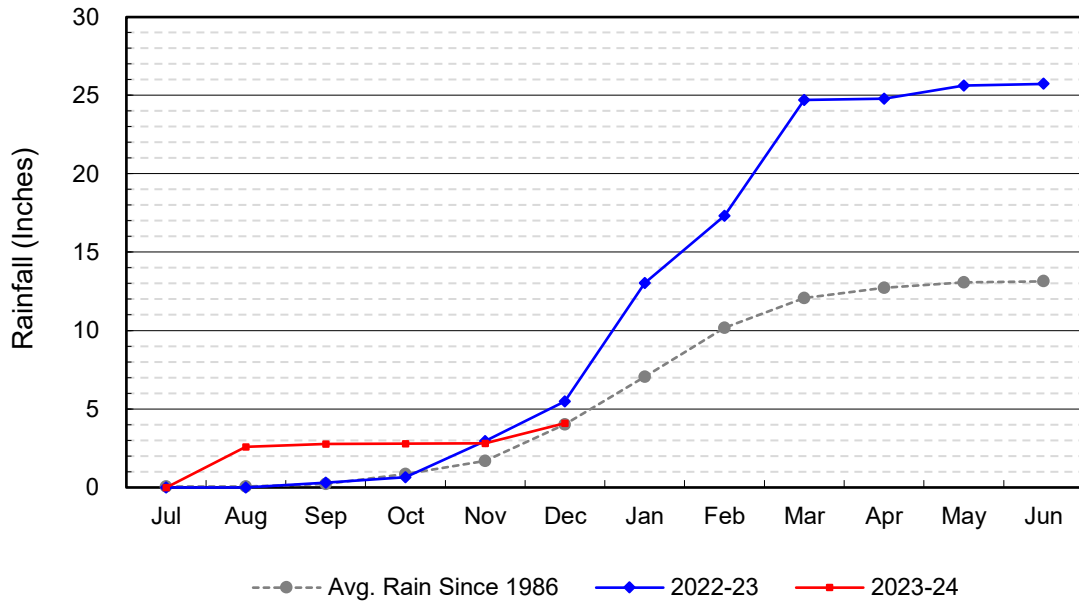
## DEEP BASINS MONTHLY STATUS

**December 2023**

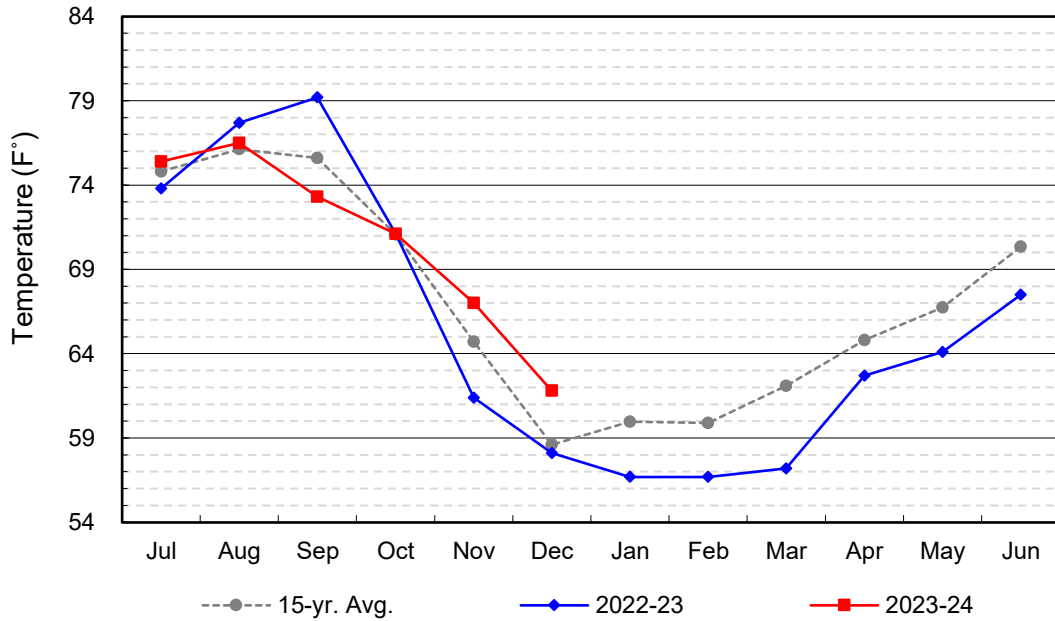
(values in acre-feet)

<i>Facility</i>	<i>Storage Start</i>	<i>Storage End</i>	<i>Maximum Storage</i>	<i>Total Perc</i>	<i>Max Perc</i>	<i>Avg Perc</i>	<i>Avg W.S. Elev</i>
Desilting Ponds	230	230	252	na	na	na	na
Fos-Huckleberry	532	531	628	na	na	na	na
Conrock Basin	550	579	661	na	na	na	na
Warner Basins	2,902	2,885	2,900	1,125	na	na	238
Olive Pit	39	48	95	na	na	na	212
Anaheim Lake	0	306	2,300	985	136	32	174
Mini-Anaheim Lk	0	0	10	na	na	na	na
Miller Basin	0	115	350	472	74	15	202
Kraemer Basin	0	0	1,055	na	na	na	na
La Palma Basin	45	68	101	5,639	196	182	217
Miraloma Basin	25	43	53	3,225	111	104	219
La Jolla Basin	0	0	20	129	24	4	200
Placentia Basin	0	0	200	na	na	na	na
Raymond Basin	0	0	200	na	na	na	na
Five Coves Basins	242	283	329	na	na	na	na
Burriss Pit	463	1,308	2,500	749	35	24	154
River View Basin	0	6	8	116	17	4	187
Fletcher Basin	3	11	15	29	6	1	186
Santiago (Bond)	5,426	5,474	8,312	1,887	87	61	246
Santiago (Blu Dia)	2,594	2,630	5,259	-	-	-	-
<b>Totals</b>	<b>13,051</b>	<b>14,517</b>	<b>25,247</b>	<b>14,356</b>			
Prado Dam	7	20	20,000				

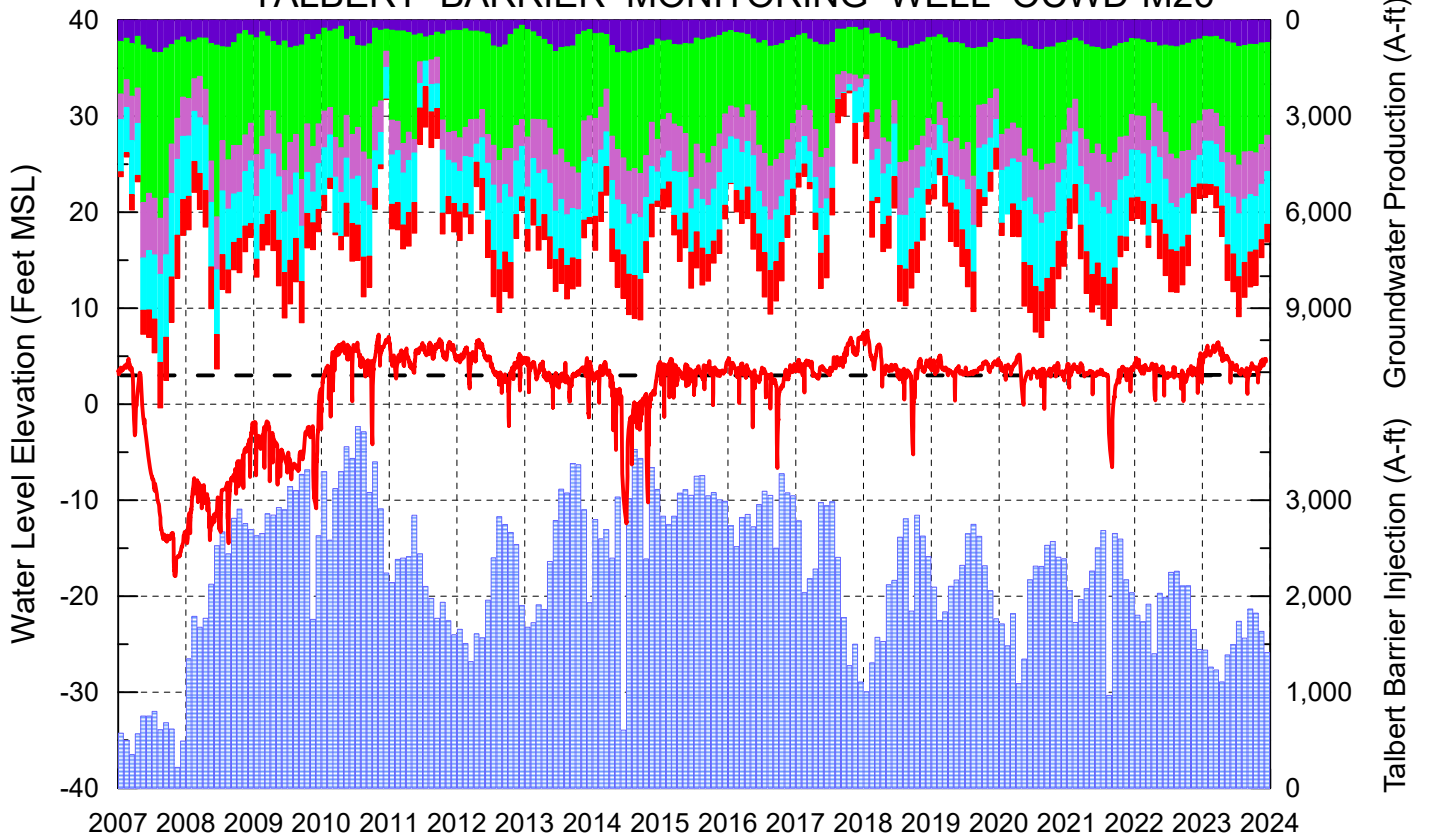
### Cumulative Anaheim Field HQ Rainfall



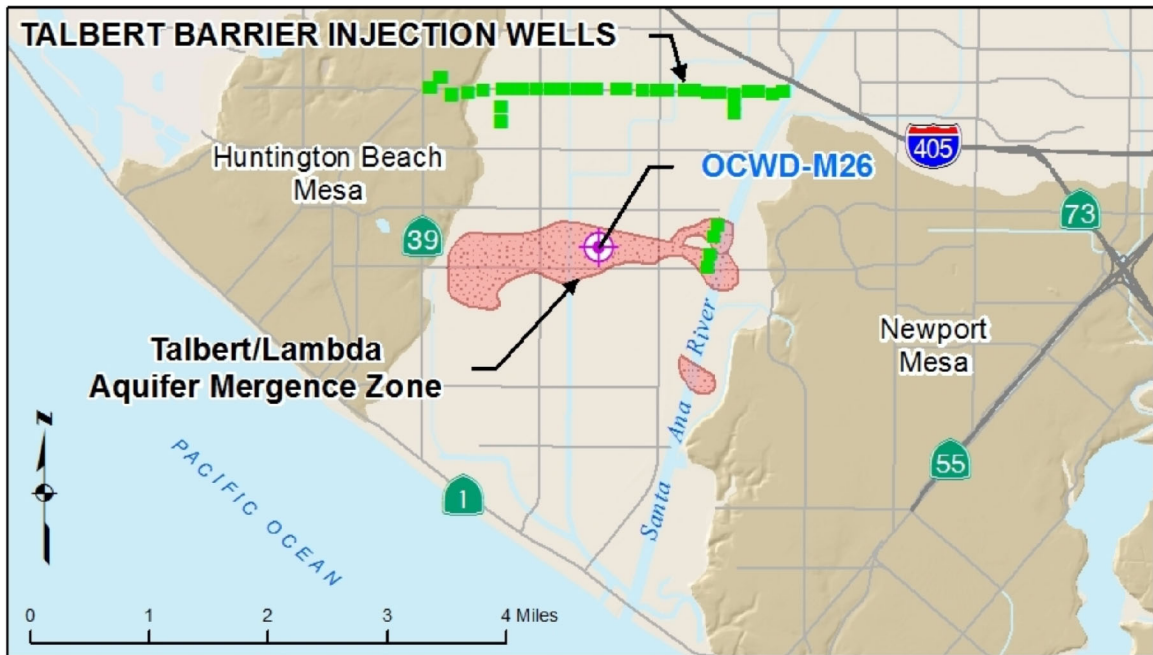
### Temperature at Santa Ana Fire Station



# TALBERT BARRIER MONITORING WELL OCWD-M26



- Talbert/Lambda Aquifer Mergence Zone Perforated Interval: 71 - 135 ft. bgs
- ▨ Talbert Barrier Injection
- - - Protective Level to Prevent Seawater Intrusion
- ▨ Fountain Valley Groundwater Production
- ▨ IRWD Groundwater Production
- ▨ Mesa Water Groundwater Production
- ▨ Huntington Beach Groundwater Production
- ▨ Newport Beach Groundwater Production







# SAWPA

SANTA ANA WATERSHED PROJECT AUTHORITY

11615 Sterling Avenue, Riverside, California 92503 • (951) 354-4220

Meeting Access Via Computer (Zoom):	Meeting Access Via Telephone:
<ul style="list-style-type: none"><li>• <a href="https://sawpa.zoom.us/j/83121699355">https://sawpa.zoom.us/j/83121699355</a></li></ul>	<ul style="list-style-type: none"><li>• 1 (669) 900-6833</li></ul>
<ul style="list-style-type: none"><li>• Meeting ID: 831 2169 9355</li></ul>	<ul style="list-style-type: none"><li>• Meeting ID: 831 2169 9355</li></ul>

This meeting will be conducted in person at the address listed above. As a convenience to the public, members of the public may also participate virtually using one of the options set forth above. Any member of the public may listen to the meeting or make comments to the Commission using the call-in number or Zoom link above. However, in the event there is a disruption of service which prevents the Authority from broadcasting the meeting to members of the public, the meeting will not be postponed or rescheduled but will continue without remote participation. The remote participation option is provided as a convenience to the public and is not required. Members of the public are welcome to attend the meeting in-person.

## REGULAR COMMISSION MEETING TUESDAY, JANUARY 16, 2024 – 9:30 A.M.

### AGENDA

1. **CALL TO ORDER/PLEDGE OF ALLEGIANCE** (Bruce Whitaker, Chair)

2. **ROLL CALL**

3. **WELCOME NEW SAWPA COMMISSIONER**

Acknowledge the recent appointment of Denis Bilodeau as Alternate Commissioner of Orange County Water District.

4. **PUBLIC COMMENTS**

Members of the public may address the Commission on items within the jurisdiction of the Commission; however, no action may be taken on an item not appearing on the agenda unless the action is otherwise authorized by Government Code §54954.2(b).

Members of the public may make comments in-person or electronically for the Commissions' consideration by sending them to [publiccomment@sawpa.gov](mailto:publiccomment@sawpa.gov) with the subject line "Public Comment". Submit your electronic comments by 5:00 p.m. on Monday, January 15, 2024. All public comments will be provided to the Chair and may be read into the record or compiled as part of the record. Individuals have a limit of three (3) minutes to make comments and will have the opportunity when called upon by the Commission.

5. **ITEMS TO BE ADDED OR DELETED**

Pursuant to Government Code §54954.2(b), items may be added on which there is a need to take immediate action and the need for action came to the attention of the SAWPA Commission subsequent to the posting of the agenda.

6. **CONSENT CALENDAR**

All matters listed on the Consent Calendar are considered routine and non-controversial and will be acted upon by the Commission by one motion as listed below.

A. **APPROVAL OF MEETING MINUTES: DECEMBER 19, 2023**

**Recommendation:** Approve as posted.

7. **WORKSHOP DISCUSSION AGENDA**

A. **LEGISLATIVE REPORT**

**Presenter:** Michael Boccadoro and Beth Olhasso, West Coast Advisors

**Recommendation:** Receive and file.

**8. NEW BUSINESS**

**A. COMMISSIONER COMPENSATION (CM#2024.1)**

**Presenter:** Karen Williams

**Recommendation:** Regarding Commissioner compensation effective January 2024:

- (1) Allow the per day of service rate to increase automatically by 5% (from \$250 to \$260) effective January 2024; or,
- (2) Adopt Resolution No. 2024-1 prohibiting the automatic increase of 5% in the per day of service rate effective January 2024 and maintaining the current rate of \$250.

**B. RESOLUTION RECOGNIZING MIKE R. MARKUS FOR HIS SERVICE (CM#2024.2)**

**Presenter:** Jeff Mosher

**Recommendation:** That the Commission consider adopting Resolution 2024-2 to recognize Mike R. Markus for his contributions and service to SAWPA.

**9. INFORMATIONAL REPORTS**

**Recommendation:** Receive for information.

**A. CASH TRANSACTIONS REPORT – NOVEMBER 2023**

**Presenter:** Karen Williams

**B. INTER-FUND BORROWING – NOVEMBER 2023 (CM#2024.3)**

**Presenter:** Karen Williams

**C. PERFORMANCE INDICATORS/FINANCIAL REPORTING – NOVEMBER 2023 (CM#2024.4)**

**Presenter:** Karen Williams

**D. PROJECT AGREEMENT 25 – OWOW FUND – FINANCIAL REPORT, NOVEMBER 2023**

**Presenter:** Karen Williams

**E. PROJECT AGREEMENT 26 – ROUNDTABLE FUND – FINANCIAL REPORT, NOVEMBER 2023**

**Presenter:** Karen Williams

**F. GENERAL MANAGER REPORT**

**Presenter:** Jeff Mosher

**G. STATE LEGISLATIVE REPORT**

**Presenter:** Jeff Mosher

**H. CHAIR'S COMMENTS/REPORT**

**I. COMMISSIONERS' COMMENTS**

**J. COMMISSIONERS' REQUEST FOR FUTURE AGENDA ITEMS**

**10. CLOSED SESSION**

There were no Closed Session items anticipated at the time of the posting of this agenda.

## 11. ADJOURNMENT

**PLEASE NOTE:**

Americans with Disabilities Act: If you require any special disability related accommodations to participate in this meeting, call (951) 354-4220 or email [svilla@sawpa.gov](mailto:svilla@sawpa.gov). 48-hour notification prior to the meeting will enable staff to make reasonable arrangements to ensure accessibility for this meeting. Requests should specify the nature of the disability and the type of accommodation requested.

Materials related to an item on this agenda submitted to the Commission after distribution of the agenda packet are available for public inspection during normal business hours at the SAWPA office, 11615 Sterling Avenue, Riverside, and available at [www.sawpa.gov](http://www.sawpa.gov), subject to staff's ability to post documents prior to the meeting.

**Declaration of Posting**

I, Sara Villa, Clerk of the Board of the Santa Ana Watershed Project Authority declare that on January 11, 2024, a copy of this agenda has been uploaded to the SAWPA website at [www.sawpa.gov](http://www.sawpa.gov) and posted at SAWPA's office at 11615 Sterling Avenue, Riverside, California.

### **2024 SAWPA Commission Meetings/Events**

First and Third Tuesday of the Month

(NOTE: All meetings begin at 9:30 a.m., unless otherwise noticed, and are held at SAWPA.)

<b>January</b> 1/2/24 <del>Commission Workshop [cancelled]</del> 1/16/24 Regular Commission Meeting	<b>February</b> 2/6/24 Commission Workshop 2/20/24 Regular Commission Meeting
<b>March</b> 3/5/24 Commission Workshop 3/19/24 Regular Commission Meeting	<b>April</b> 4/2/24 Commission Workshop 4/16/24 Regular Commission Meeting
<b>May</b> 5/7/24 Commission Workshop 5/21/24 Regular Commission Meeting 5/7 – 5/9/24 ACWA Spring Conference, Sacramento, CA	<b>June</b> 6/4/24 Commission Workshop 6/18/24 Regular Commission Meeting
<b>July</b> 7/2/24 Commission Workshop 7/16/24 Regular Commission Meeting	<b>August</b> 8/6/24 Commission Workshop 8/20/24 Regular Commission Meeting
<b>September</b> 9/3/24 Commission Workshop 9/17/24 Regular Commission Meeting	<b>October</b> 10/1/24 Commission Workshop 10/15/24 Regular Commission Meeting
<b>November</b> 11/5/24 Commission Workshop 11/19/24 Regular Commission Meeting	<b>December</b> 12/3/24 Commission Workshop 12/17/24 Regular Commission Meeting 12/3 – 12/5/24 ACWA Fall Conference, Palm Springs, CA





ACTION AGENDA  
COMMUNICATIONS AND LEGISLATIVE LIAISON COMMITTEE MEETING  
January 4, 2024 12:00 p.m.- Conference Room C-2

<b>ROLL CALL</b> Denis Bilodeau Van Tran Roger Yoh Bruce Whitaker Steve Sheldon <u>Alternates</u> Valerie Amezcua Natalie Meeks (absent) Dina Nguyen (absent) Vacant Cathy Green	Quorum of Cte: Yes Quorum of Board: Yes						
<b>CONSENT CALENDAR (ITEMS NO. 1)</b>							
1. MINUTES OF COMMUNICATIONS AND LEGISLATIVE LIAISON COMMITTEE MEETING HELD DECEMBER 7, 2023  RECOMMENDATION: Approve minutes as presented	Approved						
<b>MATTERS FOR CONSIDERATION</b>							
2. STATE LEGISLATIVE UPDATE  RECOMMENDATION: Agendize for January 17 Board meeting: Take action as appropriate	Informational						
3. FEDERAL LEGISLATIVE UPDATE  RECOMMENDATION: Agendize for January 17 Board meeting: Take action as appropriate	Approved						
<table border="1"> <thead> <tr> <th>Bill Number/Author</th> <th>Short Title</th> <th>Recommendation</th> </tr> </thead> <tbody> <tr> <td>(No Bill Number Yet/ Grace F. Napolitano (D-El Monte)</td> <td>The Priority for Water Supply and Conservation Act</td> <td>Write a letter in support of concept</td> </tr> </tbody> </table>	Bill Number/Author	Short Title	Recommendation	(No Bill Number Yet/ Grace F. Napolitano (D-El Monte)	The Priority for Water Supply and Conservation Act	Write a letter in support of concept	
Bill Number/Author	Short Title	Recommendation					
(No Bill Number Yet/ Grace F. Napolitano (D-El Monte)	The Priority for Water Supply and Conservation Act	Write a letter in support of concept					
<b>INFORMATIONAL ITEMS</b>							
4. CHILDREN'S WATER EDUCATION FESTIVAL UPDATE	Informational						
5. PUBLIC AFFAIRS OUTREACH REPORT (DECEMBER)	Informational						
<b>CHAIR DIRECTION AS TO WHICH ITEMS IF ANY TO BE AGENDIZED AS A MATTER FOR CONSIDERATION AT THE JANUARY 17 BOARD MEETING</b>	All items on consent						
<b>ADJOURNMENT</b>	<b>12:41 p.m.</b>						

**ACTION AGENDA  
REGULAR MEETING  
GROUNDWATER REPLENISHMENT SYSTEM STEERING COMMITTEE  
Monday, October 9, 2023 5:00 p.m.**

<p>ROLL CALL            OC San Director Chad Wanke            OCWD Director Cathy Green            OC San Director Ryan Gallagher            OCWD Director Bruce Whitaker            OC San Director David Shawver            OCWD Director Van Tran</p> <p>Alternates            OCWD Director Roger Yoh            OC San Director Bob Ooten            OCWD Director Dina Nguyen (absent)            OC San Director Andrew Nguyen            OCWD Director Steve Sheldon (absent)            OC San Director Pat Burns</p> <p>OCWD Director Denis Bilodeau was also in attendance</p>	<p>Quorum of Cte: Yes            Quorum of Board: No</p>
<b>ANNUAL REORGANIZATION OF COMMITTEE OFFICERS</b>	
<ul style="list-style-type: none"> <li>Election of Chairman (OC SAN)</li> </ul>	Director Whitaker
<ul style="list-style-type: none"> <li>Election of Vice Chair (OCWD)</li> </ul>	Director Wanke
<b>1. MINUTES OF PREVIOUS MEETING</b>	
<p>RECOMMENDATION: Approve Minutes of the October 9, 2023 GWRS Steering Committee meeting as presented</p>	Approved
<b>END OF CONSENT CALENDAR</b>	
<b>INFORMATIONAL ITEMS</b>	
2. GWRS OPERATIONS UPDATE	Informational
3. OC SAN PLANT NO. 2 SALINITY INVESTIGATION UPDATE	Informational
4. GWRS THIRD QUARTER OUTREACH REPORT (JULY - SEPTEMBER)	Informational
<ul style="list-style-type: none"> <li>Next GWRS Steering Committee Meeting – April 8, 2024</li> </ul>	
<b>ADJOURNMENT</b>	<b>5:28 p.m.</b>

ACTION AGENDA  
WATER ISSUES COMMITTEE MEETING  
ORANGE COUNTY WATER DISTRICT  
**Wednesday, January 10, 2024 12:00 p.m., Boardroom**

<p><b>ROLL CALL</b>  Bruce Whitaker  Dina Nguyen (absent)  Roger Yoh  Van Tran (absent)  Vacant</p> <p><u>Alternates</u>  Denis Bilodeau  Steve Sheldon (absent)  Natalie Meeks (absent)  Valerie Amezcua  Cathy Green</p>	<p>Quorum of Cte:  <b>Yes</b>  Quorum of Board:  <b>Yes</b></p>
<p><b>CONSENT CALENDAR (ITEMS NO. 1 – 4)</b></p>	
<p>1. MINUTES OF WATER ISSUES COMMITTEE MEETING HELD DECEMBER 13, 2023</p> <p>RECOMMENDATION: Approve minutes as presented</p>	<p>Approved</p>
<p>2. GWRS PIPELINE REPAIR WORK</p> <p>RECOMMENDATION: Agendize for January 17 Board Meeting:</p> <ol style="list-style-type: none"> <li>1) Rescind Resolution No. R-23 -12-163, Authorizing Amendment No. 2 to FD Thomas, Inc. contract in the amount of \$10,117 for additional repair work to the GWRS pipeline, and,</li> <li>2) Authorize Amendment No. 2 to FD Thomas, Inc. contract in the amount of \$69,384 for additional repair work to the GWRS pipeline</li> </ol>	<p>Approved</p>
<p>3. AGREEMENT WITH DDB ENGINEERING FOR THE PREPARATION OF 2023 GWRS ANNUAL REPORT</p> <p>RECOMMENDATION: Agendize for January 17 Board meeting: Authorize issuance of Agreement to DDB Engineering Inc. for an amount not to exceed \$62,580 to provide consulting services for the preparation of the calendar year 2023 GWRS Annual Report</p>	<p>Approved</p>
<p>4. AGREEMENT TO POWERS BROS MACHINE FOR ANAHEIM LAKE VERTICAL TURBINE PUMP AND MOTOR INSPECTION AND REHABILITATION</p> <p>RECOMMENDATION: Agendize for January 17 Board meeting:</p> <ol style="list-style-type: none"> <li>1) Establish the Anaheim Lake Vertical Turbine Pump and Motor Inspection and Replacement project in the amount of \$75,000; and,</li> <li>2) Authorize issuance of an Agreement to Powers Bros Machine Inc. for the project for an amount not to exceed \$75,000</li> </ol>	<p>Approved</p>
<p><b>END OF CONSENT CALENDAR</b></p>	
<p><b>MATTERS FOR CONSIDERATION</b></p>	
<p>5. ALAMITOS SEAWATER BARRIER 2024-25 OPERATIONS AND MAINTENANCE BUDGET</p> <p>RECOMMENDATION: Agendize for January 17 Board meeting: Approve the Alamitos</p>	<p>Approved</p>

Barrier 2024-25 total O&M budget in the amount of \$3,170,000, and authorize the amount of the District's share not to exceed \$1,263,000 payable to the Los Angeles County Department of Public Works after receipt and review of invoices	
<b>CHAIR DIRECTION AS TO ITEMS IF ANY TO BE AGENDIZED AS MATTERS FOR CONSIDERATION AT THE JANUARY 17 BOARD MEETING</b>	<b>All items on consent</b>
<b>ADJOURNMENT</b>	<b>12:24 p.m.</b>

ACTION AGENDA  
 ADMINISTRATION/FINANCE ISSUES COMMITTEE MEETING  
 Thursday, January 11, 2024, 12:00 p.m.

<p><b>ROLL CALL</b>          Roger Yoh (attended as member of public)          Dina Nguyen (absent)          Valerie Amezcua          Natalie Meeks (absent)          Bruce Whitaker</p> <p><u>Alternates</u>          Vacant          Denis Bilodeau          Steve Sheldon          Van Tran          Cathy Green</p>	<p>Quorum of Cte:          Yes          Quorum of Board: Yes</p>
<p><b>CONSENT CALENDAR (ITEMS NO. 1 – 6)</b></p>	
<p>1. MINUTES OF ADMINISTRATION/FINANCE ISSUES COMMITTEE MEETING HELD DECEMBER 14, 2023</p> <p>RECOMMENDATION: Approve minutes as presented</p>	<p>Approved</p>
<p>2. MONTHLY CASH CONTROL REPORT</p> <p>RECOMMENDATION: Agendize for January 17 Board meeting: Receive and file Summary Cash and Cash Equivalents Control Reports dated December 31, 2023</p>	<p>Approved</p>
<p>3. INVESTMENT PORTFOLIO HOLDINGS REPORTS</p> <p>RECOMMENDATION: Agendize for January 17 Board meeting: Receive and file the Investment Portfolio Holdings Reports dated December 31, 2023</p>	<p>Approved</p>
<p>4. AUTHORIZE PURCHASE ORDER TO DXP ENTERPRISES FOR REPAIR OF RO HIGH PRESSURE FEED PUMP F01</p> <p>RECOMMENDATION: Agendize for January 17 Board meeting: Authorize issuance of a purchase order to DXP Enterprises, Inc. in the amount of \$98,123 for repair of reverse osmosis high pressure feed pump F01</p>	<p>Approved</p>
<p>5. AGREEMENT WITH WESTERN AUDIO VISUAL AND SECURITY (WAVS) TO DEVELOP AUDIOVISUAL SPECIFICATIONS FOR THE BOARDROOM AND CONFERENCE ROOMS</p> <p>RECOMMENDATION: Agendize for January 17 Board meeting: Authorize issuance of Agreement with Western Audio Visual &amp; Security in an amount not to exceed \$14,000 to develop audiovisual specifications for the Boardroom, C2 and C3 Conference Rooms</p>	<p>Approved</p>
<p>6. SURPLUS OF COMPUTER EQUIPMENT, TOOLS, OFFICE FURNITURE, AND HEAVY-DUTY EQUIPMENT</p> <p>RECOMMENDATION: Agendize for January 17 Board meeting Declare items on Surplus List as of January 3, 2024, surplus and authorize the sale and disposal thereof</p>	<p>Approved</p>
<p><b>END OF CONSENT CALENDAR</b></p>	
<p><b>MATTERS FOR CONSIDERATION</b></p>	
<p>7. BASIN PRODUCTION PERCENTAGE AND REPLENISHMENT ASSESSMENT ESTIMATES FOR FISCAL YEAR 2024-25</p>	<p>Approved</p>

RECOMMENDATION: Agendize for January 17 Board meeting: Provide the Fiscal Year 2024-25 Replenishment Assessment and Basin Production Percentage estimates to the Groundwater Producers along with any additional Board comments	
<b>INFORMATIONAL ITEMS</b>	
8. MONTHLY CASH DISBURSEMENT REPORT	Informational
<b>CHAIR DIRECTION AS TO WHICH ITEMS IF ANY TO BE AGENDIZED AS MATTERS FOR CONSIDERATION AT NOVEMBER 15 BOARD MEETING</b>	All items on consent
<b>ADJOURNMENT</b>	<b>12:30 p.m.</b>